

Fișa cu date de securitate
FASSA EPOXY 400 COMP.A

Fișa cu date de securitate din data 20/02/2025 versiunea 2

SECȚIUNEA 1: Identificarea substanței/amestecului și a societății/întreprinderii
1.1. Identificator de produs

Identificarea preparatului:

Nume comercial: FASSA EPOXY 400 COMP.A

Cod comercial: 1224

UFI: XPYW-HASR-000E-GME8

1.2. Utilizări relevante identificate ale substanței sau ale amestecului și utilizări contraindicate

Utilizarea recomandată: Rășină epoxidică

1.3. Detalii privind furnizorul fișei cu date de securitate

Compania: FASSA Srl

Via Lazzaris, 3 - 31027 Spresiano (TV) - ITALY

Tel. +39 0422 7222

Fax +39 0422 887509

Responsabil: laboratorio.spresiano@fassabortolo.it

1.4. Număr de telefon care poate fi apelat în caz de urgență

+40213183606

SECȚIUNEA 2: Identificarea pericolelor

2.1. Clasificarea substanței sau a amestecului
Regulamentul (CE) nr. 1272/2008 (CLP)

Skin Irrit. 2 Provoacă iritarea pielii.
 Eye Irrit. 2 Provoacă o iritare gravă a ochilor.
 Skin Sens. 1 Poate provoca o reacție alergică a pielii.
 Aquatic Chronic 2 Toxic pentru mediul acvatic cu efecte pe termen lung.
 Efecte fizico-chimice dăunătoare sănătății omului și mediului înconjurător:
 Nici un alt risc

2.2. Elemente de etichetare
Regulamentul (CE) nr. 1272/2008 (CLP)
Pictograme de pericol și cuvânt de avertizare


Atenție

Fraze de pericol

H315 Provoacă iritarea pielii.
 H317 Poate provoca o reacție alergică a pielii.
 H319 Provoacă o iritare gravă a ochilor.
 H411 Toxic pentru mediul acvatic cu efecte pe termen lung.

Fraze de precauție

P261 Evitați să inspirați fumul/gazul/ceața/vaporii/spray-ul.
 P273 Evitați dispersarea în mediu.
 P280 Purtați mănuși de protecție și protejați ochii/vederea.
 P333+P313 În caz de iritare a pielii sau de erupție cutanată: consultați medicul.
 P337+P313 Dacă iritarea ochilor persistă: consultați medicul.
 P391 Colectați scurgerile de produs.

Prevederi speciale:

EUH205 Conține componenți epoxidici. Poate provoca o reacție alergică.

Conține:

bis-[4-(2,3-epoxipropoxi)fenil]propan
amestec de: 2,2'-[metilenbis(4,1-fenilenoximetilen)]dioxiran și 2-({2-[4-(oxiran-2-ilmetoxi)]fenoxi})oxiran și 2,2'-[metilenbis(2,1-fenilenoximetilen)]dioxiran

1,6-hexandiol diglicidil eter
Acizi grași, ulei înalt, compuși cu oleilamină

Dispoziții speciale conform Anexei XVII (REACH) cu modificările și completările ulterioare:

Nici una

2.3. Alte pericole

PBT, vPvB sau perturbatori endocrini prezenți în concentrații >= 0,1%:

Componentă	Nr. de Ident.	Cantitate	Proprietăți:
bis(izopropil) naftalen	CAS: 38640-62-9 - EINECS: 254-052-6	>=0.5 - <1 %	PBT, vPvB

Nici un alt risc

SECȚIUNEA 3: Compoziție/informații privind componentii

3.1. Substanțe

N.A.

3.2. Amestecuri

Identificarea preparatului: FASSA EPOXY 400 COMP.A

Componente periculoase în sensul Regulamentului CLP și clasificarea corespunzătoare:

Cantitate	Nume	Nr. de Ident.	Clasificare	Număr de înregistrare:	Proprietăți:
≥20 - <30 %	bis-[4-(2,3-epoxipropoxi)fenil]propan	CAS:1675-54-3 EC:216-823-5 Index:603-073-00-2	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411 Limite de concentrație specifice: 5% ≤ C < 100%: Skin Irrit. 2 H315 5% ≤ C < 100%: Eye Irrit. 2 H319	01-2119456619-26-xxxx	
≥20 - <30 %	amestec de: 2,2'-[metilenbis(4,1-fenilenoximetilen)]dioxiran și 2-({2-[4-(oxiran-2-ilmetoxi)]fenoxi})oxiran și 2,2'-[metilenbis(2,1-fenilenoximetilen)]dioxiran	EC:701-263-0	Skin Irrit. 2, H315; Skin Sens. 1A, H317; Aquatic Chronic 2, H411	01-2119454392-40-xxxx	
≥5 - <10 %	1,6-hexandiol diglicidil eter	CAS:933999-84-9 EC:618-939-5	Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; Aquatic Chronic 3, H412	01-2119463471-41-xxxx	
≥0.5 - <1 %	bis(izopropil)naftalen	CAS:38640-62-9 EC:254-052-6	Asp. Tox. 1, H304; Aquatic Chronic 1, H410, M-Chronic:1	01-2119565150-48-xxxx	PBT, vPvB
≥0.5 - <1 %	Silice cristalină, cuarț (fracție respirabilă)	CAS:14808-60-7 EC:238-878-4	STOT RE 1, H372	Scutit	
≥0.1 - <0.3 %	dioxid de titan	CAS:13463-67-7 EC:236-675-5 Index:022-006-00-2	Carc. 2, H351	01-2119489379-17-xxxx	
≥0.05 - <0.1 %	Acizi grași, ulei înalt, compuși cu oleilamină	CAS:85711-55-3 EC:288-315-1	Eye Dam. 1, H318; Skin Sens. 1A, H317; STOT RE 2, H373	01-2119974148-28-xxxx	
≥0.05 - <0.1 %	acetat de 2-metoxi-1-metiletil	CAS:108-65-6 EC:203-603-9 Index:607-195-00-7	Flam. Liq. 3, H226; STOT SE 3, H336	01-2119475791-29-xxxx	
≥0.025 - <0.05 %	acetat de n-butil	CAS:123-86-4 EC:204-658-1 Index:607-025-00-1	Flam. Liq. 3, H226; STOT SE 3, H336, EUH066	01-2119485493-29-xxxx	

≥0.025 - <0.05 % xilen	CAS:1330-20-7 EC:215-535-7 Index:601-022-00-9	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Asp. Tox. xxxx 1, H304 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 Aquatic Chronic 3, H412	01-2119488216-32-
		Toxicitate Acută Estimată: ATE - Dermică: 1100mg/kg gc ATE - Inhalare (Vapori): 11mg/l	
≥0.025 - <0.05 % butanonă	CAS:78-93-3 EC:201-159-0 Index:606-002-00-3	Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336, EUH066	01-2119457290-43-xxxx
≥0.025 - <0.05 % etilbenzen	CAS:100-41-4 EC:202-849-4 Index:601-023-00-4	Flam. Liq. 2, H225; Acute Tox. 4, H332; STOT RE 2, H373; Asp. Tox. xxxx 1, H304; Aquatic Chronic 3, H412	01-2119489370-35-

SECȚIUNEA 4: Măsuri de prim ajutor

4.1. Descrierea măsurilor de prim ajutor

În caz de contact cu pielea:

Îndepărtați imediat hainele contaminate și eliminați-l în mod sigur.

Zonele corpului care au venit, sau se presupune numai că au venit, în contact cu produsul trebuie spălate imediat și abundant cu apă curentă.

Spălați complet corpul (duș sau baie).

În caz de contact cu ochii:

În caz de contact cu ochii, clătiți cu apă pentru un interval de timp corespunzător și țineți deschise pleoapele, după care consultați imediat un oftalmolog.

Protejați ochiul lezat.

În caz de ingerare:

Nu provocați vomitarea, adresați-vă unui medic arătând Fișa de Siguranță și eticheta produsului.

În caz de inhalare:

Conduceți accidentatul la aer liber și țineți-l la cald și în repaus.

4.2. Cele mai importante simptome și efecte, atât acute, cât și întârziate

Simptomele și efectele sunt cele preconizate în secțiunea 2 cu privire la pericole.

4.3. Indicații privind orice fel de asistență medicală imediată și tratamentele speciale necesare

În caz de accident sau stare proastă consultați imediat un medic (dacă este posibil arătați instrucțiunile de folosință sau fișa de siguranță).

SECȚIUNEA 5: Măsuri de combatere a incendiilor

5.1. Mijloace de stingere a incendiilor

Mijloace de stingere corespunzătoare:

CO₂, stingătoare cu pulbere, spumă, apă pulverizată.

Mijloace de stingere care nu trebuie să fie utilizate din motive de siguranță:

Jeturi de apă.

5.2. Pericole speciale cauzate de substanță sau de amestec

Combustia produce fum greu.

Nu inhalați gazele produse prin explozie și/sau prin combustie (monoxid de carbon, dioxid de carbon, oxizi de azot).

5.3. Recomandări destinate pompierilor

Folosiți dispozitive respiratorii corespunzătoare.

Strângeți separat apa contaminată folosită pentru stingerea incendiului. Nu o descărcați în rețeaua de canalizare.

Dacă este posibil din punct de vedere al siguranței, îndepărtați din zona de pericol imediat recipientele neafectate.

SECȚIUNEA 6: Măsuri împotriva pierderilor accidentale

6.1. Precauții personale, echipament de protecție și proceduri de urgență

Pentru personalul care nu este implicat în situații de urgență:

Îmbrăcați dispozitivele de protecție individuală.

Duceți persoanele în loc sigur.

Citiți măsurile de protecție prezentate la punctele 7 și 8.

Pentru personalul care intervine în situații de urgență:

Îmbrăcați dispozitivele de protecție individuală.

6.2. Precauții pentru mediul înconjurător

Împiedicați penetrarea în sol/subsol. Împiedicați vărsarea în apele de suprafață sau în rețeaua de canalizare.
În caz de scurgere de gaz sau penetrare în cursuri de apă, sol sau sistemul de canalizare, informați autoritățile răspunzătoare.

6.3. Metode și material pentru izolarea incendiilor și pentru curățenie

Material corespunzător pentru colectare: material absorbant inert (de exemplu, nisip, vermiculit)
Dupa ce produsul a fost recuperat, clatiti suprafata si materialele folosite cu apa
Rețineți apa de spălat contaminată și eliminați-o.

6.4. Trimiteri către alte secțiuni

Vezi și paragrafele 8 și 13

SECȚIUNEA 7: Manipulare și depozitare

7.1. Precauții pentru manipularea în condiții de securitate

Evitați contactul cu pielea și ochii, precum și inhalarea vaporilor și a ceții.
Nu folosiți recipiente goale înainte de a fi curățate.
Înainte operațiilor de transfer, asigurați-vă că în recipiente nu sunt materiale rezidue incompatibile.

Sfaturi privind igiena generală la locul de muncă:

Hainele contaminate trebuie înlocuite înainte de accesul la zona de prânz.
Nu mincati sau beti in timpul lucrului
Se face trimitere și la paragraful 8 pentru dispozitivele de protecție recomandate.

7.2. Condiții de depozitare în condiții de securitate, inclusiv eventuale incompatibilități

Păstrați recipientele bine închise într-un spațiu răcoros și bine ventilat, la distanță de surse de căldură.
Țineți departe de alimente, băuturi și hrană pentru animale.

Materiale incompatibile

Vezi pct. 10.5

Instructiuni privind spatiile de depozitare:

Spatii ventilate adecvat

7.3. Utilizare (utilizări) finală (finale) specifică (specifice)

Recomandări

Vezi pct. 1.2

Soluții specifice pentru sectorul industrial

Nici o utilizare particulară

SECȚIUNEA 8: Controale ale expunerii/protecția personală

8.1. Parametri de control

Lista componentelor cu valoarea OEL

Silice cristalină, cuarț (fracție respirabilă)

CAS: 14808-60-7	Tip OEL	ACGIH	Termen lung 0.025 mg/m3 Note: (R), A2 - Pulm fibrosis, lung cancer	
	Tip OEL	ACGIH	Letonia	Termen lung 0.025 mg/m3
	Tip OEL	UE		Termen lung 0.1 mg/m3
	Tip OEL	MAK	Austria	Termen lung 0.05 mg/m3
	Tip OEL	VLEP	Franța	Termen lung 0.1 mg/m3 Note: Respirable aerosol
	Tip OEL	VLA	Spania	Termen lung 0.05 mg/m3
	Tip OEL	ÁK	Ungaria	Termen lung 0.15 mg/m3 Note: Respirable aerosol
	Tip OEL	MAC	Olanda	Termen lung 0.075 mg/m3 Note: Respirable dust
	Tip OEL	SUVA	Elveția	Termen lung 0.15 mg/m3 Note: Respirable aerosol
	Tip OEL	GVI	Croația	Termen lung 0.1 mg/m3
	Tip OEL	NDS	Polonia	Termen lung 0.1 mg/m3
	Tip OEL	MV	Slovenia	Termen lung 0.15 mg/m3
	Tip OEL	IPRV	Lituania	Termen lung 0.1 mg/m3

dioxid de titan

CAS: 13463-67-7	Tip OEL	ACGIH	Termen lung 0.2 mg/m3 Note: Nanoscale particles - A3 - rspr bt, pnmc
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				Termen lung 2.5 mg/m3 Note: Finescale particles - A3 - rspr bt, pnmc
Tip OEL	ACGIH	Letonia		Termen lung 2.5 mg/m3
Tip OEL	ACGIH	Suedia		Termen lung 0.25 mg/m3
Tip OEL	MAK	Germania		Termen lung 0.3 mg/m3; Termen scurt 2.4 mg/m3 Note: Respirable fraction, except ultrafine particles , Multiplied by the material density
Tip OEL	VLEP	Belgia		Termen lung 10 mg/m3
Tip OEL	VLEP	Franța		Termen lung 10 mg/m3
Tip OEL	VLEP	România		Termen lung 10 mg/m3; Termen scurt 15 mg/m3
Tip OEL	VLA	Spania		Termen lung 10 mg/m3 Note: Inhalable fraction
Tip OEL	SUVA	Elveția		Termen lung 3 mg/m3 Note: Respirable aerosol
Tip OEL	WEL	U.K.		Termen lung 10 mg/m3 Note: Inhalable aerosol
				Termen lung 4 mg/m3 Note: Respirable aerosol
Tip OEL	GVI	Croația		Termen lung 10 mg/m3 Note: Inhalable fraction
				Termen lung 4 mg/m3 Note: Respirable fraction
Tip OEL	AGW	Germania		Termen lung 1.25 mg/m3 Note: Respirable dust particles
Tip OEL	NDS	Polonia		Termen lung 10 mg/m3 Note: Inhalable fraction
acetat de 2-metoxi-1-metiletil				
CAS: 108-65-6	Tip OEL	ACGIH	Letonia	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3
	Tip OEL	ACGIH	Suedia	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm
	Tip OEL	UE		Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm Note: Skin
	Tip OEL	MAK	Austria	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm
	Tip OEL	MAK	Germania	Termen lung 270 mg/m3 - 50 ppm; Termen scurt 270 mg/m3 - 50 ppm
	Tip OEL	VLEP	Belgia	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm Note: Additional indication "D" means that the absorption of the agent through the skin, mucous membranes or eyes is an important part of the total exposure. It can be the result of both direct contact and its presence in the air.
	Tip OEL	VLEP	Franța	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm
	Tip OEL	VLEP	Italia	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm Note: Skin
	Tip OEL	VLEP	România	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm Note: Skin
	Tip OEL	TLV	Bulgaria	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm Note: Skin
	Tip OEL	TLV	Cehia	Termen lung 270 mg/m3 - 49.14 ppm; Termen scurt 550 mg/m3 - 10.01 ppm Note: Skin
	Tip OEL	VLA	Spania	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm
	Tip OEL	ÁK	Ungaria	Termen lung 275 mg/m3; Termen scurt 550 mg/m3
	Tip OEL	MAC	Olanda	Termen lung 550 mg/m3
	Tip OEL	VLE	Portugalia	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm Note: Skin
	Tip OEL	SUVA	Elveția	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm
	Tip OEL	WEL	U.K.	Termen lung 274 mg/m3 - 50 ppm; Termen scurt 548 mg/m3 - 100 ppm
	Tip OEL	GVI	Croația	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm Note: Skin

	Tip OEL	AGW	Germania	Termen lung 270 mg/m3 - 50 ppm; Termen scurt 270 mg/m3 - 50 ppm
	Tip OEL	NDS	Polonia	Termen lung 260 mg/m3; Termen scurt 520 mg/m3
	Tip OEL	MV	Slovenia	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm Note: Skin
	Tip OEL	IPRV	Lituania	Termen lung 250 mg/m3 - 50 ppm; Termen scurt 400 mg/m3 - 75 ppm Note: Skin
acetat de n-butil CAS: 123-86-4	Tip OEL	ACGIH		Termen lung 50 ppm; Termen scurt 150 ppm Note: Eye and URT irr
	Tip OEL	UE		Termen lung 241 mg/m3 - 50 ppm; Termen scurt 723 mg/m3 - 150 ppm
	Tip OEL	MAK	Austria	Termen lung 480 mg/m3 - 100 ppm; Termen scurt 480 mg/m3 - 100 ppm
	Tip OEL	MAK	Germania	Termen lung 480 mg/m3 - 100 ppm; Termen scurt 960 mg/m3 - 200 ppm
	Tip OEL	VLEP	Belgia	Termen lung 238 mg/m3 - 50 ppm; Termen scurt 712 mg/m3 - 150 ppm Note: Butylacetates, all isomers
	Tip OEL	VLEP	Franța	Termen lung 710 mg/m3 - 150 ppm; Termen scurt 940 mg/m3 - 200 ppm
	Tip OEL	VLEP	România	Termen lung 715 mg/m3 - 150 ppm; Termen scurt 950 mg/m3 - 200 ppm
	Tip OEL	TLV	Bulgaria	Termen lung 710 mg/m3; Termen scurt 950 mg/m3
	Tip OEL	TLV	Cehia	Termen lung 241 mg/m3; Termen scurt 723 mg/m3
	Tip OEL	VLA	Spania	Termen lung 724 mg/m3 - 150 ppm; Termen scurt 965 mg/m3 - 200 ppm
	Tip OEL	ÁK	Ungaria	Termen lung 950 mg/m3; Termen scurt 950 mg/m3
	Tip OEL	SUVA	Elveția	Termen lung 240 mg/m3 - 50 ppm; Termen scurt 720 mg/m3 - 150 ppm
	Tip OEL	WEL	U.K.	Termen lung 724 mg/m3 - 150 ppm; Termen scurt 966 mg/m3 - 200 ppm
	Tip OEL	GVI	Croația	Termen lung 724 mg/m3 - 150 ppm; Termen scurt 966 mg/m3 - 200 ppm
	Tip OEL	AGW	Germania	Termen lung 300 mg/m3 - 62 ppm; Termen scurt 600 mg/m3 - 124 ppm
	Tip OEL	NDS	Polonia	Termen lung 240 mg/m3; Termen scurt 720 mg/m3
	Tip OEL	MV	Slovenia	Termen lung 300 mg/m3 - 62 ppm; Termen scurt 600 mg/m3 - 124 ppm
xilen CAS: 1330-20-7	Tip OEL	ACGIH		Termen lung 20 ppm Note: A4, IBE - oclr, rspr at, sng, ssnc
	Tip OEL	UE		Termen lung 221 mg/m3 - 50 ppm; Termen scurt 442 mg/m3 - 100 ppm Note: Skin
	Tip OEL	MAK	Austria	Termen lung 221 mg/m3 - 50 ppm; Termen scurt 442 mg/m3 - 100 ppm
	Tip OEL	MAK	Germania	Termen lung 220 mg/m3 - 50 ppm; Termen scurt 440 mg/m3 - 100 ppm Note: Skin
	Tip OEL	VLEP	Belgia	Termen lung 221 mg/m3 - 50 ppm; Termen scurt 442 mg/m3 - 100 ppm Note: Additional indication "D" means that the absorption of the agent through the skin, mucous membranes or eyes is an important part of the total exposure. It can be the result of both direct contact and its presence in the air.
	Tip OEL	VLEP	Franța	Termen lung 221 mg/m3 - 50 ppm; Termen scurt 442 mg/m3 - 100 ppm
	Tip OEL	VLEP	Italia	Termen lung 221 mg/m3 - 50 ppm; Termen scurt 442 mg/m3 - 100 ppm Note: Skin
	Tip OEL	VLEP	România	Termen lung 221 mg/m3 - 50 ppm; Termen scurt 442 mg/m3 - 100 ppm
	Tip OEL	TLV	Bulgaria	Termen lung 221 mg/m3 - 50 ppm; Termen scurt 442 mg/m3 - 100 ppm Note: Skin
	Tip OEL	TLV	Cehia	Termen lung 200 mg/m3 - 45.4 ppm; Termen scurt 400 mg/m3 - 90.8 ppm Note: Skin
	Tip OEL	VLA	Spania	Termen lung 221 mg/m3 - 50 ppm; Termen scurt 442 mg/m3 - 100 ppm
	Tip OEL	ÁK	Ungaria	Termen lung 221 mg/m3; Termen scurt 442 mg/m3
	Tip OEL	MAC	Olanda	Termen lung 210 mg/m3; Termen scurt 442 mg/m3
	Tip OEL	VLE	Portugalia	Termen lung 221 mg/m3 - 50 ppm; Termen scurt 442 mg/m3 - 100 ppm Note: Skin
	Tip OEL	SUVA	Elveția	Termen lung 435 mg/m3 - 100 ppm; Termen scurt 870 mg/m3 - 200 ppm
	Tip OEL	WEL	U.K.	Termen lung 220 mg/m3 - 50 ppm; Termen scurt 441 mg/m3 - 100 ppm
	Tip OEL	GVI	Croația	Termen lung 221 mg/m3 - 50 ppm; Termen scurt 442 mg/m3 - 100 ppm

				Note: Skin
	Tip OEL	AGW	Germania	Termen lung 220 mg/m3 - 50 ppm; Termen scurt 440 mg/m3 - 100 ppm Note: Skin
	Tip OEL	NDS	Polonia	Termen lung 100 mg/m3; Termen scurt 200 mg/m3 Note: Skin
	Tip OEL	MV	Slovenia	Termen lung 221 mg/m3 - 50 ppm; Termen scurt 442 mg/m3 - 100 ppm Note: Skin
	Tip OEL	IPRV	Lituania	Termen lung 200 mg/m3 - 50 ppm; Termen scurt 450 mg/m3 - 100 ppm Note: Skin
butanonă CAS: 78-93-3	Tip OEL	ACGIH		Termen lung 200 ppm; Termen scurt 300 ppm Note: BEI - URT irr, CNS and PNS impair
	Tip OEL	UE		Termen lung 600 mg/m3 - 200 ppm; Termen scurt 900 mg/m3 - 300 ppm
	Tip OEL	MAK	Austria	Termen lung 295 mg/m3 - 100 ppm; Termen scurt 590 mg/m3 - 200 ppm
	Tip OEL	MAK	Germania	Termen lung 600 mg/m3 - 200 ppm; Termen scurt 600 mg/m3 - 200 ppm Note: Skin
	Tip OEL	VLEP	Belgia	Termen lung 600 mg/m3 - 200 ppm; Termen scurt 900 mg/m3 - 300 ppm
	Tip OEL	VLEP	Franța	Termen lung 600 mg/m3 - 200 ppm; Termen scurt 900 mg/m3 - 300 ppm
	Tip OEL	VLEP	Italia	Termen lung 600 mg/m3 - 200 ppm; Termen scurt 900 mg/m3 - 300 ppm
	Tip OEL	VLEP	România	Termen lung 600 mg/m3 - 200 ppm; Termen scurt 900 mg/m3 - 300 ppm
	Tip OEL	TLV	Cehia	Termen lung 600 mg/m3 - 200.4 ppm; Termen scurt 900 mg/m3 - 300.6 ppm
	Tip OEL	VLA	Spania	Termen lung 600 mg/m3 - 200 ppm; Termen scurt 900 mg/m3 - 300 ppm
	Tip OEL	ÁK	Ungaria	Termen lung 600 mg/m3; Termen scurt 900 mg/m3
	Tip OEL	MAC	Olanda	Termen lung 590 mg/m3; Termen scurt 900 mg/m3
	Tip OEL	VLE	Portugalia	Termen lung 600 mg/m3 - 200 ppm; Termen scurt 900 mg/m3 - 300 ppm
	Tip OEL	SUVA	Elveția	Termen lung 590 mg/m3 - 200 ppm; Termen scurt 590 mg/m3 - 200 ppm
	Tip OEL	WEL	U.K.	Termen lung 600 mg/m3 - 200 ppm; Termen scurt 899 mg/m3 - 300 ppm
	Tip OEL	GVI	Croația	Termen lung 600 mg/m3 - 200 ppm; Termen scurt 900 mg/m3 - 300 ppm
	Tip OEL	AGW	Germania	Termen lung 600 mg/m3 - 200 ppm; Termen scurt 600 mg/m3 - 200 ppm Note: Skin
	Tip OEL	NDS	Polonia	Termen lung 450 mg/m3; Termen scurt 900 mg/m3
	Tip OEL	MV	Slovenia	Termen lung 600 mg/m3 - 200 ppm; Termen scurt 900 mg/m3 - 300 ppm Note: Skin
etilbenzen CAS: 100-41-4	Tip OEL	ACGIH		Termen lung 20 ppm Note: A3, BEI - URT irr, kidney dam (nephropathy), cochlear impair
	Tip OEL	UE		Termen lung 442 mg/m3 - 100 ppm; Termen scurt 884 mg/m3 - 200 ppm Note: Skin
	Tip OEL	MAK	Austria	Termen lung 440 mg/m3 - 100 ppm; Termen scurt 880 mg/m3 - 200 ppm
	Tip OEL	MAK	Germania	Termen lung 88 mg/m3 - 20 ppm; Termen scurt 176 mg/m3 - 40 ppm Note: Skin
	Tip OEL	VLEP	Belgia	Termen lung 87 mg/m3 - 20 ppm; Termen scurt 551 mg/m3 - 125 ppm Note: Additional indication "D" means that the absorption of the agent through the skin, mucous membranes or eyes is an important part of the total exposure. It can be the result of both direct contact and its presence in the air.
	Tip OEL	VLEP	Franța	Termen lung 88.4 mg/m3 - 20 ppm; Termen scurt 442 mg/m3 - 100 ppm
	Tip OEL	VLEP	Italia	Termen lung 442 mg/m3 - 100 ppm; Termen scurt 884 mg/m3 - 200 ppm
	Tip OEL	VLEP	România	Termen lung 442 mg/m3 - 100 ppm; Termen scurt 884 mg/m3 - 200 ppm
	Tip OEL	TLV	Cehia	Termen lung 200 mg/m3 - 45.4 ppm; Termen scurt 500 mg/m3 - 113.5 ppm Note: Skin
	Tip OEL	VLA	Spania	Termen lung 441 mg/m3 - 100 ppm; Termen scurt 884 mg/m3 - 200 ppm Note: Skin
	Tip OEL	ÁK	Ungaria	Termen lung 442 mg/m3; Termen scurt 884 mg/m3
	Tip OEL	MAC	Olanda	Termen lung 215 mg/m3; Termen scurt 430 mg/m3

Tip OEL	VLE	Portugalia	Termen lung 442 mg/m ³ - 100 ppm; Termen scurt 884 mg/m ³ - 200 ppm Note: Skin
Tip OEL	SUVA	Elveția	Termen lung 435 mg/m ³ - 100 ppm; Termen scurt 435 mg/m ³ - 100 ppm
Tip OEL	WEL	U.K.	Termen lung 441 mg/m ³ - 100 ppm; Termen scurt 552 mg/m ³ - 125 ppm
Tip OEL	GVI	Croația	Termen lung 442 mg/m ³ - 100 ppm; Termen scurt 884 mg/m ³ - 200 ppm Note: Skin
Tip OEL	AGW	Germania	Termen lung 88 mg/m ³ - 20 ppm; Termen scurt 176 mg/m ³ - 40 ppm Note: Skin
Tip OEL	NDS	Polonia	Termen lung 200 mg/m ³ ; Termen scurt 400 mg/m ³
Tip OEL	MV	Slovenia	Termen lung 442 mg/m ³ - 100 ppm; Termen scurt 884 mg/m ³ - 200 ppm Note: Skin

Valori limită de expunere PNEC

bis-[4-(2,3-epoxipropoxi)fenil]propan

CAS: 1675-54-3 Cale de expunere: Apă dulce; PNEC Limită: 0.006 mg/l

Cale de expunere: Apă sărată; PNEC Limită: 0.001 mg/l

Cale de expunere: Sedimente în apă dulce; PNEC Limită: 0.341 mg/kg

Cale de expunere: Sedimente în apă sărată; PNEC Limită: 0.034 mg/kg

Cale de expunere: Sol (agricol); PNEC Limită: 0.065 mg/kg

Cale de expunere: Microorganisme în tratamente de epurare; PNEC Limită: 10 mg/l

amestec de: 2,2'-[metilenbis(4,1-fenilenoximetilen)]dioxiran și 2-{2-[4-(oxiran-2-ilmetoxi)]fenoxi}oxiran și 2,2'-[metilenbis(2,1-fenilenoximetilen)]dioxiran

Cale de expunere: Apă dulce; PNEC Limită: 0.003 mg/l

Cale de expunere: Apă sărată; PNEC Limită: 0.0003 mg/l

Cale de expunere: Microorganisme în tratamente de epurare; PNEC Limită: 10 mg/l

Cale de expunere: Sedimente în apă sărată; PNEC Limită: 0.0294 mg/kg

Cale de expunere: Sedimente în apă dulce; PNEC Limită: 0.294 mg/kg

Cale de expunere: Sol (agricol); PNEC Limită: 0.237 mg/kg

1,6-hexandiol diglicidil eter

CAS: 933999-84-9 Cale de expunere: Apă dulce; PNEC Limită: 0.0115 mg/l

Cale de expunere: Apă sărată; PNEC Limită: 0.00115 mg/l

Cale de expunere: Sedimente în apă dulce; PNEC Limită: 0.283 mg/kg

Cale de expunere: Sedimente în apă sărată; PNEC Limită: 0.0283 mg/kg

Cale de expunere: Microorganisme în tratamente de epurare; PNEC Limită: 1 mg/l

Cale de expunere: Sol (agricol); PNEC Limită: 0.223 mg/kg

bis(izopropil)naftalen

CAS: 38640-62-9 Cale de expunere: Apă dulce; PNEC Limită: 0.236 µg/l

Cale de expunere: Apă sărată; PNEC Limită: 0.023 µg/l

Cale de expunere: Sedimente în apă dulce; PNEC Limită: 0.853 mg/kg

Cale de expunere: Sedimente în apă sărată; PNEC Limită: 0.085 mg/kg

Cale de expunere: Sol (agricol); PNEC Limită: 0.171 mg/kg

Cale de expunere: Microorganisme în tratamente de epurare; PNEC Limită: 0.15 mg/l

acetat de 2-metoxi-1-metiletil

CAS: 108-65-6 Cale de expunere: Apă dulce; PNEC Limită: 0.635 mg/l

Cale de expunere: Apă sărată; PNEC Limită: 0.064 mg/l

Cale de expunere: Microorganisme în tratamente de epurare; PNEC Limită: 100 mg/l

Cale de expunere: Sedimente în apă dulce; PNEC Limită: 3.29 mg/kg

Cale de expunere: Sedimente în apă sărată; PNEC Limită: 0.329 mg/kg

Cale de expunere: Sol (agricol); PNEC Limită: 0.29 mg/kg

acetat de n-butil

CAS: 123-86-4 Cale de expunere: Apă sărată; PNEC Limită: 0.018 mg/l

Cale de expunere: Apă dulce; PNEC Limită: 0.18 mg/l

Cale de expunere: Sedimente în apă sărată; PNEC Limită: 0.098 mg/kg

Cale de expunere: Sedimente în apă dulce; PNEC Limită: 0.981 mg/kg
Cale de expunere: Microorganisme în tratamente de epurare; PNEC Limită: 35.6 mg/l
Cale de expunere: Sol (agricol); PNEC Limită: 0.09 mg/kg

xilen

CAS: 1330-20-7 Cale de expunere: Apă sărată; PNEC Limită: 0.327 mg/l
Cale de expunere: Apă dulce; PNEC Limită: 0.327 mg/l
Cale de expunere: Microorganisme în tratamente de epurare; PNEC Limită: 6.58 mg/l
Cale de expunere: Sedimente în apă sărată; PNEC Limită: 12.46 mg/kg
Cale de expunere: Sedimente în apă dulce; PNEC Limită: 12.46 mg/kg
Cale de expunere: Sol (agricol); PNEC Limită: 2.31 mg/kg

butanonă

CAS: 78-93-3 Cale de expunere: Apă dulce; PNEC Limită: 55.8 mg/l
Cale de expunere: Apă sărată; PNEC Limită: 55.8 mg/l
Cale de expunere: Sedimente în apă dulce; PNEC Limită: 284.74 mg/kg
Cale de expunere: Microorganisme în tratamente de epurare; PNEC Limită: 709 mg/l
Cale de expunere: Lanț alimentară; PNEC Limită: 1000 mg/kg
Cale de expunere: Sol (agricol); PNEC Limită: 22.5 mg/kg

etilbenzen

CAS: 100-41-4 Cale de expunere: Apă dulce; PNEC Limită: 0.1 mg/l
Cale de expunere: Apă sărată; PNEC Limită: 0.01 mg/l
Cale de expunere: Microorganisme în tratamente de epurare; PNEC Limită: 9.6 mg/l
Cale de expunere: Sedimente în apă dulce; PNEC Limită: 13.7 mg/kg
Cale de expunere: Sedimente în apă sărată; PNEC Limită: 1.37 mg/kg
Cale de expunere: Sol (agricol); PNEC Limită: 2.68 mg/kg

Nivel Derivat Fără Efect (DNEL)

bis-[4-(2,3-epoxipropoxi)fenil]propan

CAS: 1675-54-3 Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 0.75 mg/kg; Consumator: 0.089 mg/kg

Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 4.93 mg/m³; Consumator: 0.87 mg/m³

Cale de expunere: Oral uman; Frecvență de expunere: Pe termen scurt, efecte sistemice
Consumator: 0.5 mg/kg

amestec de: 2,2'-[metilenbis(4,1-fenilenoximetilen)]dioxiran și 2-{[4-(oxiran-2-ilmetoxi)]fenoxi}oxiran și 2,2'-[metilenbis(2,1-fenilenoximetilen)]dioxiran

Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 104.15 mg/kg; Consumator: 62.5 mg/kg

Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen scurt, efecte locale
Lucrător profesionist: 0.0083 mg/cm²

Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 29.39 mg/m³; Consumator: 8.7 mg/m³

Cale de expunere: Oral uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Consumator: 6.25 mg/kg

1,6-hexandiol diglicidil eter

CAS: 933999-84-9 Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 4.9 mg/m³; Consumator: 2.9 mg/m³

Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen scurt, efecte sistemice
Lucrător profesionist: 4.9 mg/m³; Consumator: 2.9 mg/m³

Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte locale
Lucrător profesionist: 0.44 mg/m³; Consumator: 0.27 mg/m³

Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 2.8 mg/kg; Consumator: 1.7 mg/kg

Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen lung, efecte locale
Lucrător profesionist: 0.0226 mg/cm²; Consumator: 0.0136 mg/cm²

Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen scurt, efecte locale
Lucrător profesionist: 0.0136 mg/kg; Consumator: 0.0136 mg/kg

Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen scurt, efecte sistemice
Consumator: 1.7 mg/kg

Cale de expunere: Oral uman; Frecvență de expunere: Pe termen scurt, efecte sistemice
Lucrător profesionist: 0.83 mg/kg; Consumator: 0.83 mg/kg

bis(izopropil)naftalen

CAS: 38640-62-9 Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 30 mg/m³; Consumator: 7.4 mg/m³

Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 4.3 mg/kg; Consumator: 2.1 mg/kg

Cale de expunere: Oral uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Consumator: 2.1 mg/kg

Acizi grași, ulei înalt, compuși cu oleilamină

CAS: 85711-55-3 Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 0.024 mg/kg; Consumator: 0.012 mg/kg

Cale de expunere: Oral uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Consumator: 0.012 mg/kg

acetat de 2-metoxi-1-metiletil

CAS: 108-65-6 Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 796 mg/kg; Consumator: 320 mg/kg

Cale de expunere: Oral uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Consumator: 36 mg/kg

Cale de expunere: Oral uman; Frecvență de expunere: Pe termen scurt, efecte sistemice
Consumator: 500 mg/kg

Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 275 mg/m³; Consumator: 33 mg/m³

Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen scurt, efecte locale
Lucrător profesionist: 550 mg/m³

Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte locale
Consumator: 33 mg/m³

acetat de n-butil

CAS: 123-86-4 Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 300 mg/m³; Consumator: 35.7 mg/m³

Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen scurt, efecte sistemice
Lucrător profesionist: 600 mg/m³; Consumator: 300 mg/m³

Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte locale
Lucrător profesionist: 300 mg/m³; Consumator: 35.7 mg/m³

Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen scurt, efecte locale
Lucrător profesionist: 600 mg/m³; Consumator: 300 mg/m³

Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 11 mg/kg; Consumator: 6 mg/kg

Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen scurt, efecte sistemice
Lucrător profesionist: 11 mg/kg; Consumator: 6 mg/kg

Cale de expunere: Oral uman; Frecvență de expunere: Pe termen scurt, efecte sistemice
Consumator: 2 mg/kg

Cale de expunere: Oral uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Consumator: 2 mg/kg

xilen

CAS: 1330-20-7 Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 221 mg/m³; Consumator: 65.3 mg/m³

Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen scurt, efecte sistemice
Lucrător profesionist: 442 mg/m³; Consumator: 260 mg/m³

Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen scurt, efecte locale
Lucrător profesionist: 442 mg/m³; Consumator: 260 mg/m³

Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte locale
Lucrător profesionist: 221 mg/m³; Consumator: 65.3 mg/m³

Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 212 mg/kg; Consumator: 125 mg/kg

Cale de expunere: Oral uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Consumator: 12.5 mg/kg

butanonă

CAS: 78-93-3 Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 600 mg/m³; Consumator: 106 mg/m³

Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 1161 mg/kg; Consumator: 412 mg/kg

Cale de expunere: Oral uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Consumator: 31 mg/kg

etilbenzen

CAS: 100-41-4 Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 77 mg/m³; Consumator: 15 mg/m³

Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte locale
Lucrător profesionist: 293 mg/m³

Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 180 mg/kg

Cale de expunere: Oral uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Consumator: 1.6 mg/kg

8.2. Controale ale expunerii

Asigurați o ventilație adecvată. Atunci când este rezonabil posibil, aceasta se poate obține prin utilizarea de ventilație de schimb și a unei aspirații generale bune.

Protecția ochilor

Ochelari cu protecție laterală (EN 166).

Protecția pielii

Utilizați îmbrăcăminte corespunzătoare pentru protecția completă a pielii, în funcție de activitate și expunere (EN 14605/EN 13982), de exemplu salopetă de lucru, șorț, încălțăminte de siguranță, îmbrăcăminte corespunzătoare.

Protecția mainilor

Nu există niciun material sau combinație de materiale pentru mănuși care să poată garanta o rezistență nelimitată la orice produs chimic sau combinație de produse.

Pentru manipulare prelungită sau repetată, utilizați mănuși rezistente la produse chimice.

Tipul de mănuși adecvate (EN 374/EN 16523); FKM (fluor cauciuc): grosime ≥ 0.4 mm; timp de penetrare ≥ 480 min. NBR (cauciuc nitrilic): grosime ≥ 0.4 mm; timp de penetrare ≥ 480 min

Alegerea mănușilor potrivite nu depinde numai de material, ci și de alte caracteristici de calitate care variază de la un producător la altul, precum și de metodele și timpii de utilizare a amestecului.

Protecție respiratorie

Dacă lucrătorii sunt expuși la concentrații mai mari decât limitele de expunere, trebuie să poarte aparate respiratorii certificate.

Filtru amestec (EN 14387): mască cu filtru A-P2.

Controale de expunere ambientală:

Vezi pct. 6.2

Măsurile de igienă și tehnice

Vezi alineatul 7.

SECȚIUNEA 9: Proprietățile fizice și chimice

9.1. Informații privind proprietățile fizice și chimice de bază

Aspect: Vâscos

Culoare: gri

Miros: caracteristic

Punctul de topire/punctul de înghețare: N.D.

Punctul de fierbere sau punctul inițial de fierbere și intervalul de fierbere: N.D.

Inflamabilitatea: N.A.

Limita inferioară și superioară de explozie: N.D.

Punctul de aprindere: $> 93^{\circ}\text{C}$

Temperatura de autoaprindere: N.D.
Temperatura de descompunere: N.D.
pH: N.A.
Viscozitatea cinematică: N.A.
Densitatea și/sau densitatea relativă: 1.40 kg/l (Metoda internă)
Densitatea relativă a vaporilor: N.D.
Presiunea vaporilor: N.D.
Solubilitatea în apă: Insolubil
Solubilitate în ulei: N.A.
Coeficientul de partiție n-octanol/apă (valoarea log): N.A.

Caracteristicile particulei:

Dimensiunea particulei: N.A.

9.2. Alte informații

Conductivitatea: N.D.
Proprietati explozive: N.A. (Evaluare internă)
Proprietati oxidante: N.A. (Evaluare internă)
Viteza de evaporare: N.A.

SECȚIUNEA 10: Stabilitate și reactivitate

10.1. Reactivitate

Stabilă în condiții normale

10.2. Stabilitate chimică

Stabilă în condiții normale

10.3. Posibilitatea de reacții periculoase

Se poate aprinde în contact cu agenți puternic oxidanți
Din cauza efectului căldurii sau în caz de incendiu, se pot elibera oxizi de carbon și vapori care pot fi dăunători pentru sănătate.

10.4. Condiții de evitat

Evitați apropierea de surse de căldură.

10.5. Materiale incompatibile

Agenți de oxidare puternici, agenți de reducere puternici, amine alifatică și aromatice.
Vezi pct. 10.3

10.6. Produși de descompunere periculoși

În cazul depozitării și manipulării adecvate, nu există produse de descompunere periculoase.
Vezi pct. 5.2

SECȚIUNEA 11: Informații toxicologice

11.1. Informații privind clasele de pericol definite în Regulamentul (CE) nr. 1272/2008

Rășina epoxi lichida conținută de acest material produce doar iritații minore ale pielii. Oricum, toate rășinile epoxi sunt capabile să producă sensibilizarea pielii. Susceptibilitatea la sensibilizare și iritare a pielii diferă de la persoană la persoană

La indivizii sensibilizați dermatita alergică poate apărea numai după câteva zile sau săptămâni după contactul frecvent sau prelungit. De aceea, chiar dacă potențialul de iritare al pielii este scăzut, contactul cu pielea trebuie evitat

Odată sensibilizarea instalată, expunerea pielii la cantități foarte mici de material poate cauza eritem sau edem

Informații toxicologice ale produsului:

a) toxicitate acută	Neclasificat Pe baza datelor disponibile, criteriile de clasificare nu sunt îndeplinite.
b) corodarea/iritarea pielii	Produsul este clasificat: Skin Irrit. 2(H315)
c) lezarea gravă/iritarea ochilor	Produsul este clasificat: Eye Irrit. 2(H319)
d) sensibilizarea căilor respiratorii sau a pielii	Produsul este clasificat: Skin Sens. 1(H317)
e) mutagenitatea celulelor germinative	Neclasificat Pe baza datelor disponibile, criteriile de clasificare nu sunt îndeplinite.
f) cancerogenitatea	Neclasificat Pe baza datelor disponibile, criteriile de clasificare nu sunt îndeplinite.
g) toxicitatea pentru reproducere	Neclasificat Pe baza datelor disponibile, criteriile de clasificare nu sunt îndeplinite.
h) STOT (toxicitate asupra organelor țintă specifice) - expunere unică	Neclasificat

i) STOT (toxicitate asupra organelor țintă specifice) - expunere repetată

Pe baza datelor disponibile, criteriile de clasificare nu sunt îndeplinite.

Neclasificat

j) pericol prin aspirare

Pe baza datelor disponibile, criteriile de clasificare nu sunt îndeplinite.

Neclasificat

Pe baza datelor disponibile, criteriile de clasificare nu sunt îndeplinite.

Informații toxicologice referitoare la substanțele principale găsite în acest produs:

bis-[4-(2,3-epoxipropoxi)fenil]propan

CAS: 1675-54-3 a) toxicitate acută

LD50 Oral Șobolan > 2000 mg/kg

LD50 Piele Șobolan > 2000 mg/kg

amestec de: 2,2'-[metilenbis(4,1-fenilenoximetilen)]dioxiran și 2-({2-[4-(oxiran-2-ilmetoxi)]fenoxi})oxiran și 2,2'-[metilenbis(2,1-fenilenoximetilen)]dioxiran

a) toxicitate acută

LD50 Piele Șobolan > 2000 mg/kg

LD50 Oral Șobolan > 5000 mg/kg

bis(izopropil)naftalen

CAS: 38640-62-9 a) toxicitate acută

LD50 Oral Șobolan > 4000 mg/kg

LC50 Piele Șobolan > 4000 mg/kg

LC50 Inhalări de aerosoli Șobolan > 5.6 mg/l

dioxid de titan

CAS: 13463-67-7 a) toxicitate acută

LD50 Oral Șobolan > 5000 mg/kg

LC50 Praf de inhalare Șobolan > 6.82 mg/l 4h

Acizi grași, ulei înalt, compuși cu oleilamină

CAS: 85711-55-3 a) toxicitate acută

LD50 Oral Șobolan > 2000 mg/kg

acetat de 2-metoxi-1-metiletil

CAS: 108-65-6 a) toxicitate acută

LD50 Oral Șobolan > 5000 mg/kg

LD50 Piele Iepure > 5000 mg/kg

LC0 Vapori de inhalare Șobolan > 4345 ppm 6h

acetat de n-butil

CAS: 123-86-4 a) toxicitate acută

LD50 Oral Șobolan 10760 mg/kg

LD50 Piele Iepure 14112 mg/kg

LC50 Vapori de inhalare Șobolan > 21.1 mg/l 4h

xilen

CAS: 1330-20-7 a) toxicitate acută

ATE - Dermică: 1100 mg/kg gc

ATE - Inhalare (Vapori): 11 mg/l

LD50 Oral Șobolan 3523 mg/kg

butanonă

CAS: 78-93-3 a) toxicitate acută

LD50 Oral Șobolan > 2193 mg/kg

LD50 Piele Iepure > 5000 mg/kg

etilbenzen

CAS: 100-41-4 a) toxicitate acută

LD50 Oral Șobolan 3500 mg/kg

LD50 Piele Iepure 15400 mg/kg

LC50 Inhalare Șobolan 17629 mg/m³ 4h

11.2. Informații privind alte pericole

Proprietăți de perturbator endocrin:

Nu conține perturbatori endocrini prezenți în concentrații $\geq 0,1\%$

SECȚIUNEA 12: Informații ecologice

A se adopta bune practici de producție astfel încât produsul să nu fie eliberat în mediu

12.1. Toxicitate

Informații Ecotoxicologice:

Toxic pentru mediul acvatic cu efecte pe termen lung.

Lista proprietatilor Eco-toxicologice ale produsului

Produsul este clasificat: Aquatic Chronic 2(H411)

Lista componentelor cu proprietăți ecotoxicologice

bis-[4-(2,3-epoxipropoxi)fenil]propan

- CAS: 1675-54-3
- a) Toxicitate acvatică acută: EC50 Daphnia 1.8 mg/l 48h
 - a) Toxicitate acvatică acută: LC50 Pește 2 mg/l 96h
 - a) Toxicitate acvatică acută: EC50 Alge 11 mg/l 72h
 - b) Toxicitatea acvatică cronică: NOEC Daphnia 0.3 mg/l 21d

amestec de: 2,2'-[metilenbis(4,1-fenilenoximetilen)]dioxiran și 2-({2-[4-(oxiran-2-ilmetoxi)]fenoxi})oxiran și 2,2'-[metilenbis(2,1-fenilenoximetilen)]dioxiran

- a) Toxicitate acvatică acută: LC50 Pește 2.54 mg/l 96h
- a) Toxicitate acvatică acută: EC50 Alge 1.8 mg/l 72h
- a) Toxicitate acvatică acută: EC50 Daphnia 2.55 mg/l 48h
- b) Toxicitatea acvatică cronică: NOEC Daphnia 0.3 mg/l - 21d

bis(izopropil)naftalen

- CAS: 38640-62-9
- a) Toxicitate acvatică acută: LC0 Pește 0.5 mg/l 96h
 - a) Toxicitate acvatică acută: EC0 Daphnia 0.16 mg/l 48h
 - a) Toxicitate acvatică acută: EC0 Alge 0.15 mg/l 72h
 - b) Toxicitatea acvatică cronică: NOEC Daphnia 0.013 mg/l 21d

dioxid de titan

- CAS: 13463-67-7
- a) Toxicitate acvatică acută: LC50 Pește > 1000 mg/l 96h
 - a) Toxicitate acvatică acută: EC50 Daphnia > 1000 mg/l 48h
 - a) Toxicitate acvatică acută: EC50 Alge 61 mg/l 72h

Acizi grași, ulei înalt, compuși cu oleilamină

- CAS: 85711-55-3
- a) Toxicitate acvatică acută: LC50 Pește 15.2 mg/l 96h
 - a) Toxicitate acvatică acută: EC50 Daphnia > 100 mg/l 48h

acetat de 2-metoxi-1-metiletil

- CAS: 108-65-6
- a) Toxicitate acvatică acută: LC50 Pește 134 mg/l 96h
 - a) Toxicitate acvatică acută: EC50 Daphnia 408 mg/l 48h
 - a) Toxicitate acvatică acută: EC50 Alge > 1000 mg/l 96h
 - b) Toxicitatea acvatică cronică: NOEC Pește 47.5 mg/l - 14 d

acetat de n-butil

- CAS: 123-86-4
- a) Toxicitate acvatică acută: LC50 Pește 18 mg/l 96h
 - a) Toxicitate acvatică acută: EC50 Daphnia 44 mg/l 48h
 - a) Toxicitate acvatică acută: EC50 Alge 675 mg/l 72h
 - b) Toxicitatea acvatică cronică: NOEC Daphnia 23 mg/l - 21d

butanonă

- CAS: 78-93-3
- a) Toxicitate acvatică acută: LC50 Pește 2973 mg/l 96h
 - a) Toxicitate acvatică acută: EC50 Daphnia 308 mg/l 48h
 - a) Toxicitate acvatică acută: EC50 Alge 1229 mg/l 96h

etilbenzen

- CAS: 100-41-4
- a) Toxicitate acvatică acută: LC50 Pește 4.2 mg/l 96h
 - a) Toxicitate acvatică acută: EC50 Daphnia 1.8 mg/l 48h
 - a) Toxicitate acvatică acută: EC50 Alge 3.6 mg/l 96h
 - b) Toxicitatea acvatică cronică: NOEC Daphnia 1 mg/l - 7d

12.2. Persistență și degradabilitate

bis-[4-(2,3-epoxipropoxi)fenil]propan

CAS: 1675-54-3 Degradabil în mod lent

acetat de 2-metoxi-1-metiletil

CAS: 108-65-6 Degradabil în mod rapid

acetat de n-butil

CAS: 123-86-4 Degradabil în mod rapid

xilen

CAS: 1330-20-7 Degradabil în mod rapid

butanonă

CAS: 78-93-3 Degradabil în mod rapid

etilbenzen

CAS: 100-41-4 Degradabil în mod rapid

12.3. Potențial de bioacumulare

xilen

CAS: 1330-20-7 Nu este supus
bioacumulării

12.4. Mobilitate în sol

xilen

CAS: 1330-20-7 Mobil

12.5. Rezultatele evaluărilor PBT și vPvB

Lista componentelor cu proprietăți ecotoxicologice

bis(izopropil)naftalen

CAS: 38640-62-9 $\geq 0.5 - < 1 \%$ PBT - vPvB

12.6. Proprietăți de perturbator endocrin

Nu conține perturbatori endocrini prezenți în concentrații $\geq 0,1\%$

12.7. Alte efecte adverse

N.A.

SECȚIUNEA 13: Considerații privind eliminarea

13.1. Metode de tratare a deșeurilor

A se recupera, dacă este posibil. A se respecta regulamentele locale în vigoare

Nu permiteți pătrunderea produsului în sistemul de canalizare sau în cursurile de apă.

Recipientele contaminate cu produs, în conformitate cu dispozițiile legale locale sau naționale.

Odată ce produsul a expirat, acesta trebuie eliminat în conformitate cu reglementările în vigoare.

SECȚIUNEA 14: Informații referitoare la transport



14.1. Numărul ONU sau numărul de identificare

3082

14.2. Denumirea corectă ONU pentru expediție

ADR-Nume transport îmbarcare: MATERIE PERICULOASĂ DIN PUNCT DE VEDERE AL MEDIULUI, LICHIDĂ, N.D. (bis-[4-(2,3-epoxipropoxi)fenil]propan - amestec de: 2,2'-[metilenbis(4,1-fenilenoximetilen)]dioxiran și 2-({2-[4-(oxiran-2-ilmetoxi)]fenoxi})oxiran și 2,2'-[metilenbis(2,1-fenilenoximetilen)]dioxiran)

IATA-Nume transport îmbarcare: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bis-[4-(2,3-epoxipropoxi)fenil]propan - amestec de: 2,2'-[metilenbis(4,1-fenilenoximetilen)]dioxiran și 2-({2-[4-(oxiran-2-ilmetoxi)]fenoxi})oxiran și 2,2'-[metilenbis(2,1-fenilenoximetilen)]dioxiran)

IMDG-Nume transport îmbarcare: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bis-[4-(2,3-epoxipropoxi)fenil]propan - amestec de: 2,2'-[metilenbis(4,1-fenilenoximetilen)]dioxiran și 2-({2-[4-(oxiran-2-ilmetoxi)]fenoxi})oxiran și 2,2'-[metilenbis(2,1-fenilenoximetilen)]dioxiran)

14.3. Clasa (clasele) de pericol pentru transport

ADR-clasa: 9

IATA-Clasa: 9

IMDG-Clasa: 9

14.4. Grupul de ambalare

ADR-Grup Ambalare: III

IATA-Grup Ambalare: III

IMDG-Grup Ambalare: III

14.5. Pericole pentru mediul înconjurător

Poluant marin: Da

Poluant ambiental: Da

IMDG-EMS: F-A, S-F

14.6. Precauții speciale pentru utilizatori

Drumuri și Căi Ferate (ADR-RID):

ADR-Etichetă: 9

ADR - Număr de identificare a pericolului: 90

ADR-Dispoziții Speciale: 274 335 375 601

ADR-Cod de restricție în tunel:

Aer (IATA):

IATA-Aeronavă de pasagerit: 964

IATA-Aeronavă de marfă: 964

IATA-Etichetă: 9

IATA-Riscul secundar: -

IATA-Erg: 9L

IATA-Dispoziții Speciale: A97 A158 A197 A215

Mare (IMDG):

IMDG-Depozitare și manipulare: Category A

IMDG-Segregare: -

IMDG-Riscul secundar: -

IMDG-Dispoziții Speciale: 274 335 969

14.7. Transportul maritim în vrac în conformitate cu instrumentele OMI

N.A.

SECȚIUNEA 15: Informații de reglementare

15.1. Regulamente/legislație în domeniul securității, al sănătății și al mediului specifice (specifică) pentru substanța sau amestecul în cauză

Directiva 98/24/CE (Riscuri în legătură cu agenții chimici la locul de muncă)

Directiva 2000/39/CE (Valori limită a expunerii profesionale)

Directiva 2010/75/UE

Regulamentul (CE) nr. 1907/2006 (REACH)

Regulamentul (CE) nr. 1272/2008 (CLP)

Regulamentul (CE) nr. 790/2009 (ATP 1 CLP) și (EU) nr. 758/2013

Regulamentul (EU) nr. 2020/878

Regulamentul (EU) nr. 286/2011 (ATP 2 CLP)

Regulamentul (EU) nr. 618/2012 (ATP 3 CLP)

Regulamentul (EU) nr. 487/2013 (ATP 4 CLP)

Regulamentul (EU) nr. 944/2013 (ATP 5 CLP)

Regulamentul (EU) nr. 605/2014 (ATP 6 CLP)

Regulamentul (EU) nr. 2015/1221 (ATP 7 CLP)

Regulamentul (EU) nr. 2016/918 (ATP 8 CLP)

Regulamentul (EU) nr. 2016/1179 (ATP 9 CLP)

Regulamentul (EU) nr. 2017/776 (ATP 10 CLP)

Regulamentul (EU) nr. 2018/669 (ATP 11 CLP)

Regulamentul (EU) nr. 2018/1480 (ATP 13 CLP)

Regulamentul (EU) nr. 2019/521 (ATP 12 CLP)

Regulamentul (EU) nr. 2020/217 (ATP 14 CLP)

Regulamentul (EU) nr. 2020/1182 (ATP 15 CLP)

Regulamentul (EU) nr. 2021/643 (ATP 16 CLP)

Regulamentul (EU) nr. 2021/849 (ATP 17 CLP)

Regulamentul (EU) nr. 2022/692 (ATP 18 CLP)

Restricții referitoare la produsele sau substanțele conținute de acestea conform Anexei XVII Regulamentul (CE) 1907/2006 (REACH) cu modificările ulterioare:

Restricții referitoare la produs: 3

Restricții referitoare la substanțele conținute: 40, 75

Dispoziții în legătură cu directiva EU 2012/18 (Seveso III):

Categoria Seveso III conform Anexei 1, partea 1	Limită nivel inferior (tone)	Limită nivel superior (tone)
Produsul face parte din categoria: E2	200	500

Regulamentul (UE) nr. 649/2012 (Regulamentul PIC)

Nu există substanțe menționate

Clasa Germană a Periculozității Apei

Clasa 3: foarte periculos.

Substanțe SVHC:

În baza datelor disponibile, produsul nu conține substanțe SVHC în procentaj \geq de 0.1%.

15.2. Evaluarea securității chimice

Nu a fost efectuată nici o Evaluare de Securitate Chimică pentru amestecul

SECȚIUNEA 16: Alte informații

Cod	Descriere	
EUH066	Expunerea repetată poate provoca uscarea sau crăparea pielii.	
H225	Lichid și vapori foarte inflamabili.	
H226	Lichid și vapori inflamabili.	
H304	Poate fi mortal în caz de înghițire și de pătrundere în căile respiratorii.	
H312	Nociv în contact cu pielea.	
H315	Provoacă iritarea pielii.	
H317	Poate provoca o reacție alergică a pielii.	
H318	Provoacă leziuni oculare grave.	
H319	Provoacă o iritare gravă a ochilor.	
H332	Nociv în caz de inhalare.	
H335	Poate provoca iritarea căilor respiratorii.	
H336	Poate provoca somnolență sau amețeală.	
H351	Susceptibil de a cauza cancer dacă este inhalat.	
H372	Provoacă daune organelor în caz de expunere îndelungată sau repetată prin inhalare.	
H373	Poate provoca leziuni ale organelor în caz de expunere prelungită sau repetată.	
H373	Poate provoca daune organelor în caz de expunere îndelungată sau repetată prin inghițire.	
H373	Poate provoca daune organelor în caz de expunere îndelungată sau repetată prin inhalare și prin inghițire.	
H410	Foarte toxic pentru mediul acvatic cu efecte pe termen lung.	
H411	Toxic pentru mediul acvatic cu efecte pe termen lung.	
H412	Nociv pentru mediul acvatic cu efecte pe termen lung.	
Cod	Clasa de pericol și categoria de pericol	Descriere
2.6/2	Flam. Liq. 2	Lichid inflamabil, Categoria 2
2.6/3	Flam. Liq. 3	Lichid inflamabil, Categoria 3
3.1/4/Dermal	Acute Tox. 4	Toxicitate acută (dermică), Categoria 4
3.1/4/Inhal	Acute Tox. 4	Toxicitate acută (inhalare), Categoria 4
3.10/1	Asp. Tox. 1	Pericol prin aspirare, Categoria 1
3.2/2	Skin Irrit. 2	Iritarea pielii, Categoria 2
3.3/1	Eye Dam. 1	Lezarea gravă a ochilor, Categoria 1
3.3/2	Eye Irrit. 2	Iritarea ochilor, Categoria 2
3.4.2/1	Skin Sens. 1	Sensibilizarea pielii, Categoria 1
3.4.2/1A	Skin Sens. 1A	Sensibilizarea pielii, Categoria 1A
3.6/2	Carc. 2	Cancerigenitate, Categoria 2
3.8/3	STOT SE 3	Toxicitate asupra unui organ țintă specific – o singură expunere, Categoria 3
3.9/1	STOT RE 1	Toxicitate asupra unui organ țintă specific – expunere repetată, Categoria 1
3.9/2	STOT RE 2	Toxicitate asupra unui organ țintă specific – expunere repetată, Categoria 2

4.1/C1	Aquatic Chronic 1	Pericol cronic (pe termen lung) pentru mediul acvatic, Categoria 1
4.1/C2	Aquatic Chronic 2	Pericol cronic (pe termen lung) pentru mediul acvatic, Categoria 2
4.1/C3	Aquatic Chronic 3	Pericol cronic (pe termen lung) pentru mediul acvatic, Categoria 3

Clasificarea și procedura utilizate pentru realizarea clasificării pentru amestecuri în conformitate cu Regulamentul (CE) nr. 1272/2008 [CLP]:

Clasificare conform Regulamentului (CE) nr. 1272/2008	Procedura de clasificare
Skin Irrit. 2, H315	Metoda de calcul
Eye Irrit. 2, H319	Metoda de calcul
Skin Sens. 1, H317	Metoda de calcul
Aquatic Chronic 2, H411	Metoda de calcul

Acest document a fost întocmit de un tehnician competent în domeniul SDS și care este pregătit în mod corespunzător.

Principalele surse bibliografice:

ECDIN - Rețeaua de date și informații de mediu privind produsele chimice - Centrul comun de cercetare, Comisia Comunităților Europene
SAX PROPRIETĂȚI PERICULOASE ALE MATERIALELOR INDUSTRIALE - Ediția a opta - Van Nostrand Reinold
Fișe tehnice de securitate ale furnizorilor de materii prime.

Aceste informații se bazează pe cunoștințele deținute la data menționată mai sus. Se referă numai la produsul menționat și nu constituie o garanție a calității pentru cazurile particulare

Este de datoria utilizatorului să se asigure că aceste informații sunt adecvate și corespund domeniului specific de utilizare

Această FTS anulează și înlocuiește pe cele emise anterior.

Legenda cu abrevierile și acronimele folosite în fișa cu date de securitate

ACGIH: Conferința Americană a Igieniştilor Industriali Guvernamentali
ADR: Acordul European referitor la Încărcătura Internațională de Bunuri Periculoase pe Drumuri
ATE: Toxicitate Acută Estimată
ATEmix: Estimarea toxicității acute (Amestecuri)
BEI: Index de Expunere Biologică
CAS: Chemical Abstracts Service (departament al Societății Americane de Chimie)
CAV: Centrul de Otrăvuri
CE: Comunitatea Europeană
CLP: Clasificare, Etichetare, Ambalare
CMR: Cancerigene, Mutagene și Toxice pentru reproducere
COV: Compus Organic Volatil
CSA: Evaluarea Securității Chimice
CSR: Raportul Securității Chimice
DNEL: Nivel Derivat Fără Efect
EC50: Jumătate din Concentrația Efectivă Maximă
ECHA: Agenția Europeană pentru Produse Chimice
EINECS: Inventarul European al Substanțelor Chimice Existente pe piață
ES: Scenariul de Expunere
GefStoffVO: Ordonanță în legătură cu Substanțele Periculoase, Germania
GHS: Sistemul Mondial Armonizat de Clasificare și Etichetare a Produselor Chimice
IARC: Agenția Internațională pentru Cercetare în Domeniul Cancerului
IATA: Asociația Internațională de Transport Aerian
IC50: jumătate din concentrația inhibitorie maximă
IMDG: Coduri Maritime Internaționale pentru Bunurile Periculoase
LC50: Concentrația letală pentru un procent de 50% din populația test
LD50: Doza letală pentru un procent de 50% din populația test
LDLo: Doză Letală Scăzută
N.A.: Nu se aplică
N/A: Nu se aplică
N/D: Nedefinit/Nu este disponibil
N.D.: Nu este disponibil
NIOSH: Institutul Național pentru Securitate și Sănătate în Muncă
NOAEL: Nu există un Nivel al Efectelor Adverse Observat
OSHA: Administrația Securității și Sănătății în Muncă.
PBT: Persistente, Bioacumulative și Toxice
PGK: Instrucțiuni de ambalare
PNEC: Concentrația Fără Efect Prevăzută
PSG: Pasageri
RID: Regulamentul Referitor la Transportul Internațional de Bunuri Periculoase pe Calea Ferată
STEL: Limita de Expunere pe Termen Scurt

STOT: Toxicitatea pentru Organul Țintă Specific

TLV: Valoarea Limită a Pragului

TLV-TWA: Valoarea Limită a Pragului pentru Durata Ponderată Medie 8 ore pe zi (Standard ACGIH)

vPvB: Foarte Persistent, Foarte Bioacumulativ.

WGK: Clasa Germană a Periculozității Apei

Paragrafe modificate de la ultima revizuire:

- SECȚIUNEA 2: Identificarea pericolelor
- SECȚIUNEA 3: Compoziție/informații privind componenții
- SECȚIUNEA 7: Manipulare și depozitare
- SECȚIUNEA 8: Controale ale expunerii/protecția personală
- SECȚIUNEA 9: Proprietățile fizice și chimice
- SECȚIUNEA 11: Informații toxicologice
- SECȚIUNEA 12: Informații ecologice
- SECȚIUNEA 14: Informații referitoare la transport
- SECȚIUNEA 15: Informații de reglementare
- SECȚIUNEA 16: Alte informații

butanone

Substance identification

Chemical Name: butanone

CAS number: 78-93-3

Date - Version: June 25, 2021

USE IN COATINGS - INDUSTRIAL USE

SECTION 1. TITLE OF THE EXPOSURE SCENARIO

Title

Use in coatings - Industrial use

Sector of use

SU3

Process categories

PROC1, PROC10, PROC13, PROC14, PROC15, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9

Environmental Release Categories

ERC4

Specific Environmental Release Categories

ESVOC 4.3a v1

Processes, tasks, activities considered

Considers use in coating (paints, inks, adhesives, etc.) including exposure during use (including receipt of material, storage, preparation and transfer from bulk or semi-bulk, spray, roller, brush application, spraying, dipping, flow, fluid layers in production lines and in film formation) and equipment cleaning, maintenance and associated laboratory activities.

SECTION 2. OPERATING CONDITIONS AND RISK MANAGEMENT MEASURES

SECTION 2.1 WORKER EXPOSURE CONTROL

Product features

Liquid

Duration, frequency and quantity

Covers daily exposure up to 8 hours (unless otherwise defined) [G2].

Covers the substance in the product up to 100% [G13].

Additional operating conditions regarding worker exposure

It is assumed that good basic industrial hygiene practices are applied.

Assumes use at not more than 20°C above ambient temperature [G15].

Contribution to the scenario/specific risk control measures and operating conditions

General measures (flammable liquid)

Risks relating to the physical-chemical hazards of the substances, such as flammability or explosiveness, can be controlled by adopting risk management measures in the workplace. It is recommended to refer to ATEX directive version 2014/34/EU. Based on the implementation of a series of storage risk management measures for the identified uses, the risks can be considered as being controlled to an acceptable level.

Use in closed systems. Avoid sources of ignition - No smoking. Handle in a well-ventilated area to prevent the formation of explosive atmospheres. Use protective equipment and systems approved for flammable substances.

Limit the speed in the lines while pumping to avoid the generation of electrostatic discharges. Ground the container and the receiving device. Use non-sparking tools.

Follow relevant EU/national regulations. Refer to the SDS for additional recommendations.

General exposure (closed systems) PROC1

Handle substance within a closed system.

General exposure (closed systems) with sampling Use in closed systems PROC2

Handle substance within a closed system. Ensure material transfers are managed using closed or air exhaust systems.

Film formation - forced drying, drying and other technologies. Operation is carried at at elevated temperatures (>20° C above ambient temperature). PROC2

Handle substance within a closed system. Ensure material transfers are managed using closed or air exhaust systems.

Mixing operations (closed systems) General exposure (closed systems) PROC3

Handle substance within a closed system. Ensure material transfers are managed using closed or air exhaust systems.

Film formation - Air dry PROC4

Provide supplementary ventilation to points where emissions occur.

Preparation of material for use Mixing operations (open systems) PROC5

Provide supplementary ventilation to points where emissions occur.

Spraying (automatic/robotic) PROC7

Perform in a laminar flow ventilated booth.

Manual Spray PROC7

Wear respiratory protection in accordance with EN 140 with filter type A or better. Ensure a sufficient amount of controlled ventilation (10 to 15 air changes per hour).

Material transfers PROC8a

Clear transfer lines prior to de-coupling. Provide supplementary ventilation and other openings.

Material transfers PROC8b

Clear transfer lines prior to de-coupling.

Roller, spray and flow application PROC10

Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

Immersion and pouring PROC13

Provide supplementary ventilation to points where emissions occur. Avoid manual contact with wet work pieces.

Laboratory activities PROC15

No other specific measure identified.

Material transfers Transfer of drums/quantities Transfer from/pouring from containers PROC9

Provide supplementary ventilation and other openings.

Production of preparations or articles by tableting, compression, extrusion, pelettisation PROC14

Provide supplementary ventilation to points where emissions occur.

SECTION 2.2 ENVIRONMENTAL EXPOSURE CONTROL

Product features

Not applicable.

Duration, frequency and quantity

Not applicable.

Environmental factors do not influence risk management

Not applicable.

Additional operating conditions relating to environmental exposure

No environmental exposure verification has been submitted

Technical conditions and process-level (source) measures to prevent releases

Not applicable

Local technical conditions and measures to reduce and limit discharges, air emissions and soil releases

Not applicable.

Organisational measures to avoid/limit release from a site

Not applicable.

Conditions and measures for the municipal sewage treatment plant

Not applicable.

Conditions and measures for external treatment of waste

Not applicable.

Conditions and measures for external recovery of waste

Not applicable.

SECTION 3. EXPOSURE ESTIMATES

SECTION 3.1 HEALTH

Predicted exposure is not expected to exceed the applicable exposure limits (given in section 8 of the safety datasheet) when the operational conditions and risk management measures given in section 2 are implemented.

The ECETOC TRA model has been used to assess worker exposure, unless otherwise indicated. [G21]

SECTION 3.2 ENVIRONMENT

Not applicable.

SECTION 4. GUIDE FOR CHECKING COMPLIANCE WITH THE EXPOSURE SCENARIO

SECTION 4.1 HEALTH

The available risk data do not indicate the need to establish a DNEL for other health effects. [G36]

Risk management measures are based on the qualitative determination of the risk.

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

SECTION 4.2 ENVIRONMENT

Not applicable.

USE IN COATINGS - PROFESSIONAL USE

SECTION 1. TITLE OF THE EXPOSURE SCENARIO

Title

Use in coatings - Professional use.

Sector of use

SU22

Process categories

PROC1, PROC10, PROC11, PROC13, PROC15, PROC19, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b

Environmental Release Categories

ERC8a, ARC8d

Processes, tasks, activities considered

Considers use in coating (paints, inks, adhesives, etc.) including exposure during use (including receipt of material, storage, preparation and transfer from bulk or semi-bulk, spray, roller, brush application, applied by hand or similar methods and film formation) and equipment cleaning, maintenance and associated laboratory activities.

SECTION 2. OPERATING CONDITIONS AND RISK MANAGEMENT MEASURES

SECTION 2.1 WORKER EXPOSURE CONTROL

Product features

Liquid

Duration, frequency and quantity

Covers daily exposure up to 8 hours (unless otherwise defined) [G2].

Covers the substance in the product up to 100% [G13].

Additional operating conditions regarding worker exposure

It is assumed that good basic industrial hygiene practices are applied.

Assumes use at not more than 20°C above ambient temperature [G15].

Contribution to the scenario/specific risk control measures and operating conditions

General measures (flammable liquid)

Risks relating to the physical-chemical hazards of the substances, such as flammability or explosiveness, can be controlled by adopting risk management measures in the workplace. It is recommended to refer to ATEX directive version 2014/34/EU. Based on the implementation of a series of storage risk management measures for the identified uses, the risks can be considered as being controlled to an acceptable level.

Use in closed systems. Avoid sources of ignition - No smoking. Handle in a well-ventilated area to prevent the formation of explosive atmospheres. Use protective equipment and systems approved for flammable substances.

Limit the speed in the lines while pumping to avoid the generation of electrostatic discharges. Ground the container and the receiving device. Use non-sparking tools. Follow relevant EU/national regulations. Refer to the SDS for additional recommendations.

General exposure (closed systems) PROC1

Handle substance within a closed system.

Filling/preparation of equipment from drums or vessels Use in closed systems PROC2

Handle substance within a closed system.

General exposure (closed systems). Use in closed systems PROC2

Handle substance within a closed system. Ensure material transfers are managed using closed or air exhaust systems.

Preparation of material for use Use in closed batch processes PROC3

Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

Film formation - Air dry Exterior PROC4

Avoid carrying out operation for more than 4 hours. Or, Wear respiratory protection in accordance with EN 140 with filter type A or better.

Film formation - Air dry Internal PROC4

Provide supplementary ventilation to points where emissions occur.

Preparation of material for use Mixing operations (open systems) PROC5

Ensure a sufficient amount of controlled ventilation (10 to 15 air changes per hour). Or, Wear respiratory protection in accordance with EN 140 with filter type A or better.

Preparation of material for use Outdoor. PROC5

Wear respiratory protection in accordance with EN 140 with filter type A or better.

Material transfers Transfer of drums/quantities Non-dedicated system PROC8a

Ensure a sufficient amount of general ventilation is achieved by natural ventilation through doors, windows, etc. Controlled ventilation means supply and removal of air by an active fan. Avoid carrying out operation for more than 1 hour. Or, Wear respiratory protection in accordance with EN 140 with filter type A or better.

Material transfers Transfer of drums/quantities Dedicated plant PROC8b

Provide supplementary ventilation and other openings.

Roller, spray and flow application Internal PROC10

Ensure a sufficient amount of controlled ventilation (10 to 15 air changes per hour).

Roller, spray and flow application Exterior PROC10

Wear respiratory protection in accordance with EN 140 with filter type A or better.

Manual Spray Internal PROC11

Carry out in a vented booth or extracted enclosure. Wear respiratory protection in accordance with EN 140 with filter type A or better.

Manual Spray Exterior PROC11

Wear respiratory protection in accordance with EN 140 with filter type A or better.

Immersion and pouring Internal PROC13

Provide supplementary ventilation to points where emissions occur. Avoid manual contact with wet work pieces.

Immersion and pouring Exterior PROC13

Ensure operation is undertaken outdoors. Avoid manual contact with wet work pieces.

Laboratory activities PROC15

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Manual application - Finger Paints, Chalks, Stickers: Internal PROC19

Ensure a sufficient amount of general ventilation is achieved by natural ventilation through doors, windows, etc. Controlled ventilation means supply and removal of air by an active fan. Wear respiratory protection in accordance with EN 140 with filter type A or better.

Manual application - Finger Paints, Chalks, Stickers: Exterior PROC19

Ensure operation is undertaken outdoors. Wear respiratory protection in accordance with EN 140 with filter type A or better.

SECTION 2.2 ENVIRONMENTAL EXPOSURE CONTROL

Product features

Not applicable.

Duration, frequency and quantity

Not applicable.

Environmental factors do not influence risk management

Not applicable.

Additional operating conditions relating to environmental exposure

No environmental exposure verification has been submitted

Technical conditions and process-level (source) measures to prevent releases

Not applicable

Local technical conditions and measures to reduce and limit discharges, air emissions and soil releases

Not applicable.

Organisational measures to avoid/limit release from a site

Not applicable.

Conditions and measures for the municipal sewage treatment plant

Not applicable.

Conditions and measures for external treatment of waste

Not applicable.

Conditions and measures for external recovery of waste

Not applicable.

SECTION 3. EXPOSURE ESTIMATES

SECTION 3.1 HEALTH

Predicted exposure is not expected to exceed the applicable exposure limits (given in section 8 of the safety datasheet) when the operational conditions and risk management measures given in section 2 are implemented.

The ECETOC TRA model has been used to assess worker exposure, unless otherwise indicated. [G21]

SECTION 3.2 ENVIRONMENT

Not applicable.

SECTION 4. GUIDE FOR CHECKING COMPLIANCE WITH THE EXPOSURE SCENARIO

SECTION 4.1 HEALTH

The available risk data do not indicate the need to establish a DNEL for other health effects. [G36]

Risk management measures are based on the qualitative determination of the risk.

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

SECTION 4.2 ENVIRONMENT

Not applicable.

n-butyl acetate

Substance identification

Chemical Name: n-butyl acetate

CAS number: 123-86-4

Date - Version: 07/06/2017 10.0

1. USE IN COATINGS. USE IN PAINTS. USE IN PRINTING INKS. USE IN ADHESIVES.

Short title of the exposure scenario: Use in coatings. Use in paints. Use in printing inks. Use in adhesives.

SU3; ERC4; PROC7, PROC10, PROC13

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: CEPE SPERC4.1a.v1

Operating conditions

Yearly amount used in EU: 5,000,000 kgs

Minimum emission days per year: 225

Emission factor to air: 0.8%

Emission factor in water: 2%

Emission factor in soil: 0%

Receiving surface water (flow rate): 18,000 m³/day

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Suitable measures to reduce emissions to air can be: Exhaust gas treatment with thermal oxidation.

Type of treatment plant: Municipal sewage treatment plant.

Assumed sewage treatment plant flow: 2,000 m³/day

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Environment

Risk Characterization Ratio (RCR): 0.925355

Risk from environmental exposure is driven by soil.

Maximum safe use amount: 1080.7 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application

Area of use: Industrial

Operating conditions

Substance concentration: n-butyl acetate content: ≥0 - ≤100%

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Minimize manual tasks.

Daily general cleaning of equipment and work area.

Regular inspection and maintenance of equipment and machinery.

Ensure that the activity is performed outside the operator's respiratory zone (head-product distance greater than 1m).

Avoid frequent and direct contact with the substance.

Check that risk reduction measures are implemented and that the conditions of use are respected.

Avoid splashes.

Make sure the spray booth is used.

Wear suitable clothing.

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.

Exposure estimation: 4.2857 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.38961

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.

Exposure estimation: 0.0001 mg/m³

Risk Characterization Ratio (RCR): 0.000001

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra> Please note that a revised version was used (see exposure estimates).

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes

Area of use: Industrial

Operating conditions

Substance concentration: n-butyl acetate content: ≥ 0 - $\leq 100\%$

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Forced local ventilation. Effectiveness: 90%

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.

Exposure estimation: 2.7429 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.249351

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.

Exposure estimation: 24.1996 mg/m³

Risk Characterization Ratio (RCR): 0.080665

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping and pouring

Area of use: Industrial

Operating conditions

Substance concentration: n-butyl acetate content: ≥ 0 - $\leq 100\%$

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Forced local ventilation. Effectiveness: 90%

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.

Exposure estimation: 1.3714 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.124675

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.

Exposure estimation: 24.1996 mg/m³

Risk Characterization Ratio (RCR): 0.080665

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra>

2. USE IN COATINGS. USE IN PAINTS. USE IN PRINTING INKS. USE IN ADHESIVES.

Short title of the exposure scenario: Use in coatings. Use in paints. Use in printing inks. Use in adhesives.
SU3; ERC4; PROC7, PROC10, PROC13

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: CEPE SPERC4.1a.v1

Operating conditions

Yearly amount used in EU: 43,000,000 kgs

Minimum emission days per year: 225

Emission factor to air: 0.8%

Emission factor in water: 2%

Emission factor in soil: 0%

Receiving surface water (flow rate): 18,000 m³/day

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Suitable measures to reduce emissions to air can be: Exhaust gas treatment with thermal oxidation.

Type of treatment plant: Municipal sewage treatment plant.

Assumed sewage treatment plant flow: 2,000 m³/day

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Environment

Risk Characterization Ratio (RCR): 0.925355

Risk from environmental exposure is driven by soil.

Maximum safe use amount: 1080.7 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application

Area of use: Industrial

Operating conditions

Substance concentration: n-butyl acetate content: ≥0 - ≤100%

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Minimize manual tasks.

Daily general cleaning of equipment and work area.

Regular inspection and maintenance of equipment and machinery.

Ensure that the activity is performed outside the operator's respiratory zone (head-product distance greater than 1m).

Avoid frequent and direct contact with the substance.

Check that risk reduction measures are implemented and that the conditions of use are respected.

Avoid splashes.

Make sure the spray booth is used.

Wear suitable clothing.

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.

Exposure estimation: 4.2857 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.38961

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 0.0001 mg/m³
Risk Characterization Ratio (RCR): 0.000001

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra> Please note that a revised version was used (see exposure estimates).

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes

Area of use: Industrial

Operating conditions

Substance concentration: n-butyl acetate content: ≥0 - ≤100%

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Forced local ventilation. Effectiveness: 90%

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.

Exposure estimation: 2.7429 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.249351

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.

Exposure estimation: 24.1996 mg/m³

Risk Characterization Ratio (RCR): 0.080665

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping and pouring

Area of use: Industrial

Operating conditions

Substance concentration: n-butyl acetate content: ≥0 - ≤100%

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Forced local ventilation. Effectiveness: 90%

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.

Exposure estimation: 1.3714 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.124675

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.

Exposure estimation: 24.1996 mg/m³

Risk Characterization Ratio (RCR): 0.080665

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra>

3. USE IN COATINGS. USE IN PAINTS. USE IN PRINTING INKS. USE IN ADHESIVES.

Short title of the exposure scenario: Use in coatings. Use in paints. Use in printing inks. Use in adhesives.
SU22; ERC8a, ERC8d; PROC10, PROC11, PROC13, PROC19

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: CEPE SPERC 8a.2a.v1

Operating conditions

Yearly amount used in EU: 2,000,000 kgs

Minimum emission days per year: 225

Emission factor to air: 99%

Emission factor in water: 1%

Emission factor in soil: 0%

Receiving surface water (flow rate): 18,000 m³/day

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

The wastewater treatment measures considered suitable are, for example, wastewater or sewage treatment plant.

Type of treatment plant: Municipal sewage treatment plant.

Assumed sewage treatment plant flow: 2,000 m³/day

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Environment

Risk Characterization Ratio (RCR): 0.012923

Risk from environmental exposure is driven by freshwater sediment.

Maximum safe use amount: 1934.6 kg/giorno

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: CEPE SPERC 8d.3a.v1

Operating conditions

Yearly amount used in EU: 2,000,000 kgs

Minimum emission days per year: 225

Emission factor to air: 98%

Emission factor in water: 2%

Emission factor in soil: 0%

Receiving surface water (flow rate): 18,000 m³/day

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Type of treatment plant: Municipal sewage treatment plant.

Assumed sewage treatment plant flow: 2,000 m³/day

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Environment

Risk Characterization Ratio (RCR): 0.092422

Risk from environmental exposure is driven by soil.

Maximum safe use amount: 1082 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes

Area of use: Professional

Operating conditions

Substance concentration: n-butyl acetate content: ≥ 0 - $\leq 100\%$

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Provide a good standard of general or controlled ventilation (5 to 10 air changes per hour). Effectiveness: 70%

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.

Exposure estimation: 2.7429 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.249351

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.

Exposure estimation: 145.1979 mg/m³

Risk Characterization Ratio (RCR): 0.483993

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application

Area of use: Professional

Operating conditions

Substance concentration: n-butyl acetate content: ≥ 0 - $\leq 45\%$

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Minimize manual tasks.

Daily general cleaning of equipment and work area.

Regular inspection and maintenance of equipment and machinery.

Ensure that the activity is performed outside the operator's respiratory zone (head-product distance greater than 1m).

Avoid frequent and direct contact with the substance.

Check that risk reduction measures are implemented and that the conditions of use are respected.

Avoid splashes.

Make sure the spray booth is used.

Wear suitable clothing.

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.

Exposure estimation: 10.7143 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.974026

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.

Exposure estimation: 0.0001 mg/m³

Risk Characterization Ratio (RCR): 0.000001

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra> Please note that a revised version was used (see exposure estimates).

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application

Area of use: Professional

Operating conditions

Substance concentration: n-butyl acetate content: ≥ 0 - $\leq 45\%$

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Minimize manual tasks.

Avoid frequent and direct contact with the substance.

Check that risk reduction measures are implemented and that the conditions of use are respected.

Daily general cleaning of equipment and work area.

Regular control and maintenance of equipment and machinery.

Make sure doors and windows are open (general ventilation).

Avoid splashes.

Use an adequately effective local ventilation system.

Wear suitable clothing.

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker, modified version. The concentration of the substance has been considered using a linear approach. Worker - dermal, long-term - systemic.

Exposure estimation: 4.8214 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.438312

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker, modified version. Operator - inhalation, long-term - local.

Exposure estimation: 153 mg/m³

Risk Characterization Ratio (RCR): 0.51

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra> Please note that a revised version was used (see exposure estimates).

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application

Area of use: Professional

Operating conditions

Substance concentration: n-butyl acetate content: ≥ 0 - $\leq 100\%$

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Minimize manual tasks.

Avoid frequent and direct contact with the substance.

Check that risk reduction measures are implemented and that the conditions of use are respected.

Daily general cleaning of equipment and work area.

Regular inspection and maintenance of equipment and machinery.

Avoid splashes.

Make sure doors and windows are open (general ventilation).

Wear a half face mask with a P2L filter or better.

Wear suitable clothing.

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker, modified version. The concentration of the substance has been considered using a linear approach. Worker - dermal, long-term - systemic.

Exposure estimation: 4.8214 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.438312

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker, modified version. Operator - inhalation, long-term - local.

Exposure estimation: 116 mg/m³

Risk Characterization Ratio (RCR): 0.386667

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra> Please note that a revised version was used (see exposure estimates).

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping and pouring

Area of use: Professional

Operating conditions

Substance concentration: n-butyl acetate content: ≥ 0 - $\leq 100\%$

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Provide a good standard of general or controlled ventilation (5 to 10 air changes per hour). Effectiveness: 70%

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.

Exposure estimation: 1.3714 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.124675

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.

Exposure estimation: 145.1979 mg/m³

Risk Characterization Ratio (RCR): 0.483993

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact with the only use of personal protective equipment

Area of use: Professional

Operating conditions

Substance concentration: n-butyl acetate content: ≥ 0 - $\leq 100\%$

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 240 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Forced local ventilation: Effectiveness: 80%

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Ensure a good standard of general or controlled ventilation (no less than 3-5 air changes per hour). Effectiveness: 30%

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.

Exposure estimation: 8.4857 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.771429

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.

Exposure estimation: 67.759 mg/m³

Risk Characterization Ratio (RCR): 0.225863

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact with the only use of personal protective equipment

Area of use: Professional

Operating conditions

Substance concentration: n-butyl acetate content: ≥ 0 - $\leq 100\%$

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 60 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Provide a good standard of general or controlled ventilation (5 to 10 air changes per hour). Effectiveness: 70%

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.

Exposure estimation: 2.8286 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.257143

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.

Exposure estimation: 145.1979 mg/m³

Risk Characterization Ratio (RCR): 0.483993

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra>

Bis(isopropyl)naphthalene

Substance identification

Chemical Name: bis(isopropyl)naphthalene

EC number: 254-052-6

CAS number: 38640-62-9

Date - Version: 01/18/2018 v.1

SECTION 1: TITLE - Use in coatings - Industrial

List of use descriptors

Name of identified use: Use in coatings - Industrial: SU03; PROC01, PROC02 PROC03, PROC05, PROC07, PROC08a, PROC08b, PROC10, PROC13, PROC15; ERC05

Process category: PROC01, PROC02, PROC03, PROC05, PROC07, PROC08a, PROC08b, PROC10, PROC13, PROC15

Substance supplied for such use in the form of: As-it-is

End use sector: SU06a, SU13, SU16, SU17, SU18, SU19

Environmental Release Category ERC05

Environmental contributing scenario:

Use in coatings - ERC05

Worker contributing scenario(s):

Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions [PROC1]

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions [PROC2]

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions [PROC3].

Use of materials at industrial sites in open batch processes [PROC5].

Industrial Spray Applications [PROC7].

Transfer of substance or preparation (charging/discharging) at non dedicated facilities [PROC8a].

Transfer of substance or preparation (charging/discharging) at dedicated facilities [PROC8b].

Roller, spray and flow application [PROC10].

Treatment of articles by dipping and pouring [PROC13].

Use as laboratory reagent [PROC15].

SECTION 2: EXPOSURE CONTROLS

CONTRIBUTING SCENARIO THAT CONTROLS ENVIRONMENTAL EXPOSURE

Quantity used

Daily amount per site: ≤ 5.3 tons/day.

Annual amount per site: ≤ 1200 tons/year.

Issue days: 225 days a year.

Percentage of EU tonnage used at regional scale: 100 %.

Other conditions concerning environmental exposure

Receiving surface water flow rate: ≥ 18000 m³/day.

Fattore di rilascio dopo la gestione del rischio in loco:

Emissions to process waste water: 0 % (CEPE SPERC 5.1a.v1)

Process air emissions: 0.1 % (CEPE SPERC 5.1a.v1)

Soil emissions from process: 0 % (CEPE SPERC 5.1a.v1)

On-site conditions and technical measures to reduce or limit discharges, emissions to air and releases to soil

Wet blast chiller or filtration: (Air - minimum efficiency: 95 %).

Conditions and measures related to sewage treatment plants

Wastewater treatment plant: Yes. (Efficiency of at least 85.29 %)

Discharge rate: ≥ 2000 m³/day.

Application of STP sludge on agricultural land: Yes.

CONTRIBUTING SCENARIO THAT CONTROLS WORKERS' EXPOSURE

Other conditions regarding workers' exposure

Do not swallow.

Avoid splashes.

Avoid contact with contaminated tools and objects.

Organisational measures to avoid/limit releases, dispersion and exposure.

Personnel training on good practice.

On-site supervision to check that the Risk Management Measures (RMMs) in place are being used correctly and the Operational Conditions (OCs) are being followed.

Sensitisers - Subject to relevant national legislation, pre-employment screening and appropriate health surveillance.

Conditions and measures for personal protection, hygiene and health assessments

Good level of personal hygiene.

Assumes a good basic standard of occupational hygiene is implemented.

SECTION 3: Exposure estimation and reference to its source

Exposure assessment (environment):

EUSES v2.1.2

Exposure estimation:

Fresh water: 0.000000887 mg/l

RCR: <0.01

Freshwater sediments: 0.00321 mg/Kg dwt

RCR: <0.01

Sea water: 0.000000016 mg/l.

RCR: <0.01

Marine sediment: 0.0000579 mg/kg dwt

RCR: <0.01

Wastewater treatment plant: 0 mg/l

RCR: <0.01

Soil: 0.012 mg/kg dwt

RCR: 0.677

Based on the applied risk management the risk to the environment is sufficiently controlled, RCR<1

Exposure assessment (human):

A qualitative approach was used to conclude that it is safe to use.

SECTION 4: Indications for the downstream user to assess whether he works within the limits established by ES.

Generals

The downstream user is required to assess that the operating conditions and risk management measures described in the exposure scenario are suitable for his/her use.

Where other OCs/RMMs are adopted, the user should ensure that risks are managed to at least equivalent levels.

The risk assessment methods/tools specified in Section 3 can be used for this assessment.

Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use [i.e. risk characterisation ratio (RCR) > 1], additional risk management measures (RMM) or a site-specific chemical safety assessment or a site-specific chemical safety assessment will be required.

Further details on scaling and control technologies are provided in the SPERC

SECTION 1: TITLE - Use in coatings - Inside - Professional

List of use descriptors

Name of identified use: Use in coatings - Inside - Professional: SU22; PROC05, PROC08a PROC10, PROC11, PROC13, PROC19; ERC08c

Process category: PROC05, PROC08a PROC10, PROC11, PROC13, PROC19

Substance supplied for such use in the form of: As-it-is

End use sector: SU06a, SU13, SU16, SU17, SU18, SU19

Subsequent service life relevant to that use: No.

Environmental Release Category ERC08c

Market sector by type of chemical product: PC09a

Environmental contributing scenario:

Use in coatings-ERC08c

Worker contributing scenario(s):

Use of materials at industrial sites in open batch processes [PROC5].

Transfer of substance or preparation (charging/discharging) at non dedicated facilities [PROC8a].

Roller application or brushing [PROC10]

Non-industrial spray application [PROC11].

Treatment of articles by dipping and pouring [PROC13].

Manual activities with direct contact [PROC19].

SECTION 2: EXPOSURE CONTROLS

CONTRIBUTING SCENARIO THAT CONTROLS ENVIRONMENTAL EXPOSURE

Quantity used

Daily amount of local widespread use: $\leq 0,00014$ Tons/day

Other conditions concerning environmental exposure

Emissions to process waste water: 0 % (CEPE SPERC 8c.3a.v1)

Process air emissions: 2.2 % (CEPE SPERC 8c.3a.v1)

Soil emissions from process: 0 % (CEPE SPERC 8c.3a.v1)

Process-level conditions and technical measures (source) to prevent release

Indoor use

Professional use.

Conditions and measures related to sewage treatment plants

Wastewater treatment plant: Yes. (Efficiency of at least 85.29 %)

CONTRIBUTING SCENARIO THAT CONTROLS WORKERS' EXPOSURE

Other conditions regarding workers' exposure

Do not swallow.

Avoid splashes.

Avoid contact with contaminated tools and objects.

Organisational measures to avoid/limit releases, dispersion and exposure.

Personnel training on good practice.

On-site supervision to check that the Risk Management Measures (RMMs) in place are being used correctly and the Operational Conditions (OCs) are being followed.

Conditions and measures for personal protection, hygiene and health assessments

Good level of personal hygiene.

Assumes a good basic standard of occupational hygiene is implemented.

SECTION 3: Exposure estimation and reference to its source

Exposure assessment (environment):

EUSES v2.1.2

Exposure estimation:

Fresh water: 0.000000887 mg/l

RCR: <0.01

Freshwater sediments: 0.00321 mg/Kg dwt

RCR: <0.01

Sea water: 0.000000016 mg/l.

RCR: <0.01

Marine sediment: 0.0000579 mg/kg dwt

RCR: <0.01

Wastewater treatment plant: 0 mg/l

RCR: <0.01

Soil: 0.000076 mg/kg peso secco

RCR: <0.01

Based on the applied risk management the risk to the environment is sufficiently controlled, RCR<1

Exposure assessment (human):

A qualitative approach was used to conclude that it is safe to use.

SECTION 4: Indications for the downstream user to assess whether he works within the limits established by ES.

Generals

The downstream user is required to assess that the operating conditions and risk management measures described in the exposure scenario are suitable for his/her use.

Where other OCs/RMMs are adopted, the user should ensure that risks are managed to at least equivalent levels.

The risk assessment methods/tools specified in Section 3 can be used for this assessment.

Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use [i.e. risk characterisation ratio (RCR) > 1], additional risk management measures (RMM) or a site-specific chemical safety assessment or a site-specific chemical safety assessment will be required.

Further details on scaling and control technologies are provided in the SPERC

SECTION 1: TITLE - Use in coatings - Outdoor - Professional

List of use descriptors

Name of identified use: Use in coatings - Outdoor - Professional: SU22; PROC05, PROC08a PROC10, PROC11, PROC13, PROC19; ERC08f

Process category: PROC05, PROC08a PROC10, PROC11, PROC13, PROC19

Substance supplied for such use in the form of: As-it-is

End use sector: SU06a, SU13, SU16, SU17, SU18, SU19

Subsequent service life relevant to that use: No.

Environmental Release Category ERC08f

Market sector by type of chemical product: PC09a

Environmental contributing scenario:

Use in coatings - ERC08f

Worker contributing scenario(s):

Use of materials at industrial sites in open batch processes [PROC5].

Transfer of substance or preparation (charging/discharging) at non dedicated facilities [PROC8a].

Roller application or brushing [PROC10]

Non-industrial spray application [PROC11].

Treatment of articles by dipping and pouring [PROC13].

Manual activities with direct contact [PROC19].

SECTION 2: EXPOSURE CONTROLS

CONTRIBUTING SCENARIO THAT CONTROLS ENVIRONMENTAL EXPOSURE

Quantity used

Daily amount of local widespread use: $\leq 0,00011$ Tons/day

Percentage of EU tonnage used at regional scale: 10%

Other conditions concerning environmental exposure

Emissions to process waste water: 1 % (CEPE SPERC 8f.2a.v1)

Process air emissions: 0 % (CEPE SPERC 8f.2a.v1)

Soil emissions from process: 0.5 % (CEPE SPERC 8f.2a.v1)

Process-level conditions and technical measures (source) to prevent release

Outdoor use

Professional use.

Conditions and measures related to sewage treatment plants

Wastewater treatment plant: Yes. (Efficiency of at least 85.29 %)

CONTRIBUTING SCENARIO THAT CONTROLS WORKERS' EXPOSURE

Other conditions regarding workers' exposure

Do not swallow.

Avoid splashes.

Avoid contact with contaminated tools and objects.

Organisational measures to avoid/limit releases, dispersion and exposure.

Personnel training on good practice.

On-site supervision to check that the Risk Management Measures (RMMs) in place are being used correctly and the Operational Conditions (OCs) are being followed.

Conditions and measures for personal protection, hygiene and health assessments

Good level of personal hygiene.

Assumes a good basic standard of occupational hygiene is implemented.

SECTION 3: Exposure estimation and reference to its source

Exposure assessment (environment):

EUSES v2.1.2

Exposure estimation:

Fresh water: 0.00000848 mg/l

RCR: 0.036

Freshwater sediments: 0.031 mg/Kg dwt

RCR: 0.359

Sea water: 0.000000775 mg/l.

RCR: 0.033

Marine sediment: 0.0028 mg/kg dwt

RCR: 0.329

Wastewater treatment plant: 0.00008 mg/l

RCR: <0.01

Soil: 0.015 mg/kg dwt

RCR: 0.891

Based on the applied risk management the risk to the environment is sufficiently controlled, RCR<1

Exposure assessment (human):

A qualitative approach was used to conclude that it is safe to use.

SECTION 4: Indications for the downstream user to assess whether he works within the limits established by ES.

Generals

The downstream user is required to assess that the operating conditions and risk management measures described in the exposure scenario are suitable for his/her use.

Where other OCs/RMMs are adopted, the user should ensure that risks are managed to at least equivalent levels.

The risk assessment methods/tools specified in Section 3 can be used for this assessment.

Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

If scaling reveals a condition of unsafe use [i.e. risk characterisation ratio (RCR) > 1], additional risk management measures (RMM) or a site-specific chemical safety assessment or a site-specific chemical safety assessment will be required.

Further details on scaling and control technologies are provided in the SPERC

SECTION 1: TITLE - Use in coatings - Consumer good

List of use descriptors

Name of identified use: Use in coatings - Consumer good: SU21; PC09a, PC09b; ERC08c, ERC08f

Substance supplied for such use in the form of: As-it-is

Subsequent service life relevant to that use: Yes.

Environmental Release Category ERC08c, ERC08f

Market sector by type of chemical product: PC09a, PC09b

Environmental contributing scenario:

Use in coatings - ERC08c

Use in coatings - ERC08f

Worker contributing scenario(s):

coatings and paints, thinners, pickling solutions (PC9a)

additives, fillers, plasters, modeling clay (PC9b)

SECTION 2: EXPOSURE CONTROLS

CONTRIBUTING SCENARIO THAT CONTROLS ENVIRONMENTAL EXPOSURE 1

Quantity used

Daily amount of local widespread use: ≤ 0,0000011 Tons/day

Other conditions concerning environmental exposure

Emissions to process waste water: 1 % (CEPE SPERC 8c.1a.v1)

Process air emissions: 0 % (CEPE SPERC 8c.1a.v1)

Soil emissions from process: 0 % (CEPE SPERC 8c.1a.v1)

Conditions and measures related to sewage treatment plants

Wastewater treatment plant: Yes. (Efficiency of at least 85.29 %)

SECTION 2: EXPOSURE CONTROLS

CONTRIBUTING SCENARIO THAT CONTROLS ENVIRONMENTAL EXPOSURE 2

Quantity used

Daily amount of local widespread use: ≤ 0,0000011 Tons/day

Other conditions concerning environmental exposure

Emissions to process waste water: 1 % (CEPE SPERC 8f.1a.v1)

Process air emissions: 0 % (CEPE SPERC 8f.1a.v1)

Soil emissions from process: 0.5 % (CEPE SPERC 8f.1a.v1)

Conditions and measures related to sewage treatment plants

Wastewater treatment plant: Yes. (Efficiency of at least 85.29 %)

CONTRIBUTING SCENARIO CONTROLLING CONSUMERS EXPOSURE 3

Coatings and paints, thinners, pickling solutions (PC9a)

Use of the substance is considered safe for the consumer if operating within the limits established by the exposure scenario; therefore, if complying with the operating conditions and risk management measures set out above.

CONTRIBUTING SCENARIO CONTROLLING CONSUMERS EXPOSURE 4

Additives, fillers, plasters, modeling clay (PC9b)

Use of the substance is considered safe for the consumer if operating within the limits established by the exposure scenario; therefore, if complying with the operating conditions and risk management measures set out above.

SECTION 3: Exposure estimation and reference to its source

Exposure assessment (environment): 1

EUSES v2.1.2

Exposure estimation:

Fresh water: 0.000000946 mg/l

RCR: <0.01

Freshwater sediments: 0.00348 mg/Kg dwt

RCR: 0.041

Sea water: 0.0000000237 mg/l.

RCR: <0.01

Marine sediment: 0.0000857 mg/kg dwt

RCR: 0.01

Wastewater treatment plant: 0.000000809 mg/l

RCR: <0.01

Soil: 0.000224 mg/kg dwt

RCR: 0.013

Based on the applied risk management the risk to the environment is sufficiently controlled, RCR<1

SECTION 3: Exposure estimation and reference to its source

Exposure assessment (environment): 2

EUSES v2.1.2

Exposure estimation:

Fresh water: 0.000000946 mg/l

RCR: <0.01

Freshwater sediments: 0.00348 mg/Kg dwt

RCR: 0.041

Sea water: 0.0000000237 mg/l.

RCR: <0.01

Marine sediment: 0.0000857 mg/kg dwt

RCR: 0.01

Wastewater treatment plant: 0.000000809 mg/l

RCR: <0.01

Soil: 0.000224 mg/kg dwt

RCR: 0.013

Based on the applied risk management the risk to the environment is sufficiently controlled, RCR<1

Exposure assessment (human):

A qualitative approach was used to conclude that it is safe to use.

SECTION 4: Indications for the downstream user to assess whether he works within the limits established by ES.

Generals

The downstream user is required to assess that the operating conditions and risk management measures described in the exposure scenario are suitable for his/her use.

Where other OCs/RMMs are adopted, the user should ensure that risks are managed to at least equivalent levels.

The risk assessment methods/tools specified in Section 3 can be used for this assessment.

Xylene

Identification of the exposure scenario

Product name: Xylene

Reach registration number: 01-2119488216-32-XXXX

CAS number: 1330-20-7

EC number: 215-535-7

Review date: 14/02/2022 rev. 3.0

USE IN COATINGS - INDUSTRIAL USE

1. Title of the exposure scenario

Process purpose: Includes use in coatings (varnishes, inks, adhesives, etc.), including exposure during application (including material receipt, storage, bulk and semi-bulk preparation and transfer, application by spray, roller, manual spraying, dip, flow, fluid layers in production lines and in film formation) and system cleaning, maintenance and related laboratory activities.

Main sector: SU3 Industrial uses

Environment

Environmental Release Categories [ERC]: ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article).

Specific Environmental Release Category [SPERC]: ESVOC SPERC 4.3a.v1

Worker

Process categories:

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.

PROC 3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions.

PROC4 Production of chemicals with the possibility of exposure.

PROC5 Mixing or blending in batch processes

PROC7 Industrial spraying.

PROC8a Transfer of a substance or preparation (charging/discharging) at non-dedicated facilities.

PROC8a Transfer of substance or mixture (charging/discharging) at non-dedicated facilities.

PROC10 Application with rollers or brushes.

PROC13 Treatment of articles by dipping and pouring.

PROC15 Use as laboratory reagent.

PROC24 High (mechanical) energy work-up of substances bound in/on materials and/or articles.

2. Other conditions of use affecting exposure (Industrial - Environment 1)

Products features

Form: Liquid, vapor pressure 0.5 - 10 kPa at STP

Easily biodegradable.

Amounts used:

Annual amount per site: 2500 tonnes

Frequency and duration of use

Issue days: 300 days/year

Additional operating conditions relating to environmental exposure

Emission factor - air

Air release rate produced by the process (initial release prior to risk management measures): 0.98

Emission factor - water

Waste water release rate produced by the process (initial release prior to risk management measures): 0.007

Emission factor - soil

Soil release rate produced by the process (initial release prior to risk management measures): 0

Environmental factors that are not influenced by risk management

Dilution

Local fresh water dilution factor: 10

Local seawater dilution factor: 100

Risk management measures

Sewage Treatment Plant Data (STP)

Estimated substance removal from waste water via domestic sewage treatment: 95.8%

Assumed domestic sewage treatment plant flow: 2000 m³/day

Local technical conditions and measures to reduce and limit discharges and air emissions

Air:

Treat air emission to provide a typical removal efficiency of > 90%.

Water:

Avoid releasing the undiluted substance into local waste water or recover it on site. The typical on-site purification technique has a removal efficiency of 95.8%.

Ground:

Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures for external treatment of waste

Sludge treatment:

Do not spread industrial sludge on natural soils. Sewerage sludge should be burned, stored or regenerated.

Waste treatment:

No waste of the substance is formed during production.

2. Other conditions of use affecting exposure (Workers - Health 1)

Products features

Form:

Liquid, vapor pressure 0.5 - 10 kPa at STP

Concentration information: Includes concentrations up to 100%, unless otherwise indicated.

Quantities used

Not applicable.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other operational conditions affecting worker exposure

Temperature: (unless stated differently) assumes use at not more than 20°C above ambient temperature.

Ventilation Rate: Ensure a sufficient amount of controlled ventilation (10 to 15 air changes per hour). Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and process-level (source) measures to prevent releases

Technical protective measures:

Handle substance within a closed system. Provide supplementary ventilation to points where emissions occur. Ensure material transfers are managed using closed or air exhaust systems. Drain or remove substance from equipment before opening or servicing PROC7 Industrial spraying: spraying (automatic/robotic) should be carried out in a ventilated booth with laminar air flow.

Risk management measures:

PROC7 Industrial spraying.

Manual spraying.

Wear respiratory protection in accordance with EN 140 with filter type A or better.

3. Verification of exposure (Environment 1)

Environmental exposure:

Predicted exposures are not expected to exceed the specific risks (listed in chapter 8 of the safety datasheet), when the risk management measures/operational conditions outlined in section 2 are implemented.

Maximum allowable site tonnage (M_{safe}), based on release following total waste water treatment removal: 9874 kg/day

3. Exposure Verification (Health 1)

Exposure

Predicted workplace exposures are not expected to exceed the DNEL when risk identification measures are implemented.

4. Guidance to check compliance with the exposure scenario (Environment 1)

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Required removal efficiency for waste water can be achieved using on-site/off-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>).

4. Guidance to check compliance with the exposure scenario (Health 1)

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

USE IN COATINGS - PROFESSIONAL USE

1. Title of the exposure scenario

Process purpose: Includes use in coatings (varnishes, inks, adhesives, etc.), including exposure during application (including material receipt, storage, bulk and semi-bulk preparation and transfer, application by spray, roller, brush and manual spraying or similar processes and film formation) and system cleaning, maintenance and related laboratory activities.

Main sector: SU22 Professional uses

Environment

Environmental Release Categories [ERC]:

ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor).

ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor).

ERC8c Widespread use leading to inclusion into/onto article (indoor).

ERC8f Widespread use leading to inclusion into/onto article (outdoor).

Specific Environmental Release Category [SPERC]: ESVOC SPERC 8.3b.v1

Worker

Process categories:

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.

PROC 3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions.

PROC4 Production of chemicals with the possibility of exposure.

PROC5 Mixing or blending in batch processes

PROC8a Transfer of a substance or preparation (charging/discharging) at non-dedicated facilities.

PROC8a Transfer of substance or mixture (charging/discharging) at non-dedicated facilities.

PROC10 Application with rollers or brushes.

PROC11 Non-industrial spray application.

PROC13 Treatment of articles by dipping and pouring.

PROC15 Use as laboratory reagent.

PROC19 Manual activities with direct contact.

PROC24 High (mechanical) energy work-up of substances bound in/on materials and/or articles.

2. Other conditions of use affecting exposure (Industrial - Environment 1)

Products features

Form: Liquid, vapor pressure 0.5 - 10 kPa at STP Easily biodegradable.

Quantities used

Annual amount per site: 10 tonnes

Frequency and duration of use

Issue days: 365 days/year

Additional operating conditions relating to environmental exposure

Emission factor - air

Air release rate produced by the process (initial release prior to risk management measures): 0.98

Emission factor - water

Waste water release rate produced by the process (initial release prior to risk management measures): 0.01

Emission factor - soil

Soil release rate produced by the process (initial release prior to risk management measures): 0.01

Environmental factors that are not influenced by risk management

Dilution

Local fresh water dilution factor: 10

Local seawater dilution factor: 100

Risk management measures

Sewage Treatment Plant Data (STP)

Estimated substance removal from waste water via domestic sewage treatment 95.8%

Assumed domestic sewage treatment plant flow: 2000 m³/day

Local technical conditions and measures to reduce and limit discharges and air emissions

Air: Treat air emission to provide a typical removal efficiency of 0%.

Water: The typical on-site purification technique has a removal efficiency of 95.8%.

Conditions and measures for external treatment of waste

Waste treatment: External treatment and disposal of waste should comply with applicable local and/or national regulations.

2. Other conditions of use affecting exposure (Workers - Health 1)

Products features

Form:

Liquid, vapor pressure 0.5 - 10 kPa at STP

Concentration information:

Includes concentrations up to 100%, unless otherwise indicated.

Quantities used

Not applicable.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other operational conditions affecting worker exposure

Temperature:

(unless stated differently) assumes use at not more than 20°C above ambient temperature.

Ventilation Rate:

Provide a good standard of controlled ventilation (10 to 15 air changes per hour) or ensure operation is undertaken outdoors.

Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and process-level (source) measures to prevent releases

Technical protective measures:

Handle substance within a closed system. Provide supplementary ventilation to points where emissions occur. Ensure material transfers are managed using closed or air exhaust systems. Clean/flush equipment prior to opening or maintenance. Transport on closed roads. PROC11 Non-industrial spray application. Indoor use. Perform in a laminar flow ventilated booth. PROC15 Use as laboratory reagents handle under fume hood or extract air.

Organizational measures to prevent/limit releases, dispersion and exposure

Organizational measures

Avoid activities with an exposure of more than 4 hours.

Hand Application - Finger Paints, Chalks, Stickers:

Limit the amount of substance in the mixture to 5%.

Risk management measures

Wear protective gloves according to EN 374, resistant to solvents.

PROC10 Application with rollers or brushes.

PROC11 Non-industrial spray application. Outdoor use.

PROC13 Treatment of articles by dipping and pouring. Outdoor use.

Wear respiratory protection in accordance with EN 140 with filter type A or better.

3. Verification of exposure (Environment 1)

Environmental exposure

Predicted exposures are not expected to exceed the specific risks (listed in chapter 8 of the safety datasheet), when the risk management measures/operational conditions outlined in section 2 are implemented.

Maximum allowable site tonnage (M_{safe}), based on release following total waste water treatment removal: 5969 kg/day

3. Exposure Verification (Health 1)

Exposure

Predicted workplace exposures are not expected to exceed the DNEL when risk identification measures are implemented.

4. Guidance to check compliance with the exposure scenario (Environment 1)

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Required removal efficiency for waste water can be achieved using on-site/off-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>).

4. Guidance to check compliance with the exposure scenario (Health 1)

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

bis-[4-(2,3-epoxipropoxy)phenyl]propane

Substance identification

Chemical Name: bis-[4-(2,3-epoxipropoxy)phenyl]propane

CAS number: 1675-54-3

Date - Version: 29/12/2021 - 1.3

INDUSTRIAL USE - PROFESSIONAL USES: PUBLIC SECTOR (ADMINISTRATION, EDUCATION, ENTERTAINMENT, SERVICES, CRAFTS) (SU22).

1. TITLE SECTION

Exposure scenario name: Industrial use.

Structured short title: Professional uses: public sector (administration, education, entertainment, service, crafts) (SU22).

Substance: 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane

EC number: 216-823-5

Registration number: 01-2119456619-26

ENVIRONMENT

SC 1: Use of non-reactive processing aid at industrial site (no inclusion in article) ERC4

WORKER

SC 2: Use as laboratory reagents PROC15

SC 3: Treatment of articles by dipping and pouring PROC13

SC 4: Tableting, compression, extrusion, pelletising, granulation PROC14

SC 5: General greasing/lubrication in high energy conditions PROC18

SC 6 Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC8a

2. CONDITIONS OF USE AFFECTING EXPOSURE

2.1. ENVIRONMENTAL EXPOSURE CONTROL: Use of non-reactive processing aid at industrial site (no inclusion in article) (ERC4)

Product features (article)

Physical form of the product: Liquid

Amount used (or contained in articles), frequency and duration of use/exposure

Daily amount per site: 0,6 ton/day

Annual amount per site: 20 ton/year

Conditions and measures related to sewage treatment plant

STP Type: Municipal wastewater treatment plant.

Learn more about STP: biological elimination.

STP sludge treatment: It may be landfilled when allowed by local regulations.

STP effluent: 2,000 m³/day

Other conditions affecting environmental exposure

Water flow on the receiving surface: 18,000 m³/day

Outdoor / Indoor Indoor use.

2.2. WORKERS EXPOSURE CONTROL: Use as laboratory reagents (PROC15)

Product features (article)

Covers the percentage of substance in the product up to 100%.

Physical form of the product: Liquid.

Temperature: < 40°C

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours.

Organizational and technical measures and conditions

Assumes a good basic standard of occupational hygiene is implemented.

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Dermal: minimum efficiency of 0%.

Inhalation: minimum yield of 30%.

Conditions and measures for personal protection, hygiene and health assessment

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Use adequate eye protection.

Dermal: minimum efficiency of 95%.

Inhalation: minimum yield of 0%.

Other conditions affecting worker exposure

Outdoor / Indoor Inside.

Temperature: < 40°C

2.3. WORKERS EXPOSURE CONTROL: Treatment of articles by dipping and pouring (PROC13)

Product features (article)

Covers the percentage of substance in the product up to 25%.

Physical form of the product: Liquid.

Vapour pressure: 0,00741 Pa

Temperature: < 70°C

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours.

Organizational and technical measures and conditions

Assumes a good basic standard of occupational hygiene is implemented.

Provide a good standard of general ventilation (not less than 1 to 3 air changes per hour).

Dermal: minimum efficiency of 0%.

Inhalation: minimum yield of 0%.

Conditions and measures for personal protection, hygiene and health assessment

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Use adequate eye protection.

Dermal: minimum efficiency of 95%.

Inhalation: minimum yield of 0%.

Wear suitable respirator.

Inhalation: minimum yield of 90%.

Other conditions affecting worker exposure

Outdoor / Indoor Inside.

Temperature: < 40°C

2.4. WORKERS EXPOSURE CONTROL: Tableting, compression, extrusion, pelletising, granulation (PROC14)

Product features (article)

Covers the percentage of substance in the product up to 100%.

Physical form of the product: Liquid.

Temperature: < 40°C

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours.

Organizational and technical measures and conditions

Assumes a good basic standard of occupational hygiene is implemented.

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Dermal: minimum efficiency of 0%.

Inhalation: minimum yield of 30%.

Conditions and measures for personal protection, hygiene and health assessment

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Use adequate eye protection.

Dermal: minimum efficiency of 95%.

Inhalation: minimum yield of 0%.

Other conditions affecting worker exposure

Outdoor / Indoor Inside.

Temperature: < 40°C

2.5. WORKERS EXPOSURE CONTROL: General greasing/lubrication in high energy conditions (PROC18)

Product features (article)

Covers concentrations up to 20%.

Physical form of the product: Liquid.

Temperature: ≤ 800°C

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours.

Conditions and measures for personal protection, hygiene and health assessment

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Use adequate eye protection.

Dermal: minimum efficiency of 95%.

Inhalation: minimum yield of 0%.

Wear suitable respirator.

Inhalation: minimum yield of 90%.

Other conditions affecting worker exposure

Outdoor / Indoor Outside.

Industrial or professional environments: Professional use.

Temperature: ≤ 800°C

2.6. WORKERS EXPOSURE CONTROL: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities (PROC8a)

Product features (article)

Covers the percentage of substance in the product up to 25%.

Physical form of the product: Liquid.

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours.

Conditions and measures for personal protection, hygiene and health assessment

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Use adequate eye protection.

Dermal: minimum efficiency of 95%.

Inhalation: minimum yield of 0%.

Other conditions affecting worker exposure

Outdoor / Indoor Outside.

Industrial or professional environments: Professional use.

Temperature: A process temperature of up to < 40°C is assumed.

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

3.1. Environmental release and exposure: Use of non-reactive processing aid at industrial site (no inclusion in article) (ERC4)

Route release	Release rate	Method for estimating for release
water	1.2E-10kg/day	FEICA SPERC 5.1 a.v1
air	3E-4kg/day	FEICA SPERC 5.1 a.v1
Soil	0%	FEICA SPERC 5.1 a.v1

Protection target	Estimated Exposure (EUSES v2.1)	RCR
Fresh water	3.76E-4mg/l	0.063
Fresh water sediments	0.018mg/l	0.053
Sea water	2.95E-5mg/kg dry weight	0.049
Marine sediment	1.42E-3mg/kg dry weight	0.042
Sewage treatment plant	5.68E-11mg/l	< 0.01
Farmland	2.88E-6mg/kg dry weight	< 0.01
Prey for predators (freshwater)	mg/kg wet weight (EUSES v2.1)	< 0.01
Prey for predators (marine water)	9.13E-4mg/kg wet weight	< 0.01
Main predator prey (marine water)	9.13E-4mg/kg wet weight	< 0.01
Prey for Predators (Terrestrial)	1.68E-4mg/kg wet weight	< 0.01
Man through the environment - inhalation	7.65E-9mg/m ³	< 0.01
Man through the environment - oral	3E-5mg/kgbw/day	< 0.01
Population exposed through the environment	-	< 0.01

3.2. Worker exposure: Use as laboratory reagents (PROC15)

Exposure routes	Health effect	Exposure indicator	Estimated exposure (ECETOC TRA worker v3)	RCR
inhalation	systemic	Long-term	0.993mg/m ³	0.201
inhalation	local	Long-term	0.993mg/m ³	-
inhalation	local	Short term	0.993mg/m ³	-
dermal	systemic	Long-term	0.172mg/kg bw/day	0.045
dermal	local	Short term	9.92E-3mg/cm ²	-
combined routes	-	-	-	0.247

3.3. Worker exposure: Treatment of articles by dipping and pouring (PROC13)

Exposure routes	Health effect	Exposure indicator	Estimated exposure (ECETOC TRA worker v3)	RCR
inhalation	systemic	Long-term	0.085mg/m ³	0.017
inhalation	local	Long-term	0.085mg/m ³	-
inhalation	local	Short term	0.085mg/m ³	-
dermal	systemic	Long-term	0.411mg/kgbw/day	0.548
dermal	local	Short term	0.06mg/cm ²	-
combined routes	-	-	-	0.566

3.4. Worker exposure: Tableting, compression, extrusion, pelletising, granulation (PROC14)

Exposure routes	Health effect	Exposure indicator	Estimated exposure (ECETOC TRA worker v3)	RCR
inhalation	systemic	Long-term	0.993mg/m ³	0.201
inhalation	local	Long-term	0.993mg/m ³	-
inhalation	local	Short term	0.993mg/m ³	-
dermal	systemic	Long-term	0.172mg/kg bw/day	0.229
dermal	local	Short term	0.0025mg/cm ²	-
combined routes	-	-	-	0.43

3.5. Worker exposure: General greasing/lubrication in high energy conditions (PROC18)

Exposure routes	Health effect	Exposure indicator	Estimated exposure (ECETOC TRA worker v3)	RCR
inhalation	systemic	Long-term	0.596mg/m ³	0.121
inhalation	local	Long-term	0.596mg/m ³	-
inhalation	local	Short term	0.596mg/m ³	-
dermal	systemic	Long-term	0.411mg/kgbw/day	0.548
dermal	local	Short term	0.03mg/cm ²	-
combined routes	-	-	-	0.669

3.6. Worker exposure: Transfer of a substance or a preparation (filling/emptying) at non-dedicated facilities (PROC8a)

Exposure routes	Health effect	Exposure indicator	Estimated exposure (ECETOC TRA worker v3)	RCR
inhalation	systemic	Long-term	0.596mg/m ³	0.121
inhalation	local	Long-term	0.596mg/m ³	-
inhalation	local	Short term	0.596mg/m ³	-
dermal	systemic	Long-term	0.411mg/kgbw/day	0.548
dermal	local	Short term	0.03mg/cm ²	-
combined routes	-	-	-	0.669

4. GUIDANCE FOR DOWNSTREAM USERS TO ASSESS WHETHER THEY COMPLY WITH THE LIMITS SET BY THE EXPOSURE SCENARIO

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

PROFESSIONAL USE - PROFESSIONAL USES: PUBLIC SECTOR (ADMINISTRATION, EDUCATION, ENTERTAINMENT, SERVICES, CRAFTS) (SU22).

1. TITLE SECTION

Exposure scenario name: Professional.

Structured short title: Professional uses: public sector (administration, education, entertainment, service, crafts) (SU22).

Substance: 2,2'-[[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane

EC number: 216-823-5

Registration number: 01-2119456619-26

ENVIRONMENT

SC 1: Use at an industrial site leading to inclusion in article ERC5

WORKER

SC 2: Industrial spraying PROC7

SC 3 Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC8a

SC 4: Transfer of substance or mixture (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC8b

SC 5: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC9

SC 6: Application with rollers or brushes PROC10

SC 7: Non-industrial spraying PROC11

2. CONDITIONS OF USE AFFECTING EXPOSURE

2.1. ENVIRONMENTAL EXPOSURE CONTROL: Use at an industrial site leading to inclusion in article (ERC5)

Product features (article)

Covers a percentage of substance in the product up to 100%.

Physical form of the product: Liquid

Amount used (or contained in articles), frequency and duration of use/exposure

Annual amount per site: 30,000 tons/year

Daily amount per site: 100 tons/day

Conditions and measures related to sewage treatment plant

STP Type: Municipal wastewater treatment plant.

Learn more about STP: biological elimination.

STP sludge treatment: It may be landfilled when allowed by local regulations.

STP effluent: 2,000 m³/day

Other conditions affecting environmental exposure

Water flow on the receiving surface: 18,000 m³/day

2.2. WORKERS EXPOSURE CONTROL: Industrial spraying (PROC7)

Product features (article)

Covers the percentage of substance in the product up to 25%.

Physical form of the product: Liquid.

Vapour pressure: 0,00741 Pa

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours.

Organizational and technical measures and conditions

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Conditions and measures for personal protection, hygiene and health assessment

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Use adequate eye protection.

If skin contamination is expected to extend to other parts of the body, these parts should also be protected with impermeable clothing equivalent to that described for the hands.

Wear suitable respirator.

Dermal: minimum efficiency of 99%.

Inhalation: minimum yield of 90%.

Other conditions affecting worker exposure

Outdoor / Indoor Inside.

Industrial or professional environments Professional use.

Temperature: Process temperature up to 70°C is assumed.

2.3. WORKERS EXPOSURE CONTROL: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities (PROC8a)

Product features (article)

Covers the percentage of substance in the product up to 25%.

Physical form of the product: Liquid.

Vapour pressure: 0,00741 Pa

Temperature: 70°C

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours.

Organizational and technical measures and conditions

Provide a good standard of general ventilation (not less than 1 to 3 air changes per hour).

Dermal: minimum efficiency of 0%.

Inhalation: minimum yield of 0%.

Conditions and measures for personal protection, hygiene and health assessment

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Use adequate eye protection.

Dermal: minimum efficiency of 95%.

Inhalation: minimum yield of 0%.

Other conditions affecting worker exposure

Outdoor / Indoor Inside.

Industrial or professional environments Professional use.

Temperature: 70°C

2.4. WORKERS EXPOSURE CONTROL: Transfer of substance or mixture (charging/discharging) from/to vessels/large containers at dedicated facilities. (PROC8b)

Product features (article)

Covers the percentage of substance in the product up to 100%.

Physical form of the product: Liquid.

Vapour pressure: 0,00741 Pa

Temperature: 70°C

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours.

Organizational and technical measures and conditions

Assumes a good basic standard of occupational hygiene is implemented.

Provide a good standard of general ventilation (not less than 1 to 3 air changes per hour).

Conditions and measures for personal protection, hygiene and health assessment

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Use adequate eye protection.

Dermal: minimum efficiency of 95%.

Inhalation: minimum yield of 0%.

Wear suitable respirator.

Inhalation: minimum yield of 90%.

Other conditions affecting worker exposure

Outdoor / Indoor Inside.

Temperature: 70°C

2.5. WORKERS EXPOSURE CONTROL: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

Product features (article)

Covers concentrations up to 100%.

Physical form of the product: Liquid.

Vapour pressure: 0,00741 Pa

Temperature: < 50°C

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours.

Organizational and technical measures and conditions

Assumes a good basic standard of occupational hygiene is implemented.

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Dermal: minimum efficiency of 0%.

Inhalation: minimum yield of 30%.

Conditions and measures for personal protection, hygiene and health assessment

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Use adequate eye protection.

Dermal: minimum efficiency of 95%.

Inhalation: minimum yield of 0%.

Wear suitable respirator.

Inhalation: minimum yield of 90%.

Other conditions affecting worker exposure

Outdoor / Indoor Inside.

Temperature: < 50°C

2.6. WORKERS EXPOSURE CONTROL: Application with rollers or brushes (PROC10)

Product features (article)

Covers the percentage of substance in the product up to 25%.

Physical form of the product: Liquid.

Vapour pressure: 0,00741 Pa

Temperature: < 70°C

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours.

Organizational and technical measures and conditions

Assumes a good basic standard of occupational hygiene is implemented.

Provide a good standard of general ventilation (not less than 1 to 3 air changes per hour).

Local exhaust ventilation.

Dermal: minimum efficiency of 0%.

Inhalation: minimum yield of 90%.

Conditions and measures for personal protection, hygiene and health assessment

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Use adequate eye protection.

Dermal: minimum efficiency of 99%.

Inhalation: minimum yield of 0%.

Other conditions affecting worker exposure

Outdoor / Indoor Inside.

Temperature: < 70°C.

2.7. WORKERS EXPOSURE CONTROL: Non-industrial spraying (PROC11)

Product features (article)

Covers the percentage of substance in the product up to 25%.

Physical form of the product: Liquid.

Temperature: < 40°C

Amount used (or contained in articles), frequency and duration of use/exposure

Duration: Covers daily exposures up to 8 hours.

Organizational and technical measures and conditions

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Conditions and measures for personal protection, hygiene and health assessment

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Use adequate eye protection.

If skin contamination is expected to extend to other parts of the body, these parts should also be protected with impermeable clothing equivalent to that described for the hands.

Wear suitable respirator.

Dermal: minimum efficiency of 99%.

Inhalation: minimum yield of 90%.

Other conditions affecting worker exposure

Outdoor / Indoor Inside.

Temperature: < 40°C.

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

3.1. Environmental release and exposure: Use at an industrial site leading to inclusion in article (ERC5)

Route release	Release rate	Method for estimating for release
water	0.06 kg/day	FEICA SPERC 8c.1 b.v1
air	0 kg/day	FEICA SPERC 8c.1 b.v1
Soil	0%	FEICA SPERC 8c.1 b.v1

Protection target	Estimated Exposure (EUSES v2.1)	RCR
Fresh water	3.22E-3mg/l	0,536
Fresh water sediments	0.155mg/l	0,454
Sea water	3.14E-4mg/l	0,523
Marine sediment	0.015mg/kg dry weight	0,442
Sewage treatment plant	0.028mg/l	< 0.01
Farmland	0.05mg/kg dry weight	0,779
Prey for predators (freshwater)	0.048mg/kg wet weight	< 0.01
Prey for predators (marine water)	4.53E-3mg/kg wet weight	< 0.01
Main predator prey (marine water)	1.64E-3mg/kg wet weight	< 0.01
Prey for Predators (Terrestrial)	0.056mg/kg wet weight	< 0.01
Man through the environment - inhalation	Concentration in air: 3.45E-11 mg/m³	< 0.01
Man through the environment - oral	1.47E-3mg/kg pc/giorno	< 0.01
Population exposed through the environment	-	< 0.01

3.2. Worker exposure: Industrial spraying (PROC7)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	0.34mg/m ³ (ART v1.5)	0.069
inhalation	local	Long-term	0.34mg/m ³ (ART v1.5)	-
inhalation	local	Short term	0.78mg/m ³ (ART v1.5)	-
dermal	systemic	Long-term	0.257mg/kgbw/day (ECETOC TRA worker v3)	0.343
dermal	local	Short term	0.012mg/cm ² (ECETOC TRA worker v3)	-
combined routes	-	-	-	0.412

3.3. Worker exposure: Transfer of a substance or a preparation (filling/emptying) at non-dedicated facilities (PROC8a)

Exposure routes	Health effect	Exposure indicator	Estimated exposure (ECETOC TRA worker v3)	RCR
inhalation	systemic	Long-term	0.851mg/m ³	0.173
inhalation	local	Long-term	0.851mg/m ³	-
inhalation	local	Short term	0.851mg/m ³	-
dermal	systemic	Long-term	0.411mg/kgbw/day	0.548
dermal	local	Short term	0.03mg/cm ²	-
combined routes	-	-	-	0.721

3.4. Worker exposure: Transfer of a substance or a mixture (fill/discharge) at dedicated facilities (PROC8b)

Exposure routes	Health effect	Exposure indicator	Estimated exposure (ECETOC TRA worker v3)	RCR
inhalation	systemic	Long-term	0.085mg/m ³	0.017
inhalation	local	Long-term	0.085mg/m ³	-
inhalation	local	Short term	0.0851mg/m ³	-
dermal	systemic	Long-term	0.411mg/kgbw/day	0.548
dermal	local	Short term	0.03mg/cm ²	-
combined routes	-	-	-	0.566

3.5. Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

Exposure routes	Health effect	Exposure indicator	Estimated exposure (ECETOC TRA worker v3)	RCR
inhalation	systemic	Long-term	0.099mg/m ³	0.02
inhalation	local	Long-term	0.099mg/m ³	-
inhalation	local	Short term	0.993mg/m ³	-
dermal	systemic	Long-term	0.343mg/kgbw/day	0.457
dermal	local	Short term	0.05mg/cm ²	-
combined routes	-	-	-	0.659

3.6. Worker exposure: Application with rollers or brushes (PROC10)

Exposure routes	Health effect	Exposure indicator	Estimated exposure (ECETOC TRA worker v3)	RCR
inhalation	systemic	Long-term	0.085mg/m ³	0.017
inhalation	local	Long-term	0.085mg/m ³	-
inhalation	local	Short term	0.085mg/m ³	-
dermal	systemic	Long-term	0.165mg/kgbw/day	0.219
dermal	local	Short term	0.012mg/cm ²	-
combined routes	-	-	-	0.237

3.7. Worker exposure: Non-industrial spraying (PROC11)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	0.34mg/m ³ (ART v1 .5)	0.069
inhalation	local	Long-term	0.34mg/m ³ (ART v1 .5)	-
inhalation	local	Short term	0.78mg/m ³ (ART v1 .5)	-
dermal	systemic	Long-term	0.643mg/kgbw/day (ECETOC TRA worker v3)	0.857
dermal	local	Short term	0.03mg/cm ² (ECETOC TRA worker v3)	-
combined routes	-	-	-	0.926

4. GUIDANCE FOR DOWNSTREAM USERS TO ASSESS WHETHER THEY COMPLY WITH THE LIMITS SET BY THE EXPOSURE SCENARIO

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

2-methoxy-1-methylethyl acetate

Substance identification

Chemical Name: 2-methoxy-1-methylethyl acetate

CAS number: 108-65-6

Date - Version: 02/08/2021 18.0

4. USE IN COATINGS. - USE IN INDUSTRIAL PLANTS

Short title of the exposure scenario: Use in coatings. - Use in industrial plants

SU3; ERC4; PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC4: Industrial use of processing aids not becoming part of articles.

Operating conditions

Yearly amount used in EU: 63,050,000 kg

Daily amount per site: 105.087 kg

Minimum continuous emission days per year: 300

Emission factor to air: 27%

Emission factor in water: 2%

Emission factor in soil: 0.1%

Releases based on A&B tables from TGD 2003

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Treat air emissions to provide a typical removal efficiency of 70%.

Prevent discharge of undissolved substance, or recover from wastewater.

Type of treatment plant: Municipal sewage treatment plant.

Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%

Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.1338

Risk from environmental exposure is driven by freshwater and marine water.

Maximum safe use amount: 79,180 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC1: Use in closed process, no likelihood of exposure.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 0.04 mg/m³

Risk Characterization Ratio (RCR): 0.0001

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 0.34 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure.
General exposure. Continuous process (closed system) with sample collection.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 1.37 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure.
Film formation - Fast drying.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.5

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 1.37 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC3: Use in batch process (synthesis or formulation). Mixing operations. General exposure (closed system).

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 93.85 mg/m³

Risk Characterization Ratio (RCR): 0.25

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 0.34 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch process (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 75.08 mg/m³

Risk Characterization Ratio (RCR): 0.2

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application. Mixing operations (open systems).

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application. Spraying (automatic/robotic).

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Carry out in a vented booth or extracted enclosure. Effectiveness: 95%.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 46.93 mg/m³

Risk Characterization Ratio (RCR): 0.13

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 2.14 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.04

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application. Spraying (manual).

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Effectiveness: 70%.

Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 281.56 mg/m³

Risk Characterization Ratio (RCR): 0.76

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 8.57 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.17

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers. Non-dedicated system.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. Material transfers. Dedicated plant.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Material transfers. Drum/batch transfers. Transfer from containers. Dedicated plant.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 5.49 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.11

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC14: Production of preparations or articles by tableting, compression, extrusion or pelletising. Production or preparation of articles by tableting, compression, extrusion.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 3.43 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.07

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC15: Use as laboratory reagent. Laboratory activities.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 0.34 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

5. USE IN COATINGS. - USE IN INDUSTRIAL PLANTS

Short title of the exposure scenario: Use in coatings. - Use in industrial plants

SU3; ERC4; PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC4: Industrial use of processing aids not becoming part of articles.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs

Daily amount per site: 430kg

Minimum continuous emission days per year: 300

Emission factor to air: 80%

Emission factor in water: 10%

Emission factor in soil: 0.1%

Releases based on A&B tables from TGD 2003

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.

Type of treatment plant: Municipal sewage treatment plant.

Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%

Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.029

Risk from environmental exposure is driven by freshwater and marine water.

Maximum safe use amount: 140.104 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC1: Use in closed process, no likelihood of exposure (closed system). General exposure.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure.

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. General exposure. Continuous process (closed system) with sample collection.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 7.51 mg/m³

Risk Characterization Ratio (RCR): 0.02

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 1.37 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. Film formation - Fast drying.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Operation is carried out at elevated temperature ($> 20^\circ\text{C}$ above ambient temperature).

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 1.37 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC3: Use in batch process (synthesis or formulation). Mixing operations. General exposure (closed system).

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 18.77 mg/m³

Risk Characterization Ratio (RCR): 0.05

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 0.34 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch process (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 15.02 mg/m³

Risk Characterization Ratio (RCR): 0.04

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application. Mixing operations (open systems).

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application. Spraying (automatic/robotic). Spraying (manual)

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 8.57 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.17

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application. Spraying (manual).

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Wear suitable gloves compliant with EN ISO 374-1.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers. Non-dedicated system.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. Material transfers. Dedicated plant.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Material transfers. Drum/batch transfers. Transfer from containers. Dedicated plant.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 27.43 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.54

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC14: Production of preparations or articles by tableting, compression, extrusion or pelletising. Production or preparation of articles by tableting, compression, extrusion.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 3.43 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.07

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC15: Use as laboratory reagent. Laboratory activities.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 7.51 mg/m³

Risk Characterization Ratio (RCR): 0.02

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 0.34 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

7 USE IN COATINGS. - USE IN INDUSTRIAL PLANTS

Short title of the exposure scenario: Use in coatings. - Use in professional installations

SU22; ERC8a, ERC8d; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC15, PROC19

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC8a: Wide dispersive indoor use of processing aids in open systems.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs

Daily amount per site: 433 kg

Minimum continuous emission days per year: 300

Emission factor to air: 80%

Emission factor in water: 10%

Emission factor in soil: 0.1%

Releases based on A&B tables from TGD 2003

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.

Type of treatment plant: Municipal sewage treatment plant.

Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%

Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.029

Risk from environmental exposure is driven by freshwater and marine water.

Maximum safe use amount: 15,141 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC8d: Wide dispersive outdoor use of processing aids in open systems.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs

Daily amount per site: 433 kg

Minimum continuous emission days per year: 300

Emission factor to air: 80%

Emission factor in water: 10%

Emission factor in soil: 0.1%

Releases based on A&B tables from TGD 2003

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.

Type of treatment plant: Municipal sewage treatment plant.

Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%

Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.029

Risk from environmental exposure is driven by freshwater and marine water.

Maximum safe use amount: 15,141 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC1: Use in closed process, no likelihood of exposure.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 0.04 mg/m³

Risk Characterization Ratio (RCR): 0.0001

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 0.34 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure.

Filling/Preparation of equipment required for drums and containers.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure.

The use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure.

General exposure. Use in confined systems (closed system). Filling/Preparation of equipment required for drums and containers.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Operation is carried out at elevated temperature ($> 20^\circ\text{C}$ above ambient temperature).

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 75.08 mg/m³

Risk Characterization Ratio (RCR): 0.2

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 1.37 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC3: Use in batch process (synthesis or formulation). Preparation of material for application

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 93.85 mg/m³

Risk Characterization Ratio (RCR): 0.25

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 0.34 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch process (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch and other processes (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure.

The use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.

Alternatively: Ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 269.79 mg/m³

Risk Characterization Ratio (RCR): 0.71

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers. Drum/batch transfers. Non-dedicated system.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 262.79 mg/m³

Risk Characterization Ratio (RCR): 0.71

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. Material transfers. Drum/batch transfers Dedicated plant.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.

Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%

If there is no general ventilation, ensure that operations are carried out outdoors.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 262.79 mg/m³

Risk Characterization Ratio (RCR): 0.71

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 5.49 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.11

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.

Wear suitable gloves compliant with EN ISO 374-1.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application. Spraying (manual).

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Carry out in a vented booth or extracted enclosure. Effectiveness: 80%.

Wear a respirator conforming to EN140 with type A filter or better. Effectiveness: 90%.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 2.14 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.04

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application. Spraying (manual).

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally. Effectiveness: 30%.

Wear a respirator conforming to EN140 with type A filter or better. Effectiveness: 90%.

Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 131.4 mg/m³

Risk Characterization Ratio (RCR): 0.36

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 21.43 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.42

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.

Alternatively: Ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 262.79 mg/m³

Risk Characterization Ratio (RCR): 0.71

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC15: Use as laboratory reagent. Laboratory activities.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 0.34 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact using only personal protective equipment. Hand application - fingerpaints, pastels, adhesives.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%.

If there is no general ventilation, ensure that operations are carried out outdoors.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 262.79 mg/m³

Risk Characterization Ratio (RCR): 0.71

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 14.14 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.28

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact using only personal protective equipment. Hand application - fingerpaints, pastels, adhesives.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.

Wear chemically resistant gloves in combination with "basic" employee training.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

8. USE IN COATINGS. - USE IN INDUSTRIAL PLANTS

Short title of the exposure scenario: Use in coatings. - Use in professional installations

SU22; ERC8a, ERC8d; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC15, PROC19

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC8a: Wide dispersive indoor use of processing aids in open systems.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs

Daily amount per site: 433 kg

Minimum continuous emission days per year: 300

Emission factor to air: 80%

Emission factor in water: 10%

Emission factor in soil: 0.1%

Releases based on A&B tables from TGD 2003

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.

Type of treatment plant: Municipal sewage treatment plant.

Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%

Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.029

Risk from environmental exposure is driven by freshwater and marine water.

Maximum safe use amount: 15,141 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC8d: Wide dispersive outdoor use of processing aids in open systems.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs

Daily amount per site: 433 kg

Minimum continuous emission days per year: 300

Emission factor to air: 80%

Emission factor in water: 10%

Emission factor in soil: 0.1%

Releases based on A&B tables from TGD 2003

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.

Type of treatment plant: Municipal sewage treatment plant.

Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%

Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.029

Risk from environmental exposure is driven by freshwater and marine water.

Maximum safe use amount: 15,141 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC1: Use in closed process, no likelihood of exposure. General exposure (closed system).

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. Filling/Preparation of equipment required for drums and containers.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. General exposure. Use in confined systems (closed system). Filling/Preparation of equipment required for drums and containers.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Operation is carried out at elevated temperature ($> 20^\circ\text{C}$ above ambient temperature).

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 15.02 mg/m³

Risk Characterization Ratio (RCR): 0.4

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 1.37 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC3: Use in batch process (synthesis or formulation). Preparation of material for application

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 18.77 mg/m³

Risk Characterization Ratio (RCR): 0.05

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 0.34 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch and other processes (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch and other processes (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Indoor use.

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 75.08 mg/m³

Risk Characterization Ratio (RCR): 0.2

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers. Drum/batch transfers. Non-dedicated system.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 75.08 mg/m³

Risk Characterization Ratio (RCR): 0.2

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. Material transfers. Drum/batch transfers Dedicated plant.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 75.08 mg/m³

Risk Characterization Ratio (RCR): 0.2

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 27.43 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.54

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%

Indoor/Outdoor: Outdoor use.

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application. Spraying (manual).

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%.

If there is no general ventilation, ensure that operations are carried out outdoors.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 262.79 mg/m³

Risk Characterization Ratio (RCR): 0.71

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 10.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.21

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application. Spraying (manual).

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.

Wear chemically resistant gloves in combination with "basic" employee training.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 75.08 mg/m³

Risk Characterization Ratio (RCR): 0.2

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Indoor use.

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC15: Use as laboratory reagent. Laboratory activities.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 7.51 mg/m³

Risk Characterization Ratio (RCR): 0.02

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 0.34 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact using only personal protective equipment. Hand application - fingerpaints, pastels, adhesives.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 75.08 mg/m³

Risk Characterization Ratio (RCR): 0.2

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 28.29 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.56

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact using only personal protective equipment. Hand application - fingerpaints, pastels, adhesives.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Outdoor use.

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Wear suitable gloves compliant with EN ISO 374-1.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

Fișa cu date de securitate
FASSA EPOXY 400 COMP.B

Fișa cu date de securitate din data 20/02/2025 versiunea 2

SECȚIUNEA 1: Identificarea substanței/amestecului și a societății/întreprinderii
1.1. Identificator de produs

Identificarea preparatului:

Nume comercial: FASSA EPOXY 400 COMP.B

Cod comercial: 1224.B

UFI: JXUA-8HQK-830Q-YWR7

1.2. Utilizări relevante identificate ale substanței sau ale amestecului și utilizări contraindicate

Utilizarea recomandată: Rășină epoxidică

1.3. Detalii privind furnizorul fișei cu date de securitate

Compania: FASSA Srl

Via Lazzaris, 3 - 31027 Spresiano (TV) - ITALY

Tel. +39 0422 7222

Fax +39 0422 887509

Responsabil: laboratorio.spresiano@fassabortolo.it

1.4. Număr de telefon care poate fi apelat în caz de urgență

+40213183606

SECȚIUNEA 2: Identificarea pericolelor

2.1. Clasificarea substanței sau a amestecului
Regulamentul (CE) nr. 1272/2008 (CLP)

Acute Tox. 4 Nociv în caz de înghițire.
 Skin Corr. 1B Provoacă arsuri grave ale pielii și lezarea ochilor.
 Skin Sens. 1 Poate provoca o reacție alergică a pielii.
 Aquatic Chronic 3 Nociv pentru mediul acvatic cu efecte pe termen lung.
 Efecte fizico-chimice dăunătoare sănătății omului și mediului înconjurător:
 Nici un alt risc

2.2. Elemente de etichetare
Regulamentul (CE) nr. 1272/2008 (CLP)
Pictograme de pericol și cuvânt de avertizare


Pericol

Fraze de pericol

H302 Nociv în caz de înghițire.
 H314 Provoacă arsuri grave ale pielii și lezarea ochilor.
 H317 Poate provoca o reacție alergică a pielii.
 H412 Nociv pentru mediul acvatic cu efecte pe termen lung.

Fraze de precauție

P260 Nu inspirați fumul/gazul/ceapa/vaporii/spray-ul.
 P264 Spălați-vă cu apă după utilizare.
 P280 Purtați mănuși de protecție și protejați ochii/vederea.
 P303+P361+P353 ÎN CAZ DE CONTACT CU PIELEA (sau cu părul): Scoateți imediat toată îmbrăcămintea contaminată. Clătiți pielea cu apă sau faceți duș.
 P305+P351+P338 ÎN CAZ DE CONTACT CU OCHII: Clătiți cu atenție cu apă timp de mai multe minute. Scoateți lentilele de contact, dacă este cazul și dacă acest lucru se poate face cu ușurință. Continuați să clătiți.
 P310 Sunați imediat la un CENTRU DE INFORMARE TOXICOLOGICĂ/un medic.

Prevederi speciale:

EUH071 Corosiv pentru căile respiratorii.

Conține:

- m-fenilenbis(metilamină)
- formaldehidă, produse de reacție polimerică cu 4-terțbutilfenol, m-fenilenbis(metilamină) și trimetilhexan-1,6-diamină
- alcool benzilic
- 2,2,4(sau 2,4,4)-trimetilhexan-1,6-diamină
- 3-aminopropiltriethoxisilan

Dispoziții speciale conform Anexei XVII (REACH) cu modificările și completările ulterioare:

Nici una

2.3. Alte pericole

Nu conține PBT, vPvB sau perturbatori endocrini prezenți în concentrații >= 0,1%.

Nici un alt risc

SECȚIUNEA 3: Compoziție/informații privind componenții

3.1. Substanțe

N.A.

3.2. Amestecuri

Identificarea preparatului: FASSA EPOXY 400 COMP.B

Componente periculoase în sensul Regulamentului CLP și clasificarea corespunzătoare:

Cantitate	Nume	Nr. de Ident.	Clasificare	Număr de înregistrare:
≥30 - <50 %	m-fenilenbis(metilamină)	CAS:1477-55-0 EC:216-032-5	Acute Tox. 4, H302 Acute Tox. 4, H332 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317 Aquatic Chronic 3, H412, EUH071 Toxicitate Acută Estimată: ATE - Oral: 500mg/kg gc ATE - Inhalare (Praef/ceață): 1.5mg/l	01-2119480150-50-xxxx
≥10 - <20 %	alcool benzilic	CAS:100-51-6 EC:202-859-9 Index:603-057-00-5	Acute Tox. 4, H302 Eye Irrit. 2, H319 Skin Sens. 1B, H317 Toxicitate Acută Estimată: ATE - Oral: 1200mg/kg gc	01-2119492630-38-xxxx
≥1 - <3 %	formaldehidă, produse de reacție polimerică cu 4-terțbutilfenol, m-fenilenbis(metilamină) și trimetilhexan-1,6-diamină		Skin Corr. 1B, H314; Eye Dam. 1, H318; Skin Sens. 1A, H317; Aquatic Chronic 3, H412	
≥1 - <3 %	fenol, stirenat	CAS:61788-44-1 EC:262-975-0	Aquatic Acute 1, H400; Aquatic Chronic 2, H411	01-2119979575-18-xxxx
≥0.5 - <1 %	2,2,4(sau 2,4,4)-trimetilhexan-1, 6-diamină	CAS:25513-64-8 EC:247-063-2	Acute Tox. 4, H302; Skin Corr. 1A, H314; Eye Dam. 1, H318; Skin Sens. 1A, H317	01-2119560598-25-xxxx
≥0.5 - <1 %	Silice cristalină, cuarț (fracție respirabilă)	CAS:14808-60-7 EC:238-878-4	STOT RE 1, H372	Scutit
≥0.5 - <1 %	dioxid de titan	CAS:13463-67-7 EC:236-675-5 Index:022-006-00-2	Carc. 2, H351	01-2119489379-17-xxxx
≥0.1 - <0.3 %	3-aminopropiltriethoxisilan	CAS:919-30-2 EC:213-048-4 Index:612-108-00-0	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317	01-2119480479-24-xxxx

Toxicitate Acută Estimată: ATE - Oral: 500mg/kg gc			
≥0.1 - <0.3 %	acetat de 2-metoxi-1-metiletil	CAS:108-65-6 EC:203-603-9 Index:607-195-00-7	Flam. Liq. 3, H226; STOT SE 3, H336 01-2119475791-29-xxxx
≥0.1 - <0.3 %	acetat de n-butil	CAS:123-86-4 EC:204-658-1 Index:607-025-00-1	Flam. Liq. 3, H226; STOT SE 3, H336, EUH066 01-2119485493-29-xxxx
≥0.1 - <0.3 %	xilen	CAS:1330-20-7 EC:215-535-7 Index:601-022-00-9	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 Aquatic Chronic 3, H412 01-2119488216-32-xxxx
Toxicitate Acută Estimată: ATE - Dermică: 1100mg/kg gc ATE - Inhalare (Vapori): 11mg/l			
≥0.1 - <0.3 %	butanonă	CAS:78-93-3 EC:201-159-0 Index:606-002-00-3	Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336, EUH066 01-2119457290-43-xxxx
≥0.1 - <0.3 %	etilbenzen	CAS:100-41-4 EC:202-849-4 Index:601-023-00-4	Flam. Liq. 2, H225; Acute Tox. 4, H332; STOT RE 2, H373; Asp. Tox. 1, H304; Aquatic Chronic 3, H412 01-2119489370-35-xxxx

SECȚIUNEA 4: Măsurile de prim ajutor

4.1. Descrierea măsurilor de prim ajutor

În caz de contact cu pielea:

Îndepărtați imediat hainele contaminate și eliminați-l în mod sigur.

Zonele corpului care au venit, sau se presupune numai că au venit, în contact cu produsul trebuie spălate imediat și abundent cu apă curentă.

OBTINETI ASISTENTA MEDICALA IMEDIATA

În caz de contact cu ochii:

În caz de contact cu ochii, clătiți cu apă pentru un interval de timp corespunzător și țineți deschise pleoapele, după care consultați imediat un oftalmolog.

Protejați ochiul lezat.

În caz de ingerare:

Nu dați nimic de mâncat sau de băut.

Nu provocați vomitarea, adresați-vă unui medic arătând Fișa de Siguranță și eticheta produsului.

În caz de inhalare:

Conduceți accidentatul la aer liber și țineți-l la cald și în repaus.

4.2. Cele mai importante simptome și efecte, atât acute, cât și întârziate

Simptomele și efectele sunt cele preconizate în secțiunea 2 cu privire la pericole.

4.3. Indicații privind orice fel de asistență medicală imediată și tratamentele speciale necesare

În caz de accident sau stare proastă consultați imediat un medic (dacă este posibil arătați instrucțiunile de folosință sau fișa de siguranță).

SECȚIUNEA 5: Măsurile de combatere a incendiilor

5.1. Mijloace de stingere a incendiilor

Mijloace de stingere corespunzătoare:

CO2, stingătoare cu pulbere, spumă, apă pulverizată.

Mijloace de stingere care nu trebuie să fie utilizate din motive de siguranță:

Jeturi de apă.

5.2. Pericole speciale cauzate de substanță sau de amestec

Combustia produce fum greu.

Nu inhalați gazele produse prin explozie și/sau prin combustie (monoxid de carbon, dioxid de carbon, oxizi de azot).

5.3. Recomandări destinate pompierilor

Folosiți dispozitive respiratorii corespunzătoare.

Strângeți separat apa contaminată folosită pentru stingerea incendiului. Nu o descărcați în rețeaua de canalizare.
Dacă este posibil din punct de vedere al siguranței, îndepărtați din zona de pericol imediat recipientele neafectate.

SECȚIUNEA 6: Măsuri împotriva pierderilor accidentale

6.1. Precauții personale, echipament de protecție și proceduri de urgență

Pentru personalul care nu este implicat în situații de urgență:

- Îmbrăcați dispozitivele de protecție individuală.
- Duceți persoanele în loc sigur.
- Citiți măsurile de protecție prezentate la punctele 7 și 8.

Pentru personalul care intervine în situații de urgență:

- Îmbrăcați dispozitivele de protecție individuală.

6.2. Precauții pentru mediul înconjurător

- Împiedicați penetrarea în sol/subsol. Împiedicați vărsarea în apele de suprafață sau în rețeaua de canalizare.
- În caz de scurgere de gaz sau penetrare în cursuri de apă, sol sau sistemul de canalizare, informați autoritățile răspunzătoare.

6.3. Metode și material pentru izolarea incendiilor și pentru curățenie

- Material corespunzător pentru colectare: material absorbant inert (de exemplu, nisip, vermiculit)
- Dupa ce produsul a fost recuperat, clatiti suprafata si materialele folosite cu apa
- Rețineți apa de spălat contaminată și eliminați-o.

6.4. Trimiteri către alte secțiuni

- Vezi și paragrafele 8 și 13

SECȚIUNEA 7: Manipulare și depozitare

7.1. Precauții pentru manipularea în condiții de securitate

- Evitați contactul cu pielea și ochii, precum și inhalarea vaporilor și a ceții.
- Nu folosiți recipiente goale înainte de a fi curățate.
- Înainte operațiilor de transfer, asigurați-vă că în recipiente nu sunt materiale rezidue incompatibile.

Sfaturi privind igiena generală la locul de muncă:

- Hainele contaminate trebuie înlocuite înainte de accesul la zona de prânz.
- Nu mincati sau beti in timpul lucrului
- Se face trimitere și la paragraful 8 pentru dispozitivele de protecție recomandate.

7.2. Condiții de depozitare în condiții de securitate, inclusiv eventuale incompatibilități

- Păstrați recipientele bine închise într-un spațiu răcoros și bine ventilat, la distanță de surse de căldură.
- Țineți departe de alimente, băuturi și hrană pentru animale.

Materiale incompatibile

- Vezi pct. 10.5

Instrucțiuni privind spațiile de depozitare:

- Spații ventilate adecvat

7.3. Utilizare (utilizări) finală (finale) specifică (specifice)

Recomandări

- Vezi pct. 1.2

Soluții specifice pentru sectorul industrial

- Nici o utilizare particulară

SECȚIUNEA 8: Controale ale expunerii/protecția personală

8.1. Parametri de control

Lista componentelor cu valoarea OEL

m-fenilenbis(metilamină)

CAS: 1477-55-0 Tip OEL ACGIH Termen scurt Plafon - 0.018 ppm
Note: Skin - Eye, skin, and GI irr

Tip OEL MAK Austria Termen lung 0.1 mg/m3

Tip OEL VLEP Belgia Termen scurt 0.1 mg/m3

Tip OEL VLEP Franța Termen scurt 0.1 mg/m3

Tip OEL SUVA Elveția Termen lung 0.1 mg/m3

alcool benzilic

CAS: 100-51-6 Tip OEL MAK Germania Termen lung 22 mg/m3 - 5 ppm; Termen scurt 44 mg/m3 - 10 ppm
Note: Inhalable fraction and vapour, Skin

Tip OEL TLV Cehia Termen lung 40 mg/m3 - 8.88 ppm; Termen scurt 80 mg/m3 - 17.76 ppm

Tip OEL SUVA Elveția Termen lung 22 mg/m3 - 5 ppm

Tip OEL	AGW	Germania	Termen lung 22 mg/m ³ - 5 ppm; Termen scurt 44 mg/m ³ - 10 ppm Note: Inhalable fraction and vapour
Tip OEL	NDS	Polonia	Termen lung 240 mg/m ³
Tip OEL	MV	Slovenia	Termen lung 22 mg/m ³ - 5 ppm; Termen scurt 44 mg/m ³ - 10 ppm Note: Skin

Silice cristalină, cuarț (fracție respirabilă)

CAS: 14808-60-7

Tip OEL	ACGIH		Termen lung 0.025 mg/m ³ Note: (R), A2 - Pulm fibrosis, lung cancer
Tip OEL	ACGIH	Letonia	Termen lung 0.025 mg/m ³
Tip OEL	UE		Termen lung 0.1 mg/m ³
Tip OEL	MAK	Austria	Termen lung 0.05 mg/m ³
Tip OEL	VLEP	Franța	Termen lung 0.1 mg/m ³ Note: Respirable aerosol
Tip OEL	VLA	Spania	Termen lung 0.05 mg/m ³
Tip OEL	ÁK	Ungaria	Termen lung 0.15 mg/m ³ Note: Respirable aerosol
Tip OEL	MAC	Olanda	Termen lung 0.075 mg/m ³ Note: Respirable dust
Tip OEL	SUVA	Elveția	Termen lung 0.15 mg/m ³ Note: Respirable aerosol
Tip OEL	GVI	Croația	Termen lung 0.1 mg/m ³
Tip OEL	NDS	Polonia	Termen lung 0.1 mg/m ³
Tip OEL	MV	Slovenia	Termen lung 0.15 mg/m ³
Tip OEL	IPRV	Lituania	Termen lung 0.1 mg/m ³

dioxid de titan

CAS: 13463-67-7

Tip OEL	ACGIH		Termen lung 0.2 mg/m ³ Note: Nanoscale particles - A3 - rspr bt, pnmc
			Termen lung 2.5 mg/m ³ Note: Finescale particles - A3 - rspr bt, pnmc
Tip OEL	ACGIH	Letonia	Termen lung 2.5 mg/m ³
Tip OEL	ACGIH	Suedia	Termen lung 0.25 mg/m ³
Tip OEL	MAK	Germania	Termen lung 0.3 mg/m ³ ; Termen scurt 2.4 mg/m ³ Note: Respirable fraction, except ultrafine particles , Multiplied by the material density
Tip OEL	VLEP	Belgia	Termen lung 10 mg/m ³
Tip OEL	VLEP	Franța	Termen lung 10 mg/m ³
Tip OEL	VLEP	România	Termen lung 10 mg/m ³ ; Termen scurt 15 mg/m ³
Tip OEL	VLA	Spania	Termen lung 10 mg/m ³ Note: Inhalable fraction
Tip OEL	SUVA	Elveția	Termen lung 3 mg/m ³ Note: Respirable aerosol
Tip OEL	WEL	U.K.	Termen lung 10 mg/m ³ Note: Inhalable aerosol
			Termen lung 4 mg/m ³ Note: Respirable aerosol
Tip OEL	GVI	Croația	Termen lung 10 mg/m ³ Note: Inhalable fraction
			Termen lung 4 mg/m ³ Note: Respirable fraction
Tip OEL	AGW	Germania	Termen lung 1.25 mg/m ³ Note: Respirable dust particles
Tip OEL	NDS	Polonia	Termen lung 10 mg/m ³ Note: Inhalable fraction

acetat de 2-metoxi-1-metiletil

CAS: 108-65-6	Tip OEL	ACGIH	Letonia	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3
	Tip OEL	ACGIH	Suedia	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm
	Tip OEL	UE		Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm Note: Skin
	Tip OEL	MAK	Austria	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm
	Tip OEL	MAK	Germania	Termen lung 270 mg/m3 - 50 ppm; Termen scurt 270 mg/m3 - 50 ppm
	Tip OEL	VLEP	Belgia	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm Note: Additional indication "D" means that the absorption of the agent through the skin, mucous membranes or eyes is an important part of the total exposure. It can be the result of both direct contact and its presence in the air.
	Tip OEL	VLEP	Franta	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm
	Tip OEL	VLEP	Italia	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm Note: Skin
	Tip OEL	VLEP	România	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm Note: Skin
	Tip OEL	TLV	Bulgaria	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm Note: Skin
	Tip OEL	TLV	Cehia	Termen lung 270 mg/m3 - 49.14 ppm; Termen scurt 550 mg/m3 - 10.01 ppm Note: Skin
	Tip OEL	VLA	Spania	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm
	Tip OEL	ÁK	Ungaria	Termen lung 275 mg/m3; Termen scurt 550 mg/m3
	Tip OEL	MAC	Olanda	Termen lung 550 mg/m3
	Tip OEL	VLE	Portugalia	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm Note: Skin
	Tip OEL	SUVA	Elveția	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm
	Tip OEL	WEL	U.K.	Termen lung 274 mg/m3 - 50 ppm; Termen scurt 548 mg/m3 - 100 ppm
	Tip OEL	GVI	Croația	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm Note: Skin
	Tip OEL	AGW	Germania	Termen lung 270 mg/m3 - 50 ppm; Termen scurt 270 mg/m3 - 50 ppm
	Tip OEL	NDS	Polonia	Termen lung 260 mg/m3; Termen scurt 520 mg/m3
	Tip OEL	MV	Slovenia	Termen lung 275 mg/m3 - 50 ppm; Termen scurt 550 mg/m3 - 100 ppm Note: Skin
	Tip OEL	IPRV	Lituania	Termen lung 250 mg/m3 - 50 ppm; Termen scurt 400 mg/m3 - 75 ppm Note: Skin

acetat de n-butil

CAS: 123-86-4	Tip OEL	ACGIH		Termen lung 50 ppm; Termen scurt 150 ppm Note: Eye and URT irr
	Tip OEL	UE		Termen lung 241 mg/m3 - 50 ppm; Termen scurt 723 mg/m3 - 150 ppm
	Tip OEL	MAK	Austria	Termen lung 480 mg/m3 - 100 ppm; Termen scurt 480 mg/m3 - 100 ppm
	Tip OEL	MAK	Germania	Termen lung 480 mg/m3 - 100 ppm; Termen scurt 960 mg/m3 - 200 ppm
	Tip OEL	VLEP	Belgia	Termen lung 238 mg/m3 - 50 ppm; Termen scurt 712 mg/m3 - 150 ppm Note: Butylacetates, all isomers
	Tip OEL	VLEP	Franta	Termen lung 710 mg/m3 - 150 ppm; Termen scurt 940 mg/m3 - 200 ppm
	Tip OEL	VLEP	România	Termen lung 715 mg/m3 - 150 ppm; Termen scurt 950 mg/m3 - 200 ppm
	Tip OEL	TLV	Bulgaria	Termen lung 710 mg/m3; Termen scurt 950 mg/m3
	Tip OEL	TLV	Cehia	Termen lung 241 mg/m3; Termen scurt 723 mg/m3
	Tip OEL	VLA	Spania	Termen lung 724 mg/m3 - 150 ppm; Termen scurt 965 mg/m3 - 200 ppm
	Tip OEL	ÁK	Ungaria	Termen lung 950 mg/m3; Termen scurt 950 mg/m3
	Tip OEL	SUVA	Elveția	Termen lung 240 mg/m3 - 50 ppm; Termen scurt 720 mg/m3 - 150 ppm
	Tip OEL	WEL	U.K.	Termen lung 724 mg/m3 - 150 ppm; Termen scurt 966 mg/m3 - 200 ppm
	Tip OEL	GVI	Croația	Termen lung 724 mg/m3 - 150 ppm; Termen scurt 966 mg/m3 - 200 ppm
	Tip OEL	AGW	Germania	Termen lung 300 mg/m3 - 62 ppm; Termen scurt 600 mg/m3 - 124 ppm
	Tip OEL	NDS	Polonia	Termen lung 240 mg/m3; Termen scurt 720 mg/m3
	Tip OEL	MV	Slovenia	Termen lung 300 mg/m3 - 62 ppm; Termen scurt 600 mg/m3 - 124 ppm

xilen

CAS: 1330-20-7

Tip OEL	ACGIH		Termen lung 20 ppm Note: A4, IBE - oclr, rspr at, sng, ssnc
Tip OEL	UE		Termen lung 221 mg/m3 - 50 ppm; Termen scurt 442 mg/m3 - 100 ppm Note: Skin
Tip OEL	MAK	Austria	Termen lung 221 mg/m3 - 50 ppm; Termen scurt 442 mg/m3 - 100 ppm
Tip OEL	MAK	Germania	Termen lung 220 mg/m3 - 50 ppm; Termen scurt 440 mg/m3 - 100 ppm Note: Skin
Tip OEL	VLEP	Belgia	Termen lung 221 mg/m3 - 50 ppm; Termen scurt 442 mg/m3 - 100 ppm Note: Additional indication "D" means that the absorption of the agent through the skin, mucous membranes or eyes is an important part of the total exposure. It can be the result of both direct contact and its presence in the air.
Tip OEL	VLEP	Franța	Termen lung 221 mg/m3 - 50 ppm; Termen scurt 442 mg/m3 - 100 ppm
Tip OEL	VLEP	Italia	Termen lung 221 mg/m3 - 50 ppm; Termen scurt 442 mg/m3 - 100 ppm Note: Skin
Tip OEL	VLEP	România	Termen lung 221 mg/m3 - 50 ppm; Termen scurt 442 mg/m3 - 100 ppm
Tip OEL	TLV	Bulgaria	Termen lung 221 mg/m3 - 50 ppm; Termen scurt 442 mg/m3 - 100 ppm Note: Skin
Tip OEL	TLV	Cehia	Termen lung 200 mg/m3 - 45.4 ppm; Termen scurt 400 mg/m3 - 90.8 ppm Note: Skin
Tip OEL	VLA	Spania	Termen lung 221 mg/m3 - 50 ppm; Termen scurt 442 mg/m3 - 100 ppm
Tip OEL	ÁK	Ungaria	Termen lung 221 mg/m3; Termen scurt 442 mg/m3
Tip OEL	MAC	Olanda	Termen lung 210 mg/m3; Termen scurt 442 mg/m3
Tip OEL	VLE	Portugalia	Termen lung 221 mg/m3 - 50 ppm; Termen scurt 442 mg/m3 - 100 ppm Note: Skin
Tip OEL	SUVA	Elveția	Termen lung 435 mg/m3 - 100 ppm; Termen scurt 870 mg/m3 - 200 ppm
Tip OEL	WEL	U.K.	Termen lung 220 mg/m3 - 50 ppm; Termen scurt 441 mg/m3 - 100 ppm
Tip OEL	GVI	Croația	Termen lung 221 mg/m3 - 50 ppm; Termen scurt 442 mg/m3 - 100 ppm Note: Skin
Tip OEL	AGW	Germania	Termen lung 220 mg/m3 - 50 ppm; Termen scurt 440 mg/m3 - 100 ppm Note: Skin
Tip OEL	NDS	Polonia	Termen lung 100 mg/m3; Termen scurt 200 mg/m3 Note: Skin
Tip OEL	MV	Slovenia	Termen lung 221 mg/m3 - 50 ppm; Termen scurt 442 mg/m3 - 100 ppm Note: Skin
Tip OEL	IPRV	Lituania	Termen lung 200 mg/m3 - 50 ppm; Termen scurt 450 mg/m3 - 100 ppm Note: Skin

butanonă

CAS: 78-93-3

Tip OEL	ACGIH		Termen lung 200 ppm; Termen scurt 300 ppm Note: BEI - URT irr, CNS and PNS impair
Tip OEL	UE		Termen lung 600 mg/m3 - 200 ppm; Termen scurt 900 mg/m3 - 300 ppm
Tip OEL	MAK	Austria	Termen lung 295 mg/m3 - 100 ppm; Termen scurt 590 mg/m3 - 200 ppm
Tip OEL	MAK	Germania	Termen lung 600 mg/m3 - 200 ppm; Termen scurt 600 mg/m3 - 200 ppm Note: Skin
Tip OEL	VLEP	Belgia	Termen lung 600 mg/m3 - 200 ppm; Termen scurt 900 mg/m3 - 300 ppm
Tip OEL	VLEP	Franța	Termen lung 600 mg/m3 - 200 ppm; Termen scurt 900 mg/m3 - 300 ppm
Tip OEL	VLEP	Italia	Termen lung 600 mg/m3 - 200 ppm; Termen scurt 900 mg/m3 - 300 ppm
Tip OEL	VLEP	România	Termen lung 600 mg/m3 - 200 ppm; Termen scurt 900 mg/m3 - 300 ppm
Tip OEL	TLV	Cehia	Termen lung 600 mg/m3 - 200.4 ppm; Termen scurt 900 mg/m3 - 300.6 ppm
Tip OEL	VLA	Spania	Termen lung 600 mg/m3 - 200 ppm; Termen scurt 900 mg/m3 - 300 ppm
Tip OEL	ÁK	Ungaria	Termen lung 600 mg/m3; Termen scurt 900 mg/m3
Tip OEL	MAC	Olanda	Termen lung 590 mg/m3; Termen scurt 900 mg/m3
Tip OEL	VLE	Portugalia	Termen lung 600 mg/m3 - 200 ppm; Termen scurt 900 mg/m3 - 300 ppm
Tip OEL	SUVA	Elveția	Termen lung 590 mg/m3 - 200 ppm; Termen scurt 590 mg/m3 - 200 ppm

Tip OEL	WEL	U.K.	Termen lung 600 mg/m ³ - 200 ppm; Termen scurt 899 mg/m ³ - 300 ppm
Tip OEL	GVI	Croația	Termen lung 600 mg/m ³ - 200 ppm; Termen scurt 900 mg/m ³ - 300 ppm
Tip OEL	AGW	Germania	Termen lung 600 mg/m ³ - 200 ppm; Termen scurt 600 mg/m ³ - 200 ppm Note: Skin
Tip OEL	NDS	Polonia	Termen lung 450 mg/m ³ ; Termen scurt 900 mg/m ³
Tip OEL	MV	Slovenia	Termen lung 600 mg/m ³ - 200 ppm; Termen scurt 900 mg/m ³ - 300 ppm Note: Skin

etilbenzen

CAS: 100-41-4	Tip OEL	ACGIH	Termen lung 20 ppm Note: A3, BEI - URT irr, kidney dam (nephropathy), cochlear impair
	Tip OEL	UE	Termen lung 442 mg/m ³ - 100 ppm; Termen scurt 884 mg/m ³ - 200 ppm Note: Skin
Tip OEL	MAK	Austria	Termen lung 440 mg/m ³ - 100 ppm; Termen scurt 880 mg/m ³ - 200 ppm
Tip OEL	MAK	Germania	Termen lung 88 mg/m ³ - 20 ppm; Termen scurt 176 mg/m ³ - 40 ppm Note: Skin
Tip OEL	VLEP	Belgia	Termen lung 87 mg/m ³ - 20 ppm; Termen scurt 551 mg/m ³ - 125 ppm Note: Additional indication "D" means that the absorption of the agent through the skin, mucous membranes or eyes is an important part of the total exposure. It can be the result of both direct contact and its presence in the air.
Tip OEL	VLEP	Franța	Termen lung 88.4 mg/m ³ - 20 ppm; Termen scurt 442 mg/m ³ - 100 ppm
Tip OEL	VLEP	Italia	Termen lung 442 mg/m ³ - 100 ppm; Termen scurt 884 mg/m ³ - 200 ppm
Tip OEL	VLEP	România	Termen lung 442 mg/m ³ - 100 ppm; Termen scurt 884 mg/m ³ - 200 ppm
Tip OEL	TLV	Cehia	Termen lung 200 mg/m ³ - 45.4 ppm; Termen scurt 500 mg/m ³ - 113.5 ppm Note: Skin
Tip OEL	VLA	Spania	Termen lung 441 mg/m ³ - 100 ppm; Termen scurt 884 mg/m ³ - 200 ppm Note: Skin
Tip OEL	ÁK	Ungaria	Termen lung 442 mg/m ³ ; Termen scurt 884 mg/m ³
Tip OEL	MAC	Olanda	Termen lung 215 mg/m ³ ; Termen scurt 430 mg/m ³
Tip OEL	VLE	Portugalia	Termen lung 442 mg/m ³ - 100 ppm; Termen scurt 884 mg/m ³ - 200 ppm Note: Skin
Tip OEL	SUVA	Elveția	Termen lung 435 mg/m ³ - 100 ppm; Termen scurt 435 mg/m ³ - 100 ppm
Tip OEL	WEL	U.K.	Termen lung 441 mg/m ³ - 100 ppm; Termen scurt 552 mg/m ³ - 125 ppm
Tip OEL	GVI	Croația	Termen lung 442 mg/m ³ - 100 ppm; Termen scurt 884 mg/m ³ - 200 ppm Note: Skin
Tip OEL	AGW	Germania	Termen lung 88 mg/m ³ - 20 ppm; Termen scurt 176 mg/m ³ - 40 ppm Note: Skin
Tip OEL	NDS	Polonia	Termen lung 200 mg/m ³ ; Termen scurt 400 mg/m ³
Tip OEL	MV	Slovenia	Termen lung 442 mg/m ³ - 100 ppm; Termen scurt 884 mg/m ³ - 200 ppm Note: Skin

Valori limită de expunere PNEC

m-fenilenbis(metilamină)

CAS: 1477-55-0

Cale de expunere: Apă sărată; PNEC Limită: 0.009 mg/l

Cale de expunere: Apă dulce; PNEC Limită: 0.094 mg/l

Cale de expunere: Apă sărată; PNEC Limită: 0.043 mg/kg

Cale de expunere: Apă dulce; PNEC Limită: 0.43 mg/kg

Cale de expunere: Sol (agricol); PNEC Limită: 0.045 mg/kg

Cale de expunere: Microorganisme în tratamente de epurare; PNEC Limită: 10 mg/l

alcool benzilic

CAS: 100-51-6

Cale de expunere: Apă dulce; PNEC Limită: 1 mg/l

Cale de expunere: Apă sărată; PNEC Limită: 0.1 mg/l

Cale de expunere: Microorganisme în tratamente de epurare; PNEC Limită: 39 mg/l

Cale de expunere: Sedimente în apă dulce; PNEC Limită: 5.27 mg/kg

Cale de expunere: Sedimente în apă sărată; PNEC Limită: 0.527 mg/kg

Cale de expunere: Sol (agricol); PNEC Limită: 0.456 mg/kg

fenol, stirenat

CAS: 61788-44-1 Cale de expunere: Apă dulce; PNEC Limită: 0.004 mg/l
Cale de expunere: Apă sărată; PNEC Limită: 0.4 µg/l
Cale de expunere: Microorganisme în tratamente de epurare; PNEC Limită: 36.2 mg/l
Cale de expunere: Sedimente în apă dulce; PNEC Limită: 0.248 mg/kg
Cale de expunere: Sedimente în apă sărată; PNEC Limită: 24.8 µg/kg
Cale de expunere: Sol (agricol); PNEC Limită: 47.3 µg/kg

2,2,4(sau 2,4,4)-trimetilhexan-1,6-diamină

CAS: 25513-64-8 Cale de expunere: Apă sărată; PNEC Limită: 0.01 mg/l
Cale de expunere: Apă dulce; PNEC Limită: 0.102 mg/l
Cale de expunere: Microorganisme în tratamente de epurare; PNEC Limită: 72 mg/l
Cale de expunere: Sedimente în apă dulce; PNEC Limită: 0.622 mg/kg
Cale de expunere: Sedimente în apă sărată; PNEC Limită: 0.062 mg/kg
Cale de expunere: Sol (agricol); PNEC Limită: 10 mg/kg

3-aminopropiltriethoxisilan

CAS: 919-30-2 Cale de expunere: Microorganisme în tratamente de epurare; PNEC Limită: 1.3 mg/l

acetat de 2-metoxi-1-metiletil

CAS: 108-65-6 Cale de expunere: Apă dulce; PNEC Limită: 0.635 mg/l
Cale de expunere: Apă sărată; PNEC Limită: 0.064 mg/l
Cale de expunere: Microorganisme în tratamente de epurare; PNEC Limită: 100 mg/l
Cale de expunere: Sedimente în apă dulce; PNEC Limită: 3.29 mg/kg
Cale de expunere: Sedimente în apă sărată; PNEC Limită: 0.329 mg/kg
Cale de expunere: Sol (agricol); PNEC Limită: 0.29 mg/kg

acetat de n-butil

CAS: 123-86-4 Cale de expunere: Apă sărată; PNEC Limită: 0.018 mg/l
Cale de expunere: Apă dulce; PNEC Limită: 0.18 mg/l
Cale de expunere: Sedimente în apă sărată; PNEC Limită: 0.098 mg/kg
Cale de expunere: Sedimente în apă dulce; PNEC Limită: 0.981 mg/kg
Cale de expunere: Microorganisme în tratamente de epurare; PNEC Limită: 35.6 mg/l
Cale de expunere: Sol (agricol); PNEC Limită: 0.09 mg/kg

xilen

CAS: 1330-20-7 Cale de expunere: Apă sărată; PNEC Limită: 0.327 mg/l
Cale de expunere: Apă dulce; PNEC Limită: 0.327 mg/l
Cale de expunere: Microorganisme în tratamente de epurare; PNEC Limită: 6.58 mg/l
Cale de expunere: Sedimente în apă sărată; PNEC Limită: 12.46 mg/kg
Cale de expunere: Sedimente în apă dulce; PNEC Limită: 12.46 mg/kg
Cale de expunere: Sol (agricol); PNEC Limită: 2.31 mg/kg

butanonă

CAS: 78-93-3 Cale de expunere: Apă dulce; PNEC Limită: 55.8 mg/l
Cale de expunere: Apă sărată; PNEC Limită: 55.8 mg/l
Cale de expunere: Sedimente în apă dulce; PNEC Limită: 284.74 mg/kg
Cale de expunere: Microorganisme în tratamente de epurare; PNEC Limită: 709 mg/l
Cale de expunere: Lanț alimentară; PNEC Limită: 1000 mg/kg
Cale de expunere: Sol (agricol); PNEC Limită: 22.5 mg/kg

etilbenzen

CAS: 100-41-4 Cale de expunere: Apă dulce; PNEC Limită: 0.1 mg/l
Cale de expunere: Apă sărată; PNEC Limită: 0.01 mg/l
Cale de expunere: Microorganisme în tratamente de epurare; PNEC Limită: 9.6 mg/l
Cale de expunere: Sedimente în apă dulce; PNEC Limită: 13.7 mg/kg
Cale de expunere: Sedimente în apă sărată; PNEC Limită: 1.37 mg/kg
Cale de expunere: Sol (agricol); PNEC Limită: 2.68 mg/kg

Nivel Derivat Fără Efect (DNEL)

m-fenilenbis(metilamină)

- CAS: 1477-55-0 Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 0.33 mg/kg
- Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte locale
Lucrător profesionist: 0.2 mg/m³
- Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 1.2 mg/m³

alcool benzilic

- CAS: 100-51-6 Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen scurt, efecte sistemice
Lucrător profesionist: 110 mg/m³; Consumator: 27 mg/m³
- Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 22 mg/m³; Consumator: 5.4 mg/m³
- Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen scurt, efecte sistemice
Lucrător profesionist: 40 mg/kg; Consumator: 20 mg/kg
- Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 8 mg/kg; Consumator: 4 mg/kg
- Cale de expunere: Oral uman; Frecvență de expunere: Pe termen scurt, efecte sistemice
Consumator: 20 mg/kg
- Cale de expunere: Oral uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Consumator: 4 mg/kg

fenol, stirenat

- CAS: 61788-44-1 Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 7.4 mg/m³; Consumator: 1.31 mg/m³
- Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 2.1 mg/kg; Consumator: 0.75 mg/kg
- Cale de expunere: Oral uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Consumator: 0.75 mg/kg

2,2,4(sau 2,4,4)-trimetilhexan-1,6-diamină

- CAS: 25513-64-8 Cale de expunere: Oral uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Consumator: 0.05 mg/kg

3-aminopropiltriethoxisilan

- CAS: 919-30-2 Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 14 mg/m³; Consumator: 3.5 mg/m³
- Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 2 mg/kg; Consumator: 1 mg/kg
- Cale de expunere: Oral uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Consumator: 1 mg/kg

acetat de 2-metoxi-1-metiletil

- CAS: 108-65-6 Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 796 mg/kg; Consumator: 320 mg/kg
- Cale de expunere: Oral uman; Frecvență de expunere: Pe termen lung, efecte sistemice
Consumator: 36 mg/kg
- Cale de expunere: Oral uman; Frecvență de expunere: Pe termen scurt, efecte sistemice
Consumator: 500 mg/kg
- Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte sistemice
Lucrător profesionist: 275 mg/m³; Consumator: 33 mg/m³
- Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen scurt, efecte locale
Lucrător profesionist: 550 mg/m³
- Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte locale
Consumator: 33 mg/m³

acetat de n-butil

CAS: 123-86-4 Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte sistemice
 Lucrător profesionist: 300 mg/m³; Consumator: 35.7 mg/m³

Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen scurt, efecte sistemice
 Lucrător profesionist: 600 mg/m³; Consumator: 300 mg/m³

Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte locale
 Lucrător profesionist: 300 mg/m³; Consumator: 35.7 mg/m³

Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen scurt, efecte locale
 Lucrător profesionist: 600 mg/m³; Consumator: 300 mg/m³

Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen lung, efecte sistemice
 Lucrător profesionist: 11 mg/kg; Consumator: 6 mg/kg

Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen scurt, efecte sistemice
 Lucrător profesionist: 11 mg/kg; Consumator: 6 mg/kg

Cale de expunere: Oral uman; Frecvență de expunere: Pe termen scurt, efecte sistemice
 Consumator: 2 mg/kg

Cale de expunere: Oral uman; Frecvență de expunere: Pe termen lung, efecte sistemice
 Consumator: 2 mg/kg

xilen

CAS: 1330-20-7 Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte sistemice
 Lucrător profesionist: 221 mg/m³; Consumator: 65.3 mg/m³

Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen scurt, efecte sistemice
 Lucrător profesionist: 442 mg/m³; Consumator: 260 mg/m³

Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen scurt, efecte locale
 Lucrător profesionist: 442 mg/m³; Consumator: 260 mg/m³

Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte locale
 Lucrător profesionist: 221 mg/m³; Consumator: 65.3 mg/m³

Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen lung, efecte sistemice
 Lucrător profesionist: 212 mg/kg; Consumator: 125 mg/kg

Cale de expunere: Oral uman; Frecvență de expunere: Pe termen lung, efecte sistemice
 Consumator: 12.5 mg/kg

butanonă

CAS: 78-93-3 Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte sistemice
 Lucrător profesionist: 600 mg/m³; Consumator: 106 mg/m³

Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen lung, efecte sistemice
 Lucrător profesionist: 1161 mg/kg; Consumator: 412 mg/kg

Cale de expunere: Oral uman; Frecvență de expunere: Pe termen lung, efecte sistemice
 Consumator: 31 mg/kg

etilbenzen

CAS: 100-41-4 Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte sistemice
 Lucrător profesionist: 77 mg/m³; Consumator: 15 mg/m³

Cale de expunere: Prin inhalare umană; Frecvență de expunere: Pe termen lung, efecte locale
 Lucrător profesionist: 293 mg/m³

Cale de expunere: Epidermic uman; Frecvență de expunere: Pe termen lung, efecte sistemice
 Lucrător profesionist: 180 mg/kg

Cale de expunere: Oral uman; Frecvență de expunere: Pe termen lung, efecte sistemice
 Consumator: 1.6 mg/kg

8.2. Controale ale expunerii

Asigurați o ventilație adecvată. Atunci când este rezonabil posibil, aceasta se poate obține prin utilizarea de ventilație de schimb și a unei aspirații generale bune.

Protecția ochilor

Ochelari cu protecție laterală (EN 166).

Protecția pielii

Utilizați îmbrăcăminte corespunzătoare pentru protecția completă a pielii, în funcție de activitate și expunere (EN 14605/EN 13982), de exemplu salopetă de lucru, șorț, încălțăminte de siguranță, îmbrăcăminte corespunzătoare.

Protecția mainilor

Nu există niciun material sau combinație de materiale pentru mănuși care să poată garanta o rezistență nelimitată la orice produs

chimic sau combinație de produse.

Pentru manipulare prelungită sau repetată, utilizați mănuși rezistente la produse chimice.

Tipul de mănuși adecvate (EN 374/EN 16523); FKM (fluor cauciuc): grosime ≥ 0.4 mm; timp de penetrare ≥ 480 min. NBR (cauciuc nitrilic): grosime ≥ 0.4 mm; timp de penetrare ≥ 480 min

Alegerea mănușilor potrivite nu depinde numai de material, ci și de alte caracteristici de calitate care variază de la un producător la altul, precum și de metodele și timpii de utilizare a amestecului.

Protecție respiratorie

Dacă lucrătorii sunt expuși la concentrații mai mari decât limitele de expunere, trebuie să poarte aparate respiratorii certificate.

Filtru amestec (EN 14387): mască cu filtru A-P2.

Controale de expunere ambientală:

Vezi pct. 6.2

Măsurile de igienă și tehnice

Vezi alineatul 7.

SECȚIUNEA 9: Proprietățile fizice și chimice

9.1. Informații privind proprietățile fizice și chimice de bază

Stare fizică: Lichid

Aspect: Lichid

Culoare: alb

Miros: caracteristic

Punctul de topire/punctul de înghețare: N.D.

Punctul de fierbere sau punctul inițial de fierbere și intervalul de fierbere: N.D.

Inflamabilitatea: N.A.

Limita inferioară și superioară de explozie: N.D.

Punctul de aprindere: $> 93^{\circ}\text{C}$

Temperatura de autoaprindere: N.D.

Temperatura de descompunere: N.D.

pH: $\geq 10.50 \leq 11.50$ (Metoda internă)

Viscozitatea cinematică: N.A.

Densitatea și/sau densitatea relativă: 1.51 kg/l (Metoda internă)

Densitatea relativă a vaporilor: N.D.

Presiunea vaporilor: N.D.

Solubilitatea în apă: Ușor solubil

Solubilitate în ulei: N.A.

Coeficientul de partiție n-octanol/apă (valoarea log): N.A.

Caracteristicile particulei:

Dimensiunea particulei: N.A.

9.2. Alte informații

Conductivitatea: N.D.

Proprietati explozive: N.A. (Evaluare internă)

Proprietati oxidante: N.A. (Evaluare internă)

Viteza de evaporare: N.A.

SECȚIUNEA 10: Stabilitate și reactivitate

10.1. Reactivitate

Stabilă în condiții normale

10.2. Stabilitate chimică

Stabilă în condiții normale

10.3. Posibilitatea de reacții periculoase

Se poate aprinde în contact cu agenți puternic oxidanți

Din cauza efectului căldurii sau în caz de incendiu, se pot elibera oxizi de carbon și vapori care pot fi dăunători pentru sănătate.

10.4. Condiții de evitat

Evitați apropierea de surse de căldură.

10.5. Materiale incompatibile

Agenți de oxidare puternici, agenți de reducere puternici, amine alifactice și aromatice.

Vezi pct. 10.3

10.6. Produși de descompunere periculoși

În cazul depozitării și manipulării adecvate, nu există produse de descompunere periculoase.

Vezi pct. 5.2

SECȚIUNEA 11: Informații toxicologice

11.1. Informații privind clasele de pericol definite în Regulamentul (CE) nr. 1272/2008

Informații toxicologice ale produsului:

a) toxicitate acută	Produsul este clasificat: Acute Tox. 4(H302)
b) corodarea/iritarea pielii	Produsul este clasificat: Skin Corr. 1B(H314)
c) lezarea gravă/iritarea ochilor	Neclasificat Pe baza datelor disponibile, criteriile de clasificare nu sunt îndeplinite.
d) sensibilizarea căilor respiratorii sau a pielii	Produsul este clasificat: Skin Sens. 1(H317)
e) mutagenitatea celulelor germinative	Neclasificat Pe baza datelor disponibile, criteriile de clasificare nu sunt îndeplinite.
f) cancerogenitatea	Neclasificat Pe baza datelor disponibile, criteriile de clasificare nu sunt îndeplinite.
g) toxicitatea pentru reproducere	Neclasificat Pe baza datelor disponibile, criteriile de clasificare nu sunt îndeplinite.
h) STOT (toxicitate asupra organelor țintă specifice) - expunere unică	Neclasificat Pe baza datelor disponibile, criteriile de clasificare nu sunt îndeplinite.
i) STOT (toxicitate asupra organelor țintă specifice) - expunere repetată	Neclasificat
j) pericol prin aspirare	Pe baza datelor disponibile, criteriile de clasificare nu sunt îndeplinite. Neclasificat Pe baza datelor disponibile, criteriile de clasificare nu sunt îndeplinite.

Informații toxicologice referitoare la substanțele principale găsite în acest produs:

m-fenilenbis(metilamină)

CAS: 1477-55-0 a) toxicitate acută ATE - Oral: 500 mg/kg gc
ATE - Inhalare (Praef/ceață): 1.5 mg/l
LD50 Piele Șobolan > 3100 mg/kg
LD50 Oral Șobolan 930 mg/kg
LC50 Inhalări de aerosoli Șobolan 1.34 mg/l 4h

alcool benzilic

CAS: 100-51-6 a) toxicitate acută ATE - Oral: 1200 mg/kg gc
LD50 Oral Șobolan 1620 mg/kg

fenol, stirenat

CAS: 61788-44-1 a) toxicitate acută LD50 Oral Șobolan > 2000 mg/kg
LD50 Piele Șobolan > 2000 mg/kg

2,2,4(sau 2,4,4)-trimetilhexan-1,6-diamină

CAS: 25513-64-8 a) toxicitate acută LD50 Oral Șobolan 910 mg/kg

dioxid de titan

CAS: 13463-67-7 a) toxicitate acută LD50 Oral Șobolan > 5000 mg/kg
LC50 Praef de inhalare Șobolan > 6.82 mg/l 4h

3-aminopropiltriethoxisilan

CAS: 919-30-2 a) toxicitate acută ATE - Oral: 500 mg/kg gc
LD50 Oral Șobolan 1780 mg/kg
LD50 Piele Iepure 4000 mg/kg
LC50 Inhalări de aerosoli Șobolan > 7.35 mg/l

acetat de 2-metoxi-1-metiletil

CAS: 108-65-6 a) toxicitate acută LD50 Oral Șobolan > 5000 mg/kg
LD50 Piele Iepure > 5000 mg/kg
LC0 Vapori de inhalare Șobolan > 4345 ppm 6h

acetat de n-butil		
CAS: 123-86-4	a) toxicitate acută	LD50 Oral Șobolan 10760 mg/kg LD50 Piele Iepure 14112 mg/kg LC50 Vapor de inhalare Șobolan > 21.1 mg/l 4h
xilen		
CAS: 1330-20-7	a) toxicitate acută	ATE - Dermică: 1100 mg/kg gc ATE - Inhalare (Vapori): 11 mg/l LD50 Oral Șobolan 3523 mg/kg
butanonă		
CAS: 78-93-3	a) toxicitate acută	LD50 Oral Șobolan > 2193 mg/kg LD50 Piele Iepure > 5000 mg/kg
etilbenzen		
CAS: 100-41-4	a) toxicitate acută	LD50 Oral Șobolan 3500 mg/kg LD50 Piele Iepure 15400 mg/kg LC50 Inhalare Șobolan 17629 mg/m3 4h

11.2. Informații privind alte pericole

Proprietăți de perturbator endocrin:

Nu conține perturbatori endocrini prezenți în concentrații $\geq 0,1\%$

SECȚIUNEA 12: Informații ecologice

A se adopta bune practici de producție astfel încât produsul să nu fie eliberat în mediu

12.1. Toxicitate

Informații Ecotoxicologice:

Nociv pentru mediul acvatic cu efecte pe termen lung.

Lista proprietăților Eco-toxicologice ale produsului

Produsul este clasificat: Aquatic Chronic 3(H412)

Lista componentelor cu proprietăți ecotoxicologice

m-fenilenbis(metilamină)

- CAS: 1477-55-0
- a) Toxicitate acvatică acută: LC50 Pește 87.6 mg/l 96h
 - a) Toxicitate acvatică acută: EC50 Alge 20.3 mg/l 72h
 - a) Toxicitate acvatică acută: EC50 Daphnia 15.2 mg/l 48h
 - b) Toxicitatea acvatică cronică: NOEC Daphnia 4.7 mg/l 21d
 - b) Toxicitatea acvatică cronică: NOEC Alge 10.5 mg/l 72h

alcool benzilic

- CAS: 100-51-6
- a) Toxicitate acvatică acută: LC50 Pește 460 mg/l 96h
 - a) Toxicitate acvatică acută: EC50 Daphnia 230 mg/l 48h
 - a) Toxicitate acvatică acută: EC50 Alge 770 mg/l 72h
 - b) Toxicitatea acvatică cronică: NOEC Daphnia 51 mg/l 21d
 - b) Toxicitatea acvatică cronică: NOEC Alge 310 mg/l 72h

fenol, stirenat

- CAS: 61788-44-1
- a) Toxicitate acvatică acută: LC50 Pește 5.6 mg/l 96h
 - a) Toxicitate acvatică acută: EC50 Daphnia 4.6 mg/l 48h
 - a) Toxicitate acvatică acută: EC50 Alge 1.35 mg/l 72h
 - b) Toxicitatea acvatică cronică: NOEC Pește 61.8 μ g/l
 - b) Toxicitatea acvatică cronică: NOEC Daphnia 0.2 mg/l
 - b) Toxicitatea acvatică cronică: NOEC Alge 0.42 mg/l

2,2,4(sau 2,4,4)-trimetilhexan-1,6-diamină

- CAS: 25513-64-8
- a) Toxicitate acvatică acută: LC50 Pește 174 mg/l 48h
 - a) Toxicitate acvatică acută: EC50 Daphnia 31.5 mg/l 24h
 - a) Toxicitate acvatică acută: EC50 Alge 29.5 mg/l 72h

dioxid de titan

- CAS: 13463-67-7
- a) Toxicitate acvatică acută: LC50 Pește > 1000 mg/l 96h

a) Toxicitate acvatică acută: EC50 Daphnia > 1000 mg/l 48h

a) Toxicitate acvatică acută: EC50 Alge 61 mg/l 72h

3-aminopropiltriethoxisilan

CAS: 919-30-2 a) Toxicitate acvatică acută: LC50 Pește > 934 mg/l 96h

a) Toxicitate acvatică acută: EC50 Daphnia 331 mg/l 48h

a) Toxicitate acvatică acută: EC50 Alge 603 mg/l 72h

acetat de 2-metoxi-1-metiletil

CAS: 108-65-6 a) Toxicitate acvatică acută: LC50 Pește 134 mg/l 96h

a) Toxicitate acvatică acută: EC50 Daphnia 408 mg/l 48h

a) Toxicitate acvatică acută: EC50 Alge > 1000 mg/l 96h

b) Toxicitatea acvatică cronică: NOEC Pește 47.5 mg/l - 14 d

acetat de n-butil

CAS: 123-86-4 a) Toxicitate acvatică acută: LC50 Pește 18 mg/l 96h

a) Toxicitate acvatică acută: EC50 Daphnia 44 mg/l 48h

a) Toxicitate acvatică acută: EC50 Alge 675 mg/l 72h

b) Toxicitatea acvatică cronică: NOEC Daphnia 23 mg/l - 21d

butanonă

CAS: 78-93-3 a) Toxicitate acvatică acută: LC50 Pește 2973 mg/l 96h

a) Toxicitate acvatică acută: EC50 Daphnia 308 mg/l 48h

a) Toxicitate acvatică acută: EC50 Alge 1229 mg/l 96h

etilbenzen

CAS: 100-41-4 a) Toxicitate acvatică acută: LC50 Pește 4.2 mg/l 96h

a) Toxicitate acvatică acută: EC50 Daphnia 1.8 mg/l 48h

a) Toxicitate acvatică acută: EC50 Alge 3.6 mg/l 96h

b) Toxicitatea acvatică cronică: NOEC Daphnia 1 mg/l - 7d

12.2. Persistență și degradabilitate

m-fenilenbis(metilamină)

CAS: 1477-55-0 Degradabil în mod lent

alcool benzilic

CAS: 100-51-6 Degradabil în mod rapid

fenol, stirenat

CAS: 61788-44-1 Degradabil în mod lent

2,2,4(sau 2,4,4)-trimetilhexan-1,6-diamină

CAS: 25513-64-8 Degradabil în mod lent

3-aminopropiltriethoxisilan

CAS: 919-30-2 Degradabil în mod lent

acetat de 2-metoxi-1-metiletil

CAS: 108-65-6 Degradabil în mod rapid

acetat de n-butil

CAS: 123-86-4 Degradabil în mod rapid

xilen

CAS: 1330-20-7 Degradabil în mod rapid

butanonă

CAS: 78-93-3 Degradabil în mod rapid

etilbenzen

CAS: 100-41-4 Degradabil în mod rapid

12.3. Potențial de bioacumulare

xilen

CAS: 1330-20-7 Nu este supus
bioacumulării

12.4. Mobilitate în sol

xilen

CAS: 1330-20-7 Mobil

12.5. Rezultatele evaluărilor PBT și vPvB

În baza datelor disponibile, produsul nu conține substanțe PBT/vPvB în procentaj \geq de 0.1%.

12.6. Proprietăți de perturbator endocrin

Nu conține perturbatori endocrini prezenți în concentrații \geq 0,1%

12.7. Alte efecte adverse

N.A.

SECȚIUNEA 13: Considerații privind eliminarea

13.1. Metode de tratare a deșeurilor

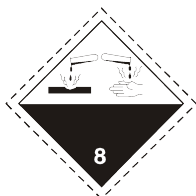
A se recupera, dacă este posibil. A se trimite către punctele de depozitare sau de incinerare, în condiții controlate. A se respecta regulamentele locale în vigoare

Nu permiteți pătrunderea produsului în sistemul de canalizare sau în cursurile de apă.

Recipientele contaminate cu produs, în conformitate cu dispozițiile legale locale sau naționale.

Odată ce produsul a expirat, acesta trebuie eliminat în conformitate cu reglementările în vigoare.

SECȚIUNEA 14: Informații referitoare la transport



14.1. Numărul ONU sau numărul de identificare

2735

14.2. Denumirea corectă ONU pentru expediție

ADR-Nume transport îmbarcare: AMINE LICHIDE, COROZIVE, N.D. (formaldehidă, produse de reacție polimerică cu 4-terțbutilfenol, m-fenilenbis(metilamină) și trimetilhexan-1,6-diamină)

IATA-Nume transport îmbarcare: AMINES, LIQUID, CORROSIVE, N.O.S. POLYAMINES, LIQUID, CORROSIVE, N.O.S. (formaldehidă, produse de reacție polimerică cu 4-terțbutilfenol, m-fenilenbis(metilamină) și trimetilhexan-1,6-diamină)

IMDG-Nume transport îmbarcare: AMINES, LIQUID, CORROSIVE, N.O.S. POLYAMINES, LIQUID, CORROSIVE, N.O.S. (formaldehidă, produse de reacție polimerică cu 4-terțbutilfenol, m-fenilenbis(metilamină) și trimetilhexan-1,6-diamină)

14.3. Clasa (clasele) de pericol pentru transport

ADR-clasa: 8

IATA-Clasa: 8

IMDG-Clasa: 8

14.4. Grupul de ambalare

ADR-Grup Ambalare: II

IATA-Grup Ambalare: II

IMDG-Grup Ambalare: II

14.5. Pericole pentru mediul înconjurător

Poluant marin: Nu

Poluant ambiental: Nu

IMDG-EMS: F-A, S-B

14.6. Precauții speciale pentru utilizatori

Drumuri și Căi Ferate (ADR-RID):

ADR-Etichetă: 8

ADR - Număr de identificare a pericolului: 80

ADR-Dispoziții Speciale: 274

ADR-Cod de restricție în tunel:

Aer (IATA):

IATA-Aeronavă de pasagerit: 851

IATA-Aeronavă de marfă: 855

IATA-Etichetă: 8

IATA-Riscul secundar: -

IATA-Erg: 8L

IATA-Dispoziții Speciale: A3 A803

Mare (IMDG):

IMDG-Depozitare și manipulare: Category A

IMDG-Segregare: SG35 SGG18

IMDG-Riscul secundar: -

IMDG-Dispoziții Speciale: 274

14.7. Transportul maritim în vrac în conformitate cu instrumentele OMI

N.A.

SECȚIUNEA 15: Informații de reglementare

15.1. Regulamente/legislație în domeniul securității, al sănătății și al mediului specifice (specifică) pentru substanța sau amestecul în cauză

Directiva 98/24/CE (Riscuri în legătură cu agenții chimici la locul de muncă)

Directiva 2000/39/CE (Valori limită a expunerii profesionale)

Directiva 2010/75/UE

Regulamentul (CE) nr. 1907/2006 (REACH)

Regulamentul (CE) nr. 1272/2008 (CLP)

Regulamentul (CE) nr. 790/2009 (ATP 1 CLP) și (EU) nr. 758/2013

Regulamentul (EU) nr. 2020/878

Regulamentul (EU) nr. 286/2011 (ATP 2 CLP)

Regulamentul (EU) nr. 618/2012 (ATP 3 CLP)

Regulamentul (EU) nr. 487/2013 (ATP 4 CLP)

Regulamentul (EU) nr. 944/2013 (ATP 5 CLP)

Regulamentul (EU) nr. 605/2014 (ATP 6 CLP)

Regulamentul (EU) nr. 2015/1221 (ATP 7 CLP)

Regulamentul (EU) nr. 2016/918 (ATP 8 CLP)

Regulamentul (EU) nr. 2016/1179 (ATP 9 CLP)

Regulamentul (EU) nr. 2017/776 (ATP 10 CLP)

Regulamentul (EU) nr. 2018/669 (ATP 11 CLP)

Regulamentul (EU) nr. 2018/1480 (ATP 13 CLP)

Regulamentul (EU) nr. 2019/521 (ATP 12 CLP)

Regulamentul (EU) nr. 2020/217 (ATP 14 CLP)

Regulamentul (EU) nr. 2020/1182 (ATP 15 CLP)

Regulamentul (EU) nr. 2021/643 (ATP 16 CLP)

Regulamentul (EU) nr. 2021/849 (ATP 17 CLP)

Regulamentul (EU) nr. 2022/692 (ATP 18 CLP)

Regulamentul (EU) nr. 2023/1434 (ATP 19 CLP)

Regulamentul (EU) nr. 2023/1435 (ATP 20 CLP)

Regulamentul (EU) nr. 2024/197 (ATP 21 CLP)

Restricții referitoare la produsele sau substanțele conținute de acestea conform Anexei XVII Regulamentul (CE) 1907/2006 (REACH) cu modificările ulterioare:

Restricții referitoare la produs: 3

Restricții referitoare la substanțele conținute: 40, 75

Dispoziții în legătură cu directiva EU 2012/18 (Seveso III):

Nici una

Regulamentul (UE) nr. 649/2012 (Regulamentul PIC)

Nu există substanțe menționate

Clasa Germană a Periculozității Apei

Clasa 3: foarte periculos.

Substanțe SVHC:

În baza datelor disponibile, produsul nu conține substanțe SVHC în procentaj \geq de 0.1%.

15.2. Evaluarea securității chimice

Nu a fost efectuată nici o Evaluare de Securitate Chimică pentru amestecul

SECȚIUNEA 16: Alte informații

Cod	Descriere
EUH066	Expunerea repetată poate provoca uscarea sau crăparea pielii.
EUH071	Corosiv pentru căile respiratorii.
H225	Lichid și vapori foarte inflamabili.
H226	Lichid și vapori inflamabili.
H302	Nociv în caz de înghițire.
H304	Poate fi mortal în caz de înghițire și de pătrundere în căile respiratorii.
H312	Nociv în contact cu pielea.
H314	Provoacă arsuri grave ale pielii și lezarea ochilor.
H315	Provoacă iritarea pielii.
H317	Poate provoca o reacție alergică a pielii.
H318	Provoacă leziuni oculare grave.
H319	Provoacă o iritare gravă a ochilor.
H332	Nociv în caz de inhalare.
H335	Poate provoca iritarea căilor respiratorii.
H336	Poate provoca somnolență sau amețeală.
H351	Susceptibil de a cauza cancer dacă este inhalat.
H372	Provoacă daune organelor în caz de expunere îndelungată sau repetată prin inhalare.
H373	Poate provoca leziuni ale organelor în caz de expunere prelungită sau repetată.
H373	Poate provoca daune organelor în caz de expunere îndelungată sau repetată prin inhalare și prin înghițire.
H400	Foarte toxic pentru mediul acvatic.
H411	Toxic pentru mediul acvatic cu efecte pe termen lung.
H412	Nociv pentru mediul acvatic cu efecte pe termen lung.

Cod	Clasa de pericol și categoria de pericol	Descriere
2.6/2	Flam. Liq. 2	Lichid inflamabil, Categoria 2
2.6/3	Flam. Liq. 3	Lichid inflamabil, Categoria 3
3.1/4/Dermal	Acute Tox. 4	Toxicitate acută (dermică), Categoria 4
3.1/4/Inhal	Acute Tox. 4	Toxicitate acută (inhalare), Categoria 4
3.1/4/Oral	Acute Tox. 4	Toxicitate acută (orală), Categoria 4
3.10/1	Asp. Tox. 1	Pericol prin aspirare, Categoria 1
3.2/1A	Skin Corr. 1A	Corodarea pielii, Categoria 1A
3.2/1B	Skin Corr. 1B	Corodarea pielii, Categoria 1B
3.2/2	Skin Irrit. 2	Iritarea pielii, Categoria 2
3.3/1	Eye Dam. 1	Lezarea gravă a ochilor, Categoria 1
3.3/2	Eye Irrit. 2	Iritarea ochilor, Categoria 2
3.4.2/1	Skin Sens. 1	Sensibilizarea pielii, Categoria 1
3.4.2/1A	Skin Sens. 1A	Sensibilizarea pielii, Categoria 1A
3.4.2/1B	Skin Sens. 1B	Sensibilizarea pielii, Categoria 1B
3.6/2	Carc. 2	Cancerigenitate, Categoria 2
3.8/3	STOT SE 3	Toxicitate asupra unui organ țintă specific – o singură expunere, Categoria 3
3.9/1	STOT RE 1	Toxicitate asupra unui organ țintă specific – expunere repetată, Categoria 1
3.9/2	STOT RE 2	Toxicitate asupra unui organ țintă specific – expunere repetată, Categoria 2
4.1/A1	Aquatic Acute 1	Pericol acut pentru mediul acvatic, Categoria 1
4.1/C2	Aquatic Chronic 2	Pericol cronic (pe termen lung) pentru mediul acvatic, Categoria 2
4.1/C3	Aquatic Chronic 3	Pericol cronic (pe termen lung) pentru mediul acvatic, Categoria 3

Clasificarea și procedura utilizate pentru realizarea clasificării pentru amestecuri în conformitate cu Regulamentul (CE) nr. 1272/2008 [CLP]:

Clasificare conform Regulamentului (CE) nr. 1272/2008	Procedura de clasificare
Acute Tox. 4, H302	Metoda de calcul
Skin Corr. 1B, H314	Metoda de calcul

Skin Sens. 1, H317
Aquatic Chronic 3, H412

Metoda de calcul
Metoda de calcul

Acest document a fost întocmit de un tehnician competent în domeniul SDS și care este pregătit în mod corespunzător.

Principalele surse bibliografice:

ECDIN - Rețeaua de date și informații de mediu privind produsele chimice - Centrul comun de cercetare, Comisia Comunităților Europene
SAX PROPRIETĂȚI PERICULOASE ALE MATERIALELOR INDUSTRIALE - Ediția a opta - Van Nostrand Reinold
Fișe tehnice de securitate ale furnizorilor de materii prime.

Aceste informații se bazează pe cunoștințele deținute la data menționată mai sus. Se referă numai la produsul menționat și nu constituie o garanție a calității pentru cazurile particulare

Este de datoria utilizatorului să se asigure că aceste informații sunt adecvate și corespund domeniului specific de utilizare

Această FTS anulează și înlocuiește pe cele emise anterior.

Legenda cu abrevierile și acronimele folosite în fișa cu date de securitate

ACGIH: Conferința Americană a Igieniştilor Industriali Guvernamentali
ADR: Acordul European referitor la Încărcătura Internațională de Bunuri Periculoase pe Drumuri
ATE: Toxicitate Acută Estimată
ATEmix: Estimarea toxicității acute (Amestecuri)
BEI: Index de Expunere Biologică
CAS: Chemical Abstracts Service (departament al Societății Americane de Chimie)
CAV: Centrul de Otrăvuri
CE: Comunitatea Europeană
CLP: Clasificare, Etichetare, Ambalare
CMR: Cancerigene, Mutagene și Toxice pentru reproducere
COV: Compus Organic Volatil
CSA: Evaluarea Securității Chimice
CSR: Raportul Securității Chimice
DNEL: Nivel Derivat Fără Efect
EC50: Jumătate din Concentrația Efectivă Maximă
ECHA: Agenția Europeană pentru Produse Chimice
EINECS: Inventarul European al Substanțelor Chimice Existente pe piață
ES: Scenariul de Expunere
GefStoffVO: Ordonanță în legătură cu Substanțele Periculoase, Germania
GHS: Sistemul Mondial Armonizat de Clasificare și Etichetare a Produselor Chimice
IARC: Agenția Internațională pentru Cercetare în Domeniul Cancerului
IATA: Asociația Internațională de Transport Aerian
IC50: jumătate din concentrația inhibitorie maximă
IMDG: Coduri Maritime Internaționale pentru Bunurile Periculoase
LC50: Concentrația letală pentru un procent de 50% din populația test
LD50: Doza letală pentru un procent de 50% din populația test
LDLo: Doză Letală Scăzută
N.A.: Nu se aplică
N/A: Nu se aplică
N/D: Nedefinit/Nu este disponibil
N.D.: Nu este disponibil
NIOSH: Institutul Național pentru Securitate și Sănătate în Muncă
NOAEL: Nu există un Nivel al Efectelor Adverse Observat
OSHA: Administrația Securității și Sănătății în Muncă.
PBT: Persistente, Bioacumulative și Toxice
PGK: Instrucțiuni de ambalare
PNEC: Concentrația Fără Efect Prevăzută
PSG: Pasageri
RID: Regulamentul Referitor la Transportul Internațional de Bunuri Periculoase pe Calea Ferată
STEL: Limita de Expunere pe Termen Scurt
STOT: Toxicitatea pentru Organul Jintă Specific
TLV: Valoarea Limită a Pragului
TLV-TWA: Valoarea Limită a Pragului pentru Durata Ponderată Medie 8 ore pe zi (Standard ACGIH)
vPvB: Foarte Persistent, Foarte Bioacumulativ.
WGK: Clasa Germană a Periculozității Apei

Paragrafe modificate de la ultima revizuire:

- SECȚIUNEA 2: Identificarea pericolelor
- SECȚIUNEA 3: Compoziție/informații privind componenții
- SECȚIUNEA 7: Manipulare și depozitare

- SECȚIUNEA 8: Controale ale expunerii/protecția personală
- SECȚIUNEA 9: Proprietățile fizice și chimice
- SECȚIUNEA 11: Informații toxicologice
- SECȚIUNEA 12: Informații ecologice
- SECȚIUNEA 14: Informații referitoare la transport
- SECȚIUNEA 15: Informații de reglementare
- SECȚIUNEA 16: Alte informații

butanone

Substance identification

Chemical Name: butanone

CAS number: 78-93-3

Date - Version: June 25, 2021

USE IN COATINGS - INDUSTRIAL USE

SECTION 1. TITLE OF THE EXPOSURE SCENARIO

Title

Use in coatings - Industrial use

Sector of use

SU3

Process categories

PROC1, PROC10, PROC13, PROC14, PROC15, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9

Environmental Release Categories

ERC4

Specific Environmental Release Categories

ESVOC 4.3a v1

Processes, tasks, activities considered

Considers use in coating (paints, inks, adhesives, etc.) including exposure during use (including receipt of material, storage, preparation and transfer from bulk or semi-bulk, spray, roller, brush application, spraying, dipping, flow, fluid layers in production lines and in film formation) and equipment cleaning, maintenance and associated laboratory activities.

SECTION 2. OPERATING CONDITIONS AND RISK MANAGEMENT MEASURES

SECTION 2.1 WORKER EXPOSURE CONTROL

Product features

Liquid

Duration, frequency and quantity

Covers daily exposure up to 8 hours (unless otherwise defined) [G2].

Covers the substance in the product up to 100% [G13].

Additional operating conditions regarding worker exposure

It is assumed that good basic industrial hygiene practices are applied.

Assumes use at not more than 20°C above ambient temperature [G15].

Contribution to the scenario/specific risk control measures and operating conditions

General measures (flammable liquid)

Risks relating to the physical-chemical hazards of the substances, such as flammability or explosiveness, can be controlled by adopting risk management measures in the workplace. It is recommended to refer to ATEX directive version 2014/34/EU. Based on the implementation of a series of storage risk management measures for the identified uses, the risks can be considered as being controlled to an acceptable level.

Use in closed systems. Avoid sources of ignition - No smoking. Handle in a well-ventilated area to prevent the formation of explosive atmospheres. Use protective equipment and systems approved for flammable substances.

Limit the speed in the lines while pumping to avoid the generation of electrostatic discharges. Ground the container and the receiving device. Use non-sparking tools.

Follow relevant EU/national regulations. Refer to the SDS for additional recommendations.

General exposure (closed systems) PROC1

Handle substance within a closed system.

General exposure (closed systems) with sampling Use in closed systems PROC2

Handle substance within a closed system. Ensure material transfers are managed using closed or air exhaust systems.

Film formation - forced drying, drying and other technologies. Operation is carried at at elevated temperatures (>20° C above ambient temperature). PROC2

Handle substance within a closed system. Ensure material transfers are managed using closed or air exhaust systems.

Mixing operations (closed systems) General exposure (closed systems) PROC3

Handle substance within a closed system. Ensure material transfers are managed using closed or air exhaust systems.

Film formation - Air dry PROC4

Provide supplementary ventilation to points where emissions occur.

Preparation of material for use Mixing operations (open systems) PROC5

Provide supplementary ventilation to points where emissions occur.

Spraying (automatic/robotic) PROC7

Perform in a laminar flow ventilated booth.

Manual Spray PROC7

Wear respiratory protection in accordance with EN 140 with filter type A or better. Ensure a sufficient amount of controlled ventilation (10 to 15 air changes per hour).

Material transfers PROC8a

Clear transfer lines prior to de-coupling. Provide supplementary ventilation and other openings.

Material transfers PROC8b

Clear transfer lines prior to de-coupling.

Roller, spray and flow application PROC10

Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

Immersion and pouring PROC13

Provide supplementary ventilation to points where emissions occur. Avoid manual contact with wet work pieces.

Laboratory activities PROC15

No other specific measure identified.

Material transfers Transfer of drums/quantities Transfer from/pouring from containers PROC9

Provide supplementary ventilation and other openings.

Production of preparations or articles by tableting, compression, extrusion, pelettisation PROC14

Provide supplementary ventilation to points where emissions occur.

SECTION 2.2 ENVIRONMENTAL EXPOSURE CONTROL

Product features

Not applicable.

Duration, frequency and quantity

Not applicable.

Environmental factors do not influence risk management

Not applicable.

Additional operating conditions relating to environmental exposure

No environmental exposure verification has been submitted

Technical conditions and process-level (source) measures to prevent releases

Not applicable

Local technical conditions and measures to reduce and limit discharges, air emissions and soil releases

Not applicable.

Organisational measures to avoid/limit release from a site

Not applicable.

Conditions and measures for the municipal sewage treatment plant

Not applicable.

Conditions and measures for external treatment of waste

Not applicable.

Conditions and measures for external recovery of waste

Not applicable.

SECTION 3. EXPOSURE ESTIMATES

SECTION 3.1 HEALTH

Predicted exposure is not expected to exceed the applicable exposure limits (given in section 8 of the safety datasheet) when the operational conditions and risk management measures given in section 2 are implemented.

The ECETOC TRA model has been used to assess worker exposure, unless otherwise indicated. [G21]

SECTION 3.2 ENVIRONMENT

Not applicable.

SECTION 4. GUIDE FOR CHECKING COMPLIANCE WITH THE EXPOSURE SCENARIO

SECTION 4.1 HEALTH

The available risk data do not indicate the need to establish a DNEL for other health effects. [G36]

Risk management measures are based on the qualitative determination of the risk.

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

SECTION 4.2 ENVIRONMENT

Not applicable.

USE IN COATINGS - PROFESSIONAL USE

SECTION 1. TITLE OF THE EXPOSURE SCENARIO

Title

Use in coatings - Professional use.

Sector of use

SU22

Process categories

PROC1, PROC10, PROC11, PROC13, PROC15, PROC19, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b

Environmental Release Categories

ERC8a, ARC8d

Processes, tasks, activities considered

Considers use in coating (paints, inks, adhesives, etc.) including exposure during use (including receipt of material, storage, preparation and transfer from bulk or semi-bulk, spray, roller, brush application, applied by hand or similar methods and film formation) and equipment cleaning, maintenance and associated laboratory activities.

SECTION 2. OPERATING CONDITIONS AND RISK MANAGEMENT MEASURES

SECTION 2.1 WORKER EXPOSURE CONTROL

Product features

Liquid

Duration, frequency and quantity

Covers daily exposure up to 8 hours (unless otherwise defined) [G2].

Covers the substance in the product up to 100% [G13].

Additional operating conditions regarding worker exposure

It is assumed that good basic industrial hygiene practices are applied.

Assumes use at not more than 20°C above ambient temperature [G15].

Contribution to the scenario/specific risk control measures and operating conditions

General measures (flammable liquid)

Risks relating to the physical-chemical hazards of the substances, such as flammability or explosiveness, can be controlled by adopting risk management measures in the workplace. It is recommended to refer to ATEX directive version 2014/34/EU. Based on the implementation of a series of storage risk management measures for the identified uses, the risks can be considered as being controlled to an acceptable level.

Use in closed systems. Avoid sources of ignition - No smoking. Handle in a well-ventilated area to prevent the formation of explosive atmospheres. Use protective equipment and systems approved for flammable substances.

Limit the speed in the lines while pumping to avoid the generation of electrostatic discharges. Ground the container and the receiving device. Use non-sparking tools. Follow relevant EU/national regulations. Refer to the SDS for additional recommendations.

General exposure (closed systems) PROC1

Handle substance within a closed system.

Filling/preparation of equipment from drums or vessels Use in closed systems PROC2

Handle substance within a closed system.

General exposure (closed systems). Use in closed systems PROC2

Handle substance within a closed system. Ensure material transfers are managed using closed or air exhaust systems.

Preparation of material for use Use in closed batch processes PROC3

Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

Film formation - Air dry Exterior PROC4

Avoid carrying out operation for more than 4 hours. Or, Wear respiratory protection in accordance with EN 140 with filter type A or better.

Film formation - Air dry Internal PROC4

Provide supplementary ventilation to points where emissions occur.

Preparation of material for use Mixing operations (open systems) PROC5

Ensure a sufficient amount of controlled ventilation (10 to 15 air changes per hour). Or, Wear respiratory protection in accordance with EN 140 with filter type A or better.

Preparation of material for use Outdoor. PROC5

Wear respiratory protection in accordance with EN 140 with filter type A or better.

Material transfers Transfer of drums/quantities Non-dedicated system PROC8a

Ensure a sufficient amount of general ventilation is achieved by natural ventilation through doors, windows, etc. Controlled ventilation means supply and removal of air by an active fan. Avoid carrying out operation for more than 1 hour. Or, Wear respiratory protection in accordance with EN 140 with filter type A or better.

Material transfers Transfer of drums/quantities Dedicated plant PROC8b

Provide supplementary ventilation and other openings.

Roller, spray and flow application Internal PROC10

Ensure a sufficient amount of controlled ventilation (10 to 15 air changes per hour).

Roller, spray and flow application Exterior PROC10

Wear respiratory protection in accordance with EN 140 with filter type A or better.

Manual Spray Internal PROC11

Carry out in a vented booth or extracted enclosure. Wear respiratory protection in accordance with EN 140 with filter type A or better.

Manual Spray Exterior PROC11

Wear respiratory protection in accordance with EN 140 with filter type A or better.

Immersion and pouring Internal PROC13

Provide supplementary ventilation to points where emissions occur. Avoid manual contact with wet work pieces.

Immersion and pouring Exterior PROC13

Ensure operation is undertaken outdoors. Avoid manual contact with wet work pieces.

Laboratory activities PROC15

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Manual application - Finger Paints, Chalks, Stickers: Internal PROC19

Ensure a sufficient amount of general ventilation is achieved by natural ventilation through doors, windows, etc. Controlled ventilation means supply and removal of air by an active fan. Wear respiratory protection in accordance with EN 140 with filter type A or better.

Manual application - Finger Paints, Chalks, Stickers: Exterior PROC19

Ensure operation is undertaken outdoors. Wear respiratory protection in accordance with EN 140 with filter type A or better.

SECTION 2.2 ENVIRONMENTAL EXPOSURE CONTROL

Product features

Not applicable.

Duration, frequency and quantity

Not applicable.

Environmental factors do not influence risk management

Not applicable.

Additional operating conditions relating to environmental exposure

No environmental exposure verification has been submitted

Technical conditions and process-level (source) measures to prevent releases

Not applicable

Local technical conditions and measures to reduce and limit discharges, air emissions and soil releases

Not applicable.

Organisational measures to avoid/limit release from a site

Not applicable.

Conditions and measures for the municipal sewage treatment plant

Not applicable.

Conditions and measures for external treatment of waste

Not applicable.

Conditions and measures for external recovery of waste

Not applicable.

SECTION 3. EXPOSURE ESTIMATES

SECTION 3.1 HEALTH

Predicted exposure is not expected to exceed the applicable exposure limits (given in section 8 of the safety datasheet) when the operational conditions and risk management measures given in section 2 are implemented.

The ECETOC TRA model has been used to assess worker exposure, unless otherwise indicated. [G21]

SECTION 3.2 ENVIRONMENT

Not applicable.

SECTION 4. GUIDE FOR CHECKING COMPLIANCE WITH THE EXPOSURE SCENARIO

SECTION 4.1 HEALTH

The available risk data do not indicate the need to establish a DNEL for other health effects. [G36]

Risk management measures are based on the qualitative determination of the risk.

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

SECTION 4.2 ENVIRONMENT

Not applicable.

n-butyl acetate

Substance identification

Chemical Name: n-butyl acetate

CAS number: 123-86-4

Date - Version: 07/06/2017 10.0

1. USE IN COATINGS. USE IN PAINTS. USE IN PRINTING INKS. USE IN ADHESIVES.

Short title of the exposure scenario: Use in coatings. Use in paints. Use in printing inks. Use in adhesives.

SU3; ERC4; PROC7, PROC10, PROC13

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: CEPE SPERC4.1a.v1

Operating conditions

Yearly amount used in EU: 5,000,000 kgs

Minimum emission days per year: 225

Emission factor to air: 0.8%

Emission factor in water: 2%

Emission factor in soil: 0%

Receiving surface water (flow rate): 18,000 m³/day

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Suitable measures to reduce emissions to air can be: Exhaust gas treatment with thermal oxidation.

Type of treatment plant: Municipal sewage treatment plant.

Assumed sewage treatment plant flow: 2,000 m³/day

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Environment

Risk Characterization Ratio (RCR): 0.925355

Risk from environmental exposure is driven by soil.

Maximum safe use amount: 1080.7 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application

Area of use: Industrial

Operating conditions

Substance concentration: n-butyl acetate content: ≥0 - ≤100%

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Minimize manual tasks.

Daily general cleaning of equipment and work area.

Regular inspection and maintenance of equipment and machinery.

Ensure that the activity is performed outside the operator's respiratory zone (head-product distance greater than 1m).

Avoid frequent and direct contact with the substance.

Check that risk reduction measures are implemented and that the conditions of use are respected.

Avoid splashes.

Make sure the spray booth is used.

Wear suitable clothing.

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.

Exposure estimation: 4.2857 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.38961

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.

Exposure estimation: 0.0001 mg/m³

Risk Characterization Ratio (RCR): 0.000001

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra> Please note that a revised version was used (see exposure estimates).

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes

Area of use: Industrial

Operating conditions

Substance concentration: n-butyl acetate content: ≥ 0 - $\leq 100\%$

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Forced local ventilation. Effectiveness: 90%

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.

Exposure estimation: 2.7429 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.249351

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.

Exposure estimation: 24.1996 mg/m³

Risk Characterization Ratio (RCR): 0.080665

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping and pouring

Area of use: Industrial

Operating conditions

Substance concentration: n-butyl acetate content: ≥ 0 - $\leq 100\%$

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Forced local ventilation. Effectiveness: 90%

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.

Exposure estimation: 1.3714 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.124675

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.

Exposure estimation: 24.1996 mg/m³

Risk Characterization Ratio (RCR): 0.080665

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra>

2. USE IN COATINGS. USE IN PAINTS. USE IN PRINTING INKS. USE IN ADHESIVES.

Short title of the exposure scenario: Use in coatings. Use in paints. Use in printing inks. Use in adhesives.
SU3; ERC4; PROC7, PROC10, PROC13

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: CEPE SPERC4.1a.v1

Operating conditions

Yearly amount used in EU: 43,000,000 kgs

Minimum emission days per year: 225

Emission factor to air: 0.8%

Emission factor in water: 2%

Emission factor in soil: 0%

Receiving surface water (flow rate): 18,000 m³/day

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Suitable measures to reduce emissions to air can be: Exhaust gas treatment with thermal oxidation.

Type of treatment plant: Municipal sewage treatment plant.

Assumed sewage treatment plant flow: 2,000 m³/day

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Environment

Risk Characterization Ratio (RCR): 0.925355

Risk from environmental exposure is driven by soil.

Maximum safe use amount: 1080.7 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application

Area of use: Industrial

Operating conditions

Substance concentration: n-butyl acetate content: ≥0 - ≤100%

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Minimize manual tasks.

Daily general cleaning of equipment and work area.

Regular inspection and maintenance of equipment and machinery.

Ensure that the activity is performed outside the operator's respiratory zone (head-product distance greater than 1m).

Avoid frequent and direct contact with the substance.

Check that risk reduction measures are implemented and that the conditions of use are respected.

Avoid splashes.

Make sure the spray booth is used.

Wear suitable clothing.

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.

Exposure estimation: 4.2857 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.38961

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 0.0001 mg/m³
Risk Characterization Ratio (RCR): 0.000001

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra> Please note that a revised version was used (see exposure estimates).

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes

Area of use: Industrial

Operating conditions

Substance concentration: n-butyl acetate content: ≥0 - ≤100%

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Forced local ventilation. Effectiveness: 90%

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.

Exposure estimation: 2.7429 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.249351

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.

Exposure estimation: 24.1996 mg/m³

Risk Characterization Ratio (RCR): 0.080665

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping and pouring

Area of use: Industrial

Operating conditions

Substance concentration: n-butyl acetate content: ≥0 - ≤100%

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Forced local ventilation. Effectiveness: 90%

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.

Exposure estimation: 1.3714 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.124675

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.

Exposure estimation: 24.1996 mg/m³

Risk Characterization Ratio (RCR): 0.080665

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra>

3. USE IN COATINGS. USE IN PAINTS. USE IN PRINTING INKS. USE IN ADHESIVES.

Short title of the exposure scenario: Use in coatings. Use in paints. Use in printing inks. Use in adhesives.
SU22; ERC8a, ERC8d; PROC10, PROC11, PROC13, PROC19

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: CEPE SPERC 8a.2a.v1

Operating conditions

Yearly amount used in EU: 2,000,000 kgs

Minimum emission days per year: 225

Emission factor to air: 99%

Emission factor in water: 1%

Emission factor in soil: 0%

Receiving surface water (flow rate): 18,000 m³/day

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

The wastewater treatment measures considered suitable are, for example, wastewater or sewage treatment plant.

Type of treatment plant: Municipal sewage treatment plant.

Assumed sewage treatment plant flow: 2,000 m³/day

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Environment

Risk Characterization Ratio (RCR): 0.012923

Risk from environmental exposure is driven by freshwater sediment.

Maximum safe use amount: 1934.6 kg/giorno

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: CEPE SPERC 8d.3a.v1

Operating conditions

Yearly amount used in EU: 2,000,000 kgs

Minimum emission days per year: 225

Emission factor to air: 98%

Emission factor in water: 2%

Emission factor in soil: 0%

Receiving surface water (flow rate): 18,000 m³/day

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Type of treatment plant: Municipal sewage treatment plant.

Assumed sewage treatment plant flow: 2,000 m³/day

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Environment

Risk Characterization Ratio (RCR): 0.092422

Risk from environmental exposure is driven by soil.

Maximum safe use amount: 1082 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes

Area of use: Professional

Operating conditions

Substance concentration: n-butyl acetate content: ≥ 0 - $\leq 100\%$

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Provide a good standard of general or controlled ventilation (5 to 10 air changes per hour). Effectiveness: 70%

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.

Exposure estimation: 2.7429 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.249351

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.

Exposure estimation: 145.1979 mg/m³

Risk Characterization Ratio (RCR): 0.483993

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application

Area of use: Professional

Operating conditions

Substance concentration: n-butyl acetate content: ≥ 0 - $\leq 45\%$

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Minimize manual tasks.

Daily general cleaning of equipment and work area.

Regular inspection and maintenance of equipment and machinery.

Ensure that the activity is performed outside the operator's respiratory zone (head-product distance greater than 1m).

Avoid frequent and direct contact with the substance.

Check that risk reduction measures are implemented and that the conditions of use are respected.

Avoid splashes.

Make sure the spray booth is used.

Wear suitable clothing.

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.

Exposure estimation: 10.7143 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.974026

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.

Exposure estimation: 0.0001 mg/m³

Risk Characterization Ratio (RCR): 0.000001

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra> Please note that a revised version was used (see exposure estimates).

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application

Area of use: Professional

Operating conditions

Substance concentration: n-butyl acetate content: ≥ 0 - $\leq 45\%$

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Minimize manual tasks.

Avoid frequent and direct contact with the substance.

Check that risk reduction measures are implemented and that the conditions of use are respected.

Daily general cleaning of equipment and work area.

Regular control and maintenance of equipment and machinery.

Make sure doors and windows are open (general ventilation).

Avoid splashes.

Use an adequately effective local ventilation system.

Wear suitable clothing.

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker, modified version. The concentration of the substance has been considered using a linear approach. Worker - dermal, long-term - systemic.

Exposure estimation: 4.8214 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.438312

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker, modified version. Operator - inhalation, long-term - local.

Exposure estimation: 153 mg/m³

Risk Characterization Ratio (RCR): 0.51

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra> Please note that a revised version was used (see exposure estimates).

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application

Area of use: Professional

Operating conditions

Substance concentration: n-butyl acetate content: ≥ 0 - $\leq 100\%$

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Minimize manual tasks.

Avoid frequent and direct contact with the substance.

Check that risk reduction measures are implemented and that the conditions of use are respected.

Daily general cleaning of equipment and work area.

Regular inspection and maintenance of equipment and machinery.

Avoid splashes.

Make sure doors and windows are open (general ventilation).

Wear a half face mask with a P2L filter or better.

Wear suitable clothing.

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker, modified version. The concentration of the substance has been considered using a linear approach. Worker - dermal, long-term - systemic.

Exposure estimation: 4.8214 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.438312

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker, modified version. Operator - inhalation, long-term - local.

Exposure estimation: 116 mg/m³

Risk Characterization Ratio (RCR): 0.386667

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra> Please note that a revised version was used (see exposure estimates).

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping and pouring

Area of use: Professional

Operating conditions

Substance concentration: n-butyl acetate content: ≥ 0 - $\leq 100\%$

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Provide a good standard of general or controlled ventilation (5 to 10 air changes per hour). Effectiveness: 70%

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.

Exposure estimation: 1.3714 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.124675

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.

Exposure estimation: 145.1979 mg/m³

Risk Characterization Ratio (RCR): 0.483993

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact with the only use of personal protective equipment

Area of use: Professional

Operating conditions

Substance concentration: n-butyl acetate content: ≥ 0 - $\leq 100\%$

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 240 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Forced local ventilation: Effectiveness: 80%

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Ensure a good standard of general or controlled ventilation (no less than 3-5 air changes per hour). Effectiveness: 30%

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.

Exposure estimation: 8.4857 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.771429

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.

Exposure estimation: 67.759 mg/m³

Risk Characterization Ratio (RCR): 0.225863

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact with the only use of personal protective equipment

Area of use: Professional

Operating conditions

Substance concentration: n-butyl acetate content: ≥ 0 - $\leq 100\%$

Physical state: liquid

Vapor pressure of the substance during use: 1120Pa

Process temperature: 20°C

Duration and frequency of application: 60 mins. 5 days a week

Indoor/Outdoor: Internal use

Risk management measures

Provide a good standard of general or controlled ventilation (5 to 10 air changes per hour). Effectiveness: 70%

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.

Exposure estimation: 2.8286 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.257143

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.

Exposure estimation: 145.1979 mg/m³

Risk Characterization Ratio (RCR): 0.483993

Guidance for downstream users

For a comparison term, visit <http://www.ecetoc.org/tra>

Xylene

Identification of the exposure scenario

Product name: Xylene

Reach registration number: 01-2119488216-32-XXXX

CAS number: 1330-20-7

EC number: 215-535-7

Review date: 14/02/2022 rev. 3.0

USE IN COATINGS - INDUSTRIAL USE

1. Title of the exposure scenario

Process purpose: Includes use in coatings (varnishes, inks, adhesives, etc.), including exposure during application (including material receipt, storage, bulk and semi-bulk preparation and transfer, application by spray, roller, manual spraying, dip, flow, fluid layers in production lines and in film formation) and system cleaning, maintenance and related laboratory activities.

Main sector: SU3 Industrial uses

Environment

Environmental Release Categories [ERC]: ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article).

Specific Environmental Release Category [SPERC]: ESVOC SPERC 4.3a.v1

Worker

Process categories:

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.

PROC 3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions.

PROC4 Production of chemicals with the possibility of exposure.

PROC5 Mixing or blending in batch processes

PROC7 Industrial spraying.

PROC8a Transfer of a substance or preparation (charging/discharging) at non-dedicated facilities.

PROC8a Transfer of substance or mixture (charging/discharging) at non-dedicated facilities.

PROC10 Application with rollers or brushes.

PROC13 Treatment of articles by dipping and pouring.

PROC15 Use as laboratory reagent.

PROC24 High (mechanical) energy work-up of substances bound in/on materials and/or articles.

2. Other conditions of use affecting exposure (Industrial - Environment 1)

Products features

Form: Liquid, vapor pressure 0.5 - 10 kPa at STP

Easily biodegradable.

Amounts used:

Annual amount per site: 2500 tonnes

Frequency and duration of use

Issue days: 300 days/year

Additional operating conditions relating to environmental exposure

Emission factor - air

Air release rate produced by the process (initial release prior to risk management measures): 0.98

Emission factor - water

Waste water release rate produced by the process (initial release prior to risk management measures): 0.007

Emission factor - soil

Soil release rate produced by the process (initial release prior to risk management measures): 0

Environmental factors that are not influenced by risk management

Dilution

Local fresh water dilution factor: 10

Local seawater dilution factor: 100

Risk management measures

Sewage Treatment Plant Data (STP)

Estimated substance removal from waste water via domestic sewage treatment: 95.8%

Assumed domestic sewage treatment plant flow: 2000 m³/day

Local technical conditions and measures to reduce and limit discharges and air emissions

Air:

Treat air emission to provide a typical removal efficiency of > 90%.

Water:

Avoid releasing the undiluted substance into local waste water or recover it on site. The typical on-site purification technique has a removal efficiency of 95.8%.

Ground:

Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures for external treatment of waste

Sludge treatment:

Do not spread industrial sludge on natural soils. Sewerage sludge should be burned, stored or regenerated.

Waste treatment:

No waste of the substance is formed during production.

2. Other conditions of use affecting exposure (Workers - Health 1)

Products features

Form:

Liquid, vapor pressure 0.5 - 10 kPa at STP

Concentration information: Includes concentrations up to 100%, unless otherwise indicated.

Quantities used

Not applicable.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other operational conditions affecting worker exposure

Temperature: (unless stated differently) assumes use at not more than 20°C above ambient temperature.

Ventilation Rate: Ensure a sufficient amount of controlled ventilation (10 to 15 air changes per hour). Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and process-level (source) measures to prevent releases

Technical protective measures:

Handle substance within a closed system. Provide supplementary ventilation to points where emissions occur. Ensure material transfers are managed using closed or air exhaust systems. Drain or remove substance from equipment before opening or servicing PROC7 Industrial spraying: spraying (automatic/robotic) should be carried out in a ventilated booth with laminar air flow.

Risk management measures:

PROC7 Industrial spraying.

Manual spraying.

Wear respiratory protection in accordance with EN 140 with filter type A or better.

3. Verification of exposure (Environment 1)

Environmental exposure:

Predicted exposures are not expected to exceed the specific risks (listed in chapter 8 of the safety datasheet), when the risk management measures/operational conditions outlined in section 2 are implemented.

Maximum allowable site tonnage (M_{safe}), based on release following total waste water treatment removal: 9874 kg/day

3. Exposure Verification (Health 1)

Exposure

Predicted workplace exposures are not expected to exceed the DNEL when risk identification measures are implemented.

4. Guidance to check compliance with the exposure scenario (Environment 1)

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Required removal efficiency for waste water can be achieved using on-site/off-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>).

4. Guidance to check compliance with the exposure scenario (Health 1)

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

USE IN COATINGS - PROFESSIONAL USE

1. Title of the exposure scenario

Process purpose: Includes use in coatings (varnishes, inks, adhesives, etc.), including exposure during application (including material receipt, storage, bulk and semi-bulk preparation and transfer, application by spray, roller, brush and manual spraying or similar processes and film formation) and system cleaning, maintenance and related laboratory activities.

Main sector: SU22 Professional uses

Environment

Environmental Release Categories [ERC]:

ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor).

ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor).

ERC8c Widespread use leading to inclusion into/onto article (indoor).

ERC8f Widespread use leading to inclusion into/onto article (outdoor).

Specific Environmental Release Category [SPERC]: ESVOC SPERC 8.3b.v1

Worker

Process categories:

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.

PROC 3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions.

PROC4 Production of chemicals with the possibility of exposure.

PROC5 Mixing or blending in batch processes

PROC8a Transfer of a substance or preparation (charging/discharging) at non-dedicated facilities.

PROC8a Transfer of substance or mixture (charging/discharging) at non-dedicated facilities.

PROC10 Application with rollers or brushes.

PROC11 Non-industrial spray application.

PROC13 Treatment of articles by dipping and pouring.

PROC15 Use as laboratory reagent.

PROC19 Manual activities with direct contact.

PROC24 High (mechanical) energy work-up of substances bound in/on materials and/or articles.

2. Other conditions of use affecting exposure (Industrial - Environment 1)

Products features

Form: Liquid, vapor pressure 0.5 - 10 kPa at STP Easily biodegradable.

Quantities used

Annual amount per site: 10 tonnes

Frequency and duration of use

Issue days: 365 days/year

Additional operating conditions relating to environmental exposure

Emission factor - air

Air release rate produced by the process (initial release prior to risk management measures): 0.98

Emission factor - water

Waste water release rate produced by the process (initial release prior to risk management measures): 0.01

Emission factor - soil

Soil release rate produced by the process (initial release prior to risk management measures): 0.01

Environmental factors that are not influenced by risk management

Dilution

Local fresh water dilution factor: 10

Local seawater dilution factor: 100

Risk management measures

Sewage Treatment Plant Data (STP)

Estimated substance removal from waste water via domestic sewage treatment 95.8%

Assumed domestic sewage treatment plant flow: 2000 m³/day

Local technical conditions and measures to reduce and limit discharges and air emissions

Air: Treat air emission to provide a typical removal efficiency of 0%.

Water: The typical on-site purification technique has a removal efficiency of 95.8%.

Conditions and measures for external treatment of waste

Waste treatment: External treatment and disposal of waste should comply with applicable local and/or national regulations.

2. Other conditions of use affecting exposure (Workers - Health 1)

Products features

Form:

Liquid, vapor pressure 0.5 - 10 kPa at STP

Concentration information:

Includes concentrations up to 100%, unless otherwise indicated.

Quantities used

Not applicable.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other operational conditions affecting worker exposure

Temperature:

(unless stated differently) assumes use at not more than 20°C above ambient temperature.

Ventilation Rate:

Provide a good standard of controlled ventilation (10 to 15 air changes per hour) or ensure operation is undertaken outdoors.

Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and process-level (source) measures to prevent releases

Technical protective measures:

Handle substance within a closed system. Provide supplementary ventilation to points where emissions occur. Ensure material transfers are managed using closed or air exhaust systems. Clean/flush equipment prior to opening or maintenance. Transport on closed roads. PROC11 Non-industrial spray application. Indoor use. Perform in a laminar flow ventilated booth. PROC15 Use as laboratory reagents handle under fume hood or extract air.

Organizational measures to prevent/limit releases, dispersion and exposure

Organizational measures

Avoid activities with an exposure of more than 4 hours.

Hand Application - Finger Paints, Chalks, Stickers:

Limit the amount of substance in the mixture to 5%.

Risk management measures

Wear protective gloves according to EN 374, resistant to solvents.

PROC10 Application with rollers or brushes.

PROC11 Non-industrial spray application. Outdoor use.

PROC13 Treatment of articles by dipping and pouring. Outdoor use.

Wear respiratory protection in accordance with EN 140 with filter type A or better.

3. Verification of exposure (Environment 1)

Environmental exposure

Predicted exposures are not expected to exceed the specific risks (listed in chapter 8 of the safety datasheet), when the risk management measures/operational conditions outlined in section 2 are implemented.

Maximum allowable site tonnage (Msafe), based on release following total waste water treatment removal: 5969 kg/day

3. Exposure Verification (Health 1)

Exposure

Predicted workplace exposures are not expected to exceed the DNEL when risk identification measures are implemented.

4. Guidance to check compliance with the exposure scenario (Environment 1)

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Required removal efficiency for waste water can be achieved using on-site/off-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>).

4. Guidance to check compliance with the exposure scenario (Health 1)

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Benzyl alcohol

Substance identification

Chemical Name: Benzyl alcohol

CAS number: 100-51-6

Date: 07/12/2012

INDUSTRIAL USE

Exposure scenario for industrial use in adhesives, sealants, coatings and paints, fillers, finger paints, metallic and non-metallic surface treatment products, inks and toners (PC1, PC9a, PC9b, PC9c, PC14, PC15, PC18)

1. TITLE

Systematic title based on the use descriptor: SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Processes, activities covered:

Mixing or dilution in batch processes

Processing by compression/pelletisation, calendaring or use during foam production

Transfer operations from/to large or small containers

Treatment of objects by brush/roller application, spraying or immersion/pouring

Lubrication at high energy conditions

Use as a laboratory agent

Handling of substances bound in materials/articles

Evaluation method:

ECETOC TRA (April 2010), EUSES (v.2.1)

2. OPERATING CONDITIONS AND RISK MANAGEMENT MEASURES

Process categories for human health and environmental release categories for exposure assessment:

PC1: PROC5, 7, 8a, 8b, 9, 10, 12, 13, 14 spERC ESVOC 5 (related to ERC4)

PC9a/b/c: PROC5, 7, 8a, 8b, 9, 10, 13 spERC ESVOC 5 (related to ERC4)

PC14: PROC5, 8a, 8b, 9, 15, 23, 24, 25 spERC ESVOC 5 (related to ERC4)

PC15: PROC5, 8a, 8b, 9, 15 spERC ESVOC 5 (related to ERC4)

PC18: PROC7, 8a, 8b, 9, 10, 13 spERC ESVOC 5 (related to ERC4)

2.1 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC12, PROC13, PROC14, PROC15

Product features

Concentration ≤ 40%

Physical state: liquid

Quantity used

Not applicable

Frequency and duration of use/exposure

Duration of exposure per day: 8h (full shift, indoors)

Duration of exposure per year: 230 days

Human factors not influenced by risk management

Breathing volume in the conditions of use: 10 m³/8h-day (light activity)

Body weight: 70kg (worker)

Other operational conditions affecting worker exposure

Internal use

Use at room temperature

Technical conditions and measures to control dispersion from source to the worker

Local vapor ventilation (efficiency > 90 %) or other adequate ventilation required

Organizational measures to prevent/limit releases, dispersion and exposure

Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures related to personal protection, hygiene and health evaluation

PROC7:

Respiratory protection recommended (95% efficiency) as described in section 8.

Wear safety goggles as described in section 8.

Wear protective clothing as described in section 8.

2.2 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC23, PROC24, PROC25

Product features

Concentration ≤ 40%

Physical state: liquid

Quantity used

Not applicable

Frequency and duration of use/exposure

Duration of exposure per day: 8h (full shift, indoors and outdoors)

Duration of exposure per year: 230 days

Human factors not influenced by risk management

Breathing volume in the conditions of use: 10 m³/8h-day (light activity)

Body weight: 70kg (worker)

Other operational conditions affecting worker exposure

Indoor use.

Use at room temperature

Technical conditions and measures to control dispersion from source to the worker

Local vapor ventilation (efficiency > 90 %) or other adequate ventilation required.

Organizational measures to prevent/limit releases, dispersion and exposure

Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear safety goggles as described in section 8.

Wear protective clothing as described in section 8.

2.3 EXPOSURE SCENARIO CONTROLLING ENVIRONMENTAL EXPOSURE FOR SPERC ESVOC 5 - RELATED TO ERC4

Product features

Not relevant

Quantity used

Number of sites: > 1

Yearly amount used in the region: PC 1, 9a, 9b, 9c, 14, 15, 18: 412 to: 570 to (10 % rule applies)

Frequency and duration of use

spERC ESVOC 5 (related to ERC4): 300 days/year

Environmental factors not influenced by risk management

Local fresh water dilution factor: 10

Receiving surface water flow: 18,000 m³/d

Local seawater dilution factor 100

Other operational conditions affecting environmental exposure

Indoor and outdoor use

Technical conditions and measures at process level (source) to prevent release

spERC ESVOC 5 (related to ERC4):

Fraction of tonnage released to air: 9,8 %

Fraction of tonnage released to wastewater: 2 %

Fraction of tonnage released into industrial ground: 0 %

Local technical conditions and measures to reduce and limit discharges, atmospheric emissions and soil release

Waste water must be sent to a dedicated treatment plant or treated with other suitable techniques. Floors should be waterproof and resistant to liquids.

Organizational measures to prevent/limit release from site

Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures for the domestic sewage treatment plant

Dimensions of wastewater treatment plant: 2000 m³/d (removal rate: 87.4 %)

Conditions and measures for external treatment of waste for disposal

No specific measures. For general conditions and measures, see section 13.

Conditions and measures for external recovery of waste

No specific measures. For general conditions and measures, see section 13.

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

Workers

Exposure assessment (human):

ECETOC TRA model (April 2010 version). Dermal exposure estimates of ECETOC TRA have been corrected for concentration.

Exposure estimation:

Individual and combined (skin and inhalation) exposure values are below the DNELs (RCR ratios < 1).

Environment

Exposure assessment (environment):

EUSES 2.1: ERC4 modified with ESVOC 5 (ESVOC SPERC 4.3a.v1)

Exposure estimation:

The predicted exposure concentrations for air, water and soil are lower than the derived PNECs, giving an RCR < 1.

4. GUIDANCE FOR DOWNSTREAM USERS TO ASSESS WHETHER THEY COMPLY WITH THE LIMITS SET BY THE EXPOSURE SCENARIO

Environment:

Under the conditions listed above the process is considered safe. Direct release to water and soil should be avoided, air emissions should be minimised. Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

Health:

Under the conditions listed above the process is considered safe. Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

Further good practice advice beyond the REACH CSA

Environment: Not applicable

Health: On possible contact with the product (sampling, use, spills, product leaks, cleaning): wear protective clothing. Wear protective gloves and safety goggles. See section 8 for information on appropriate personal protective equipment.

PROFESSIONAL USE

Exposure scenario for professional uses of benzyl alcohol consisting of mixing/loading and charging/discharging, roller, brush, spray or dip application (PC0, PC1, PC09a, 9b, 9c, PC14, PC15, PC18, PC21, PC26, PC31, PC32).

1. TITLE

Systematic title based on the use descriptor: SU22 - Professional uses: Generalized use

Processes, activities covered:

Mixing or dilution in batch processes BY HAND

Transfer operations from/to large or small containers

Treatment of objects by brush/roller application, spraying or immersion/pouring

Hand mixing with intimate contact and only PSD available

Handling of substances bound in materials/articles

Evaluation method:

ECETOC TRA (April 2010), EUSES (v.2.1)

2. OPERATING CONDITIONS AND RISK MANAGEMENT MEASURES

Process categories for human health and environmental release categories for exposure assessment:

PC0: PROC5, 8a, 8b, 9, 10, 11, 13, 19 - ERC8a, 8d

PC1: PROC5, 8a, 8b, 9, 10, 11, 13, 19 - ERC8a, 8d

PC9a, 9b, 9c: PROC5, 8a, 8b, 9, 10, 11, 13, 19 - ERC8a, 8d

PC14: PROC8a, 8b, 9, 10, 11, 13, 19, 23, 24, 25 - ERC8a, 8d

PC15: PROC8a, 8b, 9, 10, 11, 13, 19 - ERC8a, 8d

PC18: PROC5, 8a, 8b, 10, 11, 13, 19 - ERC8a, 8d

PC21: PROC8a, 8b, 15 - ERC8a, 8d

PC26: PROC5, 6, 8a, 8b, 11, 13, 14, 19, 21 - ERC8a, 8d

PC30: PROC8a, 8b - ERC8a, 8d

PC31: PROC8b, 10, 11 - ERC8a, 8d

PC32: PROC8a, 8b, 9, 10, 11 - ERC8a, 8d

Number of sites: > 1

2.1 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC12, PROC13, PROC14, PROC15

Product features

Concentration ≤ 40%

Physical state: liquid

Quantity used

Not applicable

Frequency and duration of use/exposure

Duration of exposure per day: 8h (full shift, indoors and outdoors)

Duration of exposure per year: 230 days

Human factors not influenced by risk management

Breathing volume in the conditions of use: 10 m³/8h-day (light activity)

Body weight: 70kg (worker)

Other operational conditions affecting worker exposure

Internal use

Use at room temperature

Technical conditions and measures to control dispersion from source to the worker

No special measures are required.

Organizational measures to prevent/limit releases, dispersion and exposure

Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection:

PROC8b, PROC9, PROC14, PROC15: concentration ≤ 40 %: no RMM required.

PROC5, PROC8a, PROC13: > 25 % - ≤ 40 %: gloves (90 % efficiency) are required as described in section 8.

PROC6: > 5 % - ≤ 40 %: gloves (90 % efficiency) are required as described in section 8.

PROC10: < 5 % (indoor and outdoor environment): No RMMs required.

> 5 - ≤ 40 % (indoor and outdoor environment): gloves (90 % efficiency) are required as described in point 8.

Wear safety goggles as described in section 8.

Wear protective clothing as described in section 8.

2.2 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC11

Product features

Concentration ≤ 40 %

Physical state: liquid

Quantity used

Not applicable

Frequency and duration of use/exposure

Duration of exposure per day: 8h (full shift, indoors and outdoors)

Duration of exposure per year: 230 days

Human factors not influenced by risk management

Breathing volume in the conditions of use: 10 m³/8h-day (light activity)

Body weight: 70kg (worker)

Other operational conditions affecting worker exposure

Indoor and outdoor use

Use at room temperature

Technical conditions and measures to control dispersion from source to the worker

No special measures are required.

Organizational measures to prevent/limit releases, dispersion and exposure

Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection:

≤ 5 % (indoor and outdoor environment): Respiratory protection (95 % efficiency) required as described in section 8.

> 5 % ≤ 40 % (indoor and outdoor environment): Respiratory protection (95 % efficiency) and gloves (90 % efficiency) required as described in section 8.

Wear safety goggles as described in section 8.

Wear protective clothing as described in section 8.

2.3 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC19

Product features

Concentration ≤ 40 %

Physical state: liquid

Quantity used

Not applicable

Frequency and duration of use/exposure

Duration of exposure per day (concentration ≤ 25 %): 8 hours (indoors and outdoors)

Duration of exposure per day (concentration > 25 % ≤ 40 %): 4 hours (indoors and outdoors)

Duration of exposure per year: 230 days

Human factors not influenced by risk management

Breathing volume in the conditions of use: 10 m³/8h-day (light activity)

Body weight: 70kg (worker)

Other operational conditions affecting worker exposure

Indoor and outdoor use

Use at room temperature

Technical conditions and measures to control dispersion from source to the worker

No special measures are required.

Organizational measures to prevent/limit releases, dispersion and exposure

Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection:

> 1 % (indoor): gloves (90 % efficiency) are required as described in section 8.

> 5% - 40% (outdoors): gloves (90 % efficiency) are required as described in section 8.

Wear safety goggles as described in section 8.

Wear protective clothing as described in section 8.

2.4 EXPOSURE SCENARIO CONTROLLING ENVIRONMENTAL EXPOSURE FOR ERC8a, ERC8d

Product features

Not relevant

Quantity used

Yearly amount used in the region: the 10% rule applies

ERC8a PC0, 1, 9a, 9b, 9c, 14, 15, 18, 21, 26, 30, 31, 32, 34, 35: 1,785t

ERC8d PC0, 1, 9a, 9b, 9c, 14, 15, 18, 21, 26, 31, 32, 34, 35: 1,775t

Fraction of main local source: 0.002 (default)

Issue days per site: 365 days/year (default)

Frequency and duration of use

Continuous release: 365 days/year

Environmental factors not influenced by risk management

Local fresh water dilution factor: 10

Receiving surface water flow: 18,000 m³/d

Local seawater dilution factor local: 100

Other operational conditions affecting environmental exposure

Indoor / outdoor environment

Technical conditions and measures at process level (source) to prevent release

No special measures are required.

Local technical conditions and measures to reduce and limit discharges, atmospheric emissions and soil release

Waste water must be sent to a dedicated treatment plant or treated with other suitable techniques.

Organizational measures to prevent release from site

Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures for the domestic sewage treatment plant

Dimensions of wastewater treatment plant: 2000 m³/d (removal rate: 87.4 %)

Conditions and measures for external treatment of waste for disposal

No specific measures. For general conditions and measures, see section 13.

Conditions and measures for external recovery of waste

No specific measures. For general conditions and measures, see section 13.

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

Workers

PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC14, PROC15, PROC19

Exposure assessment (human):

PROC5, PROC6, PROC8b, PROC9, PROC11, PROC13, PROC14, PROC15

ECETOC TRA model (April 2010 version). Dermal exposure estimates of ECETOC TRA have been linearly corrected for concentration.

PROC8a, PROC10

ECETOC TRA model (April 2010 version). Dermal exposure estimates of ECETOC TRA have been linearly corrected for concentration. Local and systemic exposure via inhalation of ECETOC TRA has been linearly scaled based on the concentration.

PROC19

ECETOC TRA model (April 2010 version). The dermal exposure estimates of ECETOC TRA have been linearly corrected for the concentration and according to the EMFs of CEFIC for the duration of exposure. Local exposure via inhalation of ECETOC TRA has been linearly scaled based on the concentration and in accordance with the CEFIC EMFs for the duration of exposure. Systemic exposure via inhalation has been linearly scaled for the duration of exposure.

Exposure estimation:

Individual and combined (skin and inhalation) exposure values are below the DNELs (RCR ratios < 1).

Environment

ERC8a, ERC8d

Exposure assessment (environment):

EUSES 2.1.

Exposure estimation:

The predicted exposure concentrations for air, water and soil are lower than the derived PNECs, giving an RCR < 1.

4. GUIDANCE FOR DOWNSTREAM USERS TO ASSESS WHETHER THEY COMPLY WITH THE LIMITS SET BY THE EXPOSURE SCENARIO

Environment:

Under the conditions listed above the process is considered safe. Direct release to water and soil should be avoided, air emissions should be minimised. Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

Health:

Under the conditions listed above the process is considered safe. Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

Further good practice advice beyond the REACH CSA

Environment: Not applicable

Health: On possible contact with the product (sampling, use, spills, product leaks, cleaning): wear protective clothing. Wear protective gloves and safety goggles. See section 8 for information on appropriate personal protective equipment.

PROFESSIONAL USE

Exposure scenario for professional use in photochemicals (PC30)

1. TITLE

Systematic title based on the use descriptor: SU22 - Professional uses: Generalized use

Processes, activities covered:

Transfer operations from/to large or small containers

Evaluation method:

ECETOC TRA (April 2010), EUSES (v.2.1)

2. OPERATING CONDITIONS AND RISK MANAGEMENT MEASURES

Human Health Exposure/Environmental Exposure:

PC30: PROC8a, 8b - ERC8a, 8d

Number of sites: > 1

2.1 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC8a E PROC8b

Product features

Concentration \leq 40%

Physical state: liquid

Quantity used

Not applicable

Frequency and duration of use/exposure

Duration of exposure per day: 8h (full shift, indoors and outdoors)

Duration of exposure per year: 230 days

Human factors not influenced by risk management

Breathing volume in the conditions of use: 10 m³/8h-day (light activity)

Body weight: 70kg (worker)

Other operational conditions affecting worker exposure

Internal use

Use at room temperature

Technical conditions and measures to control dispersion from source to the worker

No special measures are required.

Organizational measures to prevent/limit releases, dispersion and exposure

Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection:

PROC8b: concentration \leq 40 %: no RMM required.

PROC8a: > 25 % - \leq 40 %: gloves (90 % efficiency) are required as described in section 8.

Wear safety goggles as described in section 8.

Wear protective clothing as described in section 8.

2.2 EXPOSURE SCENARIO CONTROLLING ENVIRONMENTAL EXPOSURE FOR ERC8a, ERC8b

Product features

Not relevant

Quantity used

Yearly amount used in the region: the 10% rule applies

ERC8a PC30: 1.785 t

ERC8d PC30: 190 t

Fraction of main local source: 0.002 (default)

Issue days per site: 365 days/year (default)

Frequency and duration of use

Continuous release: 365 days/year

Environmental factors not influenced by risk management

Local fresh water dilution factor: 10

Receiving surface water flow: 18,000 m³/d

Local seawater dilution factor local: 100

Other operational conditions affecting environmental exposure

No special measures are required.

Technical conditions and measures at process level (source) to prevent release

No special measures are required.

Local technical conditions and measures to reduce and limit discharges, atmospheric emissions and soil release

Waste water must be sent to a dedicated treatment plant or treated with other suitable techniques.

Organizational measures to prevent release from site

Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures for the domestic sewage treatment plant

Dimensions of wastewater treatment plant: 2000 m³/d (removal rate: 87.4 %)

Conditions and measures for external treatment of waste for disposal

No specific measures. For general conditions and measures, see section 13.

Conditions and measures for external recovery of waste

No specific measures. For general conditions and measures, see section 13.

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

Workers

PROC8a, PROC8b

Exposure assessment (human):

PROC8a

ECETOC TRA model (April 2010 version). Dermal exposure estimates of ECETOC TRA have been linearly corrected for concentration. Local and systemic exposure via inhalation of ECETOC TRA has been linearly scaled based on the concentration.

PROC8b

ECETOC TRA model (April 2010 version). Dermal exposure estimates of ECETOC TRA have been linearly corrected for concentration.

Exposure estimation:

Individual and combined (skin and inhalation) exposure values are below the DNELs (RCR ratios < 1).

Environment

ERC8a, ERC8b

Exposure assessment (environment):

EUSES 2.1.

Exposure estimation:

The predicted exposure concentrations for air, water and soil are lower than the derived PNECs, giving an RCR < 1.

4. GUIDANCE FOR DOWNSTREAM USERS TO ASSESS WHETHER THEY COMPLY WITH THE LIMITS SET BY THE EXPOSURE SCENARIO

Environment:

Under the conditions listed above the process is considered safe. Direct release to water and soil should be avoided, air emissions should be minimised. Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

Health:

Under the conditions listed above the process is considered safe. Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

Further good practice advice beyond the REACH CSA

Environment: Not applicable

Health: On possible contact with the product (sampling, use, spills, product leaks, cleaning): wear protective clothing. Wear protective gloves and safety goggles. See section 8 for information on appropriate personal protective equipment.

PROFESSIONAL USE

Exposure scenario for professional use in washing and cleaning products, cosmetics and personal care products (PC35, PC39)

1. TITLE

Systematic title based on the use descriptor: SU22 - Professional uses: Generalized use

Processes, activities covered:

Transfer operations from/to large or small containers
Treatment of objects by roller/brush, spray or dip/pour application
Mixing or dilution in batch processes or by hand

Evaluation method:

ECETOC TRA (April 2010), EUSES (v.2.1)

2. OPERATING CONDITIONS AND RISK MANAGEMENT MEASURES

Human Health Exposure/Environmental Exposure:

PC35: PROC8a, 8b, 9, 10, 11, 13, 19 - ERC8a, 8b, 8d, 8e

PC39: PROC13 - ERC8a, 8b, 8d, 8e

Number of sites: > 1

2.1 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC8a, PROC8b, PROC9, PROC10, PROC13

Product features

Concentration ≤ 40%
Physical state: liquid

Quantity used

Not applicable

Frequency and duration of use/exposure

Duration of exposure per day: 8h (full shift, indoors and outdoors)
Duration of exposure per year: 230 days

Human factors not influenced by risk management

Breathing volume in the conditions of use: 10 m³/8h-day (light activity)
Body weight: 70kg (worker)

Other operational conditions affecting worker exposure

Internal use
Use at room temperature

Technical conditions and measures to control dispersion from source to the worker

No special measures are required.

Organizational measures to prevent/limit releases, dispersion and exposure

Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection:

PROC8b, PROC9: concentration ≤ 40 %: no RMM required.

PROC8a, PROC13: > 25 % - ≤ 40 %: gloves (90 % efficiency) are required as described in section 8.

PROC10: < 5 % (indoor and outdoor environment): No RMMs required

> 5 - ≤ 40 % (indoor and outdoor environment): gloves (90 % efficiency) are required as described in section 8.

Wear safety goggles as described in section 8.

Wear protective clothing as described in section 8.

2.2 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC11

Product features

Concentration $\leq 40\%$

Physical state: liquid

Quantity used

Not applicable

Frequency and duration of use/exposure

Duration of exposure per day: 8h (full shift, indoors and outdoors)

Duration of exposure per year: 230 days

Human factors not influenced by risk management

Breathing volume in the conditions of use: 10 m³/8h-day (light activity)

Body weight: 70kg (worker)

Other operational conditions affecting worker exposure

Internal use

Use at room temperature

Technical conditions and measures to control dispersion from source to the worker

No special measures are required.

Organizational measures to prevent/limit releases, dispersion and exposure

Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection:

$\leq 5\%$ (indoor and outdoor environment): Respiratory protection (95 % efficiency) required as described in section 8.

$> 5\% - \leq 40\%$ (indoor and outdoor environment): Respiratory protection (95 % efficiency) and gloves (90 % efficiency) required as described in section 8.

Wear safety goggles as described in section 8.

Wear protective clothing as described in section 8.

2.3 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC19

Product features

Concentration $\leq 40\%$

Physical state: liquid

Quantity used

Not applicable

Frequency and duration of use/exposure

Duration of exposure per day (concentration $\leq 25\%$): 8 h (indoor and outdoor)

Duration of exposure per day (concentration $>25\% - \leq 40\%$): 4 hours (indoors and outdoors)

Duration of exposure per year: 230 days

Human factors not influenced by risk management

Breathing volume in the conditions of use: 10 m³/8h-day (light activity)

Body weight: 70kg (worker)

Other operational conditions affecting worker exposure

Internal use

Use at room temperature

Technical conditions and measures to control dispersion from source to the worker

No special measures are required.

Organizational measures to prevent/limit releases, dispersion and exposure

Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection:

> 1 % (indoor): gloves (90 % efficiency) are required as described in section 8.

> 5% - 40% (outdoors): gloves (90 % efficiency) are required as described in section 8..

Wear safety goggles as described in section 8.

Wear protective clothing as described in section 8.

2.4 EXPOSURE SCENARIO CONTROLLING ENVIRONMENTAL EXPOSURE FOR ERC8a, ERC8b, ERC8d, ERC8e

Product features

Not relevant

Quantity used

Yearly amount used in the region: the 10% rule applies

ERC8a PC35/PC39: 1,785 t

ERC8b PC35/PC39: 190 t

ERC8d PC35/PC39: 1,775 t

ERC8e PC35/PC39: 190 t

Fraction of main local source: 0.002 (default)

Issue days per site: 365 days/year (default)

Frequency and duration of use

Continuous release: 365 days/year

Environmental factors not influenced by risk management

Local fresh water dilution factor: 10

Receiving surface water flow: 18,000 m³/d

Local seawater dilution factor local: 100

Other operational conditions affecting environmental exposure

No special measures are required.

Technical conditions and measures at process level (source) to prevent release

No special measures are required.

Local technical conditions and measures to reduce and limit discharges, atmospheric emissions and soil release

Waste water must be sent to a dedicated treatment plant or treated with other suitable techniques.

Organizational measures to prevent release from site

Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures for the domestic sewage treatment plant

Dimensions of wastewater treatment plant: 2000 m³/d (removal rate: 87.4 %)

Conditions and measures for external treatment of waste for disposal

No specific measures. For general conditions and measures, see section 13.

Conditions and measures for external recovery of waste

No specific measures. For general conditions and measures, see section 13.

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

Workers

Exposure assessment (human):

PROC8b, PROC9, PROC11, PROC13

ECETOC TRA model (April 2010 version). Dermal exposure estimates of ECETOC TRA have been corrected for concentration.

PROC8a, PROC10

ECETOC TRA model (April 2010 version). Dermal exposure estimates of ECETOC TRA have been linearly corrected for concentration. Local and systemic exposure via inhalation of ECETOC TRA has been linearly scaled based on the concentration.

PROC19

ECETOC TRA model (April 2010 version). The dermal exposure estimates of ECETOC TRA have been linearly corrected for the concentration and according to the EMFs of CEFIC for the duration of exposure. Local exposure via inhalation of ECETOC TRA has been linearly scaled based on the concentration and in accordance with the CEFIC EMFs for the duration of exposure. Systemic exposure via inhalation has been linearly scaled for the duration of exposure.

Exposure estimation:

Individual and combined (skin and inhalation) exposure values are below the DNELs (RCR ratios < 1).

Environment

ERC8a, ERC8b, ERC8d, ERC8e

Exposure assessment (environment):

EUSES 2.1.

Exposure estimation:

The predicted exposure concentrations for air, water and soil are lower than the derived PNECs, giving an RCR < 1.

4. GUIDANCE FOR DOWNSTREAM USERS TO ASSESS WHETHER THEY COMPLY WITH THE LIMITS SET BY THE EXPOSURE SCENARIO

Environment:

Under the conditions listed above the process is considered safe. Direct release to water and soil should be avoided, air emissions should be minimised. Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

Health:

Under the conditions listed above the process is considered safe. Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

Further good practice advice beyond the REACH CSA

Environment: Not applicable

Health: On possible contact with the product (sampling, use, spills, product leaks, cleaning): wear protective clothing. Wear protective gloves and safety goggles. See section 8 for information on appropriate personal protective equipment.

2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine

Substance identification

Chemical Name: 2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine

CAS number: 25513-64-8

1. STRUCTURED SHORT TITLE: ES8: WIDE DISPERSIVE INDOOR USE RESULTING IN INCLUSION IN OR APPLIED TO A MATRIX

Main user groups: **SU 22** - Professional uses: public sector (administration, education, entertainment, services, crafts)

Environmental release category: **ERC8c** - Wide dispersive internal use resulting in being included in or applied to a matrix

Process category:

PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (contact at different stages and/or important contact)

PROC8a - Transfer of a substance or a preparation (filling/ emptying) from/ to vessels/ large containers, in non-dedicated facilities

PROC8b - Transfer of a substance or a preparation (filling/ emptying) from/ to vessels/ large containers, in dedicated facilities.

PROC9 - Transfer of a substance or preparation into small containers (dedicated filling line, including weighing)

PROC10 - Application with rollers or brushes

PROC11 - Non-industrial spray application

PROC13 - Treatment of articles by dipping and pouring

PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettisation

PROC19 - Hand-mixing with direct contact and only PPE available

2.1. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF ENVIRONMENTAL EXPOSURE FOR ERC8c: WIDE DISPERSIVE INDOOR USE RESULTING IN INCLUSION INTO OR ONTO A MATRIX

Quantity used

Daily quantity per site: 16.5 g/day

Fraction of amount used by region: 10%

Frequency and duration of use

Continuous exposure: 365 days/year

Environmental factors not influenced by risk management

Mobile phase efflux rate: 18000 m³/d

Dilution factor (river): 10

Dilution factor (coastal areas): 100

Other given operational conditions affecting environmental exposure

Number of days of issue per year: 365

Emission or Release Factor: Air: 0%

Emission or Release Factor: Water: 1.5 %

Emission or Release Factor: Soil: 0%

Preconditions and technical measures/Organisational measures

Preconditions and measures related to municipal sewage treatment plant

Type of wastewater treatment plant: Municipal STP

Flow rate of sewage plant emission: 2000 m³/d

Sewage sludge treatment: Controlled application of waste water sludge on agricultural land

2.2. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC5: MIXING OR BLENDING IN BATCH PROCESSES FOR FORMULATION OF PREPARATIONS AND ARTICLES (CONTACT AT DIFFERENT STAGES AND/OR IMPORTANT CONTACT)

Product features

Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).

Physical Form (at time of use): liquid

Conditions: e ≤40°C

Frequency and duration of use

Duration of the activity: < 4 h

Human factors not influenced by risk management

Dermal exposure: ≤ 480 cm²

Other operational conditions affecting worker exposure

Outdoors/in closed environments: internal

Pre-conditions and technical measures

Provide a good standard of general ventilation (not less than 1 air change per hour) with local aspiration.

Effectiveness: 80 %

Organizational measures to prevent/limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects

Wear a full face respirator in accordance with EN136 with filter type A/P2 or better.

Effectiveness: 95 %

During the basic training wear chemical resistant gloves (tested according to EN 374).

Effectiveness: 90 %

2.3. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC8a: TRANSFER OF A SUBSTANCE OR A PREPARATION (FILLING/ EMPTYING) FROM/ TO VESSELS/ LARGE CONTAINERS, IN NON-DEDICATED FACILITIES

Product features

Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).

Physical Form (at time of use): liquid

Conditions: e ≤40°C

Frequency and duration of use

Duration of the activity: < 4 h

Human factors not influenced by risk management

Dermal exposure: ≤ 960 cm²

Other operational conditions affecting worker exposure

Outdoors/in closed environments: internal

Pre-conditions and technical measures

Provide a good standard of general ventilation (not less than 1 air change per hour With local suction.

Effectiveness: 80 %

Organizational measures to prevent/limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects

Wear a full face respirator in accordance with EN136 with filter type A/P2 or better.

Effectiveness: 95 %

During the basic training wear chemical resistant gloves (tested according to EN 374).

Effectiveness: 90 %

2.4. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC8b: TRANSFER OF A SUBSTANCE OR A PREPARATION (FILLING/ EMPTYING) FROM/ TO VESSELS/ LARGE CONTAINERS, IN DEDICATED FACILITIES

Product features

Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).

Physical Form (at time of use): liquid

Conditions: e ≤40°C

Frequency and duration of use

Duration of the activity: < 4 h

Human factors not influenced by risk management

Dermal exposure: ≤ 960 cm²

Other operational conditions affecting worker exposure

Outdoors/in closed environments: internal

Pre-conditions and technical measures

Provide a good standard of general ventilation (not less than 1 air change per hour, use in semi-closed loading procedure with occasional controlled exposure With local suction.

Effectiveness: 90 %

Organizational measures to prevent/limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects

Wear a full face respirator in accordance with EN136 with filter type A/P2 or better.

Effectiveness: 95 %

During the basic training wear chemical resistant gloves (tested according to EN 374).

Effectiveness: 90 %

2.5. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC9: TRANSFER OF SUBSTANCE OR PREPARATION INTO SMALL CONTAINERS (DEDICATED FILLING LINE, INCLUDING WEIGHING)

Product features

Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).

Physical Form (at time of use): liquid

Conditions: e ≤40°C

Frequency and duration of use

Duration of the activity: < 4 h

Human factors not influenced by risk management

Dermal exposure: ≤ 480 cm²

Other operational conditions affecting worker exposure

Outdoors/in closed environments: internal

Pre-conditions and technical measures

Provide a good standard of general ventilation (not less than 1 air change per hour, use in semi-closed loading procedure with occasional controlled exposure With local suction.

Effectiveness: 90 %

Organizational measures to prevent/limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects

Wear a full face respirator in accordance with EN136 with filter type A/P2 or better.

Effectiveness: 95 %

During the basic training wear chemical resistant gloves (tested according to EN 374).

Effectiveness: 90 %

2.6. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC10: APPLICATION WITH ROLLERS OR BRUSHES

Product features

Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).

Physical Form (at time of use): liquid

Conditions: e ≤40°C

Frequency and duration of use

Duration of the activity: < 4 h

Human factors not influenced by risk management

Dermal exposure: ≤ 960 cm²

Other operational conditions affecting worker exposure

Outdoors/in closed environments: internal

Pre-conditions and technical measures

Provide a good standard of general ventilation (not less than 1 air change per hour With local suction.

Effectiveness: 80 %

Organizational measures to prevent/limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects

Wear a full face respirator in accordance with EN136 with filter type A/P2 or better.

Effectiveness: 95 %

During the basic training wear chemical resistant gloves (tested according to EN 374).

Effectiveness: 90 %

2.7. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC11: NON-INDUSTRIAL SPRAY APPLICATION

Product features

Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).

Physical Form (at time of use): liquid

Conditions: e ≤40°C

Frequency and duration of use

Duration of the activity: < 4 h

Human factors not influenced by risk management

Dermal exposure: ≤ 1500 cm²

Other operational conditions affecting worker exposure

Outdoors/in closed environments: internal

Pre-conditions and technical measures

Provide a good standard of general ventilation (not less than 1 air change per hour With local suction.

Effectiveness: 80 %

Organizational measures to prevent/limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects

Wear a full face respirator in accordance with EN136 with filter type A/P2 or better.

Effectiveness: 95 %

During the basic training wear chemical resistant gloves (tested according to EN 374).

Effectiveness: 90 %

2.8. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC13: TREATMENT OF ARTICLES BY DIPPING AND POURING

Product features

Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).

Physical Form (at time of use): liquid

Conditions: e ≤40°C

Frequency and duration of use

Duration of the activity: < 4 h

Human factors not influenced by risk management

Dermal exposure: $\leq 480 \text{ cm}^2$

Other operational conditions affecting worker exposure

Outdoors/in closed environments: internal

Pre-conditions and technical measures

Provide a good standard of general ventilation (not less than 1 air change per hour With local suction).

Effectiveness: 80 %

Organizational measures to prevent/limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects

Wear a full face respirator in accordance with EN136 with filter type A/P2 or better.

Effectiveness: 95 %

During the basic training wear chemical resistant gloves (tested according to EN 374).

Effectiveness: 90 %

2.9. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC14: PRODUCTION OF PREPARATIONS OR ARTICLES BY TABLETTING, COMPRESSION, EXTRUSION, PELLETISATION

Product features

Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).

Physical Form (at time of use): liquid

Conditions: $e \leq 40^\circ\text{C}$

Frequency and duration of use

Duration of the activity: $< 4 \text{ h}$

Human factors not influenced by risk management

Dermal exposure: $\leq 480 \text{ cm}^2$

Other operational conditions affecting worker exposure

Outdoors/in closed environments: internal

Pre-conditions and technical measures

Provide a good standard of general ventilation (not less than 1 air change per hour With local suction).

Effectiveness: 80 %

Organizational measures to prevent/limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects

Wear a full face respirator in accordance with EN136 with filter type A/P2 or better.

Effectiveness: 95 %

During the basic training wear chemical resistant gloves (tested according to EN 374).

Effectiveness: 90 %

2.10. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC19: HAND-MIXING WITH DIRECT CONTACT AND ONLY PPE AVAILABLE

Product features

Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).

Physical Form (at time of use): liquid

Conditions: $e \leq 40^\circ\text{C}$

Frequency and duration of use

Duration of the activity: $< 4 \text{ h}$

Human factors not influenced by risk management

Dermal exposure: $\leq 1980 \text{ cm}^2$

Other operational conditions affecting worker exposure

Outdoors/in closed environments: internal

Pre-conditions and technical measures

Provide a good standard of general ventilation (not less than 1 air change per hour With local suction).

Effectiveness: 80 %

Organizational measures to prevent/limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects

Wear a full face respirator in accordance with EN136 with filter type A/P2 or better.

Effectiveness: 95 %

During the basic training wear chemical resistant gloves (tested according to EN 374).

Effectiveness: 90 %

3. EXPOSURE ESTIMATION AND REFERENCE TO RELATED SOURCE

Environment

Contributing scenario	Procedure for exposure assessment	Specific conditions	Sub-fund	Exposure level	RCR	Remarks
ERC8c	CHESAR model used	/	Fresh water	0.000033 mg/l	< 0.01	/
ERC8c	CHESAR model used	/	Fresh water sediment	0.000205 mg/kg dry weight	< 0.01	/
ERC8c	CHESAR model used	/	Sea water	0.0000034 mg/l	< 0.01	/
ERC8c	CHESAR model used	/	Marine sediment	0.0000211 mg/kg dry weight	< 0.01	/
ERC8c	CHESAR model used	/	STP	0.000122 mg/l	< 0.01	/
ERC8c	CHESAR model used	/	Soil	0.0000032 mg/kg dry weight	< 0.01	/
ERC8c	CHESAR model used	/	Man	0.0000011 mg/kg dry weight	< 0.01	/

Workers

Contributing scenario	Procedure for exposure assessment	Value type	Exposure level	Remarks
PROC5	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	0.396 mg/m ³	/
PROC5	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	2.638 mg/m ³	/
PROC5	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	1.371 mg/kg pc/day	/
PROC5	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC5	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.2 mg/kg pc/day	/
PROC5	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC5	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC8a	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	0.989 mg/m ³	/
PROC8a	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	6.595 mg/m ³	/
PROC8a	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	1.371 mg/kg pc/day	/
PROC8a	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC8a	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.1 mg/kg bw/day	/
PROC8a	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC8a	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC8b	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	0.198 mg/m ³	/
PROC8b	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	1.319 mg/m ³	/
PROC8b	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	1.371 mg/kg pc/day	/
PROC8b	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC8b	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.1 mg/kg bw/day	/

Contributing scenario	Procedure for exposure assessment	Value type	Exposure level	Remarks
PROC8b	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC8b	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC9	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	0.396 mg/m ³	/
PROC9	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	2.638 mg/m ³	/
PROC9	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	0.686 mg/kg bw/day	/
PROC9	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC9	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.1 mg/kg bw/day	/
PROC9	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC9	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC10	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	0.989 mg/m ³	/
PROC10	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	6.595 mg/m ³	/
PROC10	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	2.743 mg/kg bw/day	/
PROC10	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC10	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.2 mg/kg pc/day	/
PROC10	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC10	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC11	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	3.957 mg/m ³	/
PROC11	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	26.38 mg/m ³	/
PROC11	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	10.71 mg/kg bw/day	/
PROC11	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC11	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.5 mg/kg bw/day	/
PROC11	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC11	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC13	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	0.396 mg/m ³	/
PROC13	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	2.638 mg/m ³	/
PROC13	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	1.371 mg/kg pc/day	/
PROC13	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC13	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.2 mg/kg pc/day	/

Contributing scenario	Procedure for exposure assessment	Value type	Exposure level	Remarks
PROC13	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC13	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC14	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	0.396 mg/m ³	/
PROC14	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	2.638 mg/m ³	/
PROC14	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	0.343 mg/kg bw/day	/
PROC14	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC14	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.05 mg/kg bw/day	/
PROC14	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC14	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC19	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	0.989 mg/m ³	/
PROC19	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	6.595 mg/m ³	/
PROC19	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	14.14 mg/kg bw/day	/
PROC19	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC19	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.05 mg/kg bw/day	/
PROC19	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC19	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.

Guidance to downstream users to evaluate whether they work inside the boundaries set by the exposure scenario

ECETOC TRA, o, EUSES v2.1: Methods are based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. If scaling reveals a condition of unsafe use (i.e. RCR > 1), additional risk management measures or a site-specific chemical safety assessment are required.

1. STRUCTURED SHORT TITLE: ES9: WIDE DISPERSIVE OUTDOOR USE RESULTING IN INCLUSION INTO OR ONTO A MATRIX

Main user groups: **SU 22** - Professional uses: public sector (administration, education, entertainment, services, crafts)

Environmental release category: **ERC8f** Wide dispersive external use resulting in being included in or applied to a matrix

Process category:

PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (contact at different stages and/or important contact)

PROC8a - Transfer of a substance or a preparation (filling/ emptying) from/ to vessels/ large containers, in non-dedicated facilities

PROC8b - Transfer of a substance or a preparation (filling/ emptying) from/ to vessels/ large containers, in dedicated facilities.

PROC9 - Transfer of a substance or preparation into small containers (dedicated filling line, including weighing)

PROC10 - Application with rollers or brushes

PROC11 - Non-industrial spray application

PROC13 - Treatment of articles by dipping and pouring

PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettisation

PROC19 - Hand-mixing with direct contact and only PPE available

2.1. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF ENVIRONMENTAL EXPOSURE FOR FEICA SPERC 8f.1.v1: WIDE DISPERSIVE USE OF NON-SOLVENT SUBSTANCES IN CONSTRUCTION ADHESIVES FOR OUTDOOR APPLICATIONS (FEICA 14)

Quantity used

Daily quantity per site: 4 g/day

Fraction of amount used by region: 10%

Frequency and duration of use

Continuous exposure: 365 days/year

Environmental factors not influenced by risk management

Mobile phase efflux rate: 18000 m3/d

Dilution factor (river): 10

Dilution factor (coastal areas): 100

Other given operational conditions affecting environmental exposure

Number of days of issue per year: 365

Emission or Release Factor: Air: 0%

Emission or Release Factor: Water: 1.5 %

Emission or Release Factor: Soil: 0%

Preconditions and technical measures/Organisational measures

Preconditions and measures related to municipal sewage treatment plant

Type of wastewater treatment plant: Municipal STP

Flow rate of sewage plant emission: 2000 m3/d

Sewage sludge treatment: Controlled application of waste water sludge on agricultural land

2.2. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC5: MIXING OR BLENDING IN BATCH PROCESSES FOR FORMULATION OF PREPARATIONS AND ARTICLES (CONTACT AT DIFFERENT STAGES AND/OR IMPORTANT CONTACT)

Product features

Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).

Physical Form (at time of use): liquid

Conditions: e ≤40°C

Frequency and duration of use

Duration of the activity: < 4 h

Human factors not influenced by risk management

Dermal exposure: ≤ 480 cm²

Other operational conditions affecting worker exposure

Outdoors/in closed environments: outdoor

Organizational measures to prevent/limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects

Wear a full face respirator conforming to EN136 with type A filter or better.

Effectiveness: 95 %

During the basic training wear chemical resistant gloves (tested according to EN 374).

Effectiveness: 90 %

2.3. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC8a: TRANSFER OF A SUBSTANCE OR A PREPARATION (FILLING/ EMPTYING) FROM/ TO VESSELS/ LARGE CONTAINERS, IN NON-DEDICATED FACILITIES

Product features

Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use

Duration of the activity: < 4 h

Human factors not influenced by risk management

Dermal exposure: ≤ 960 cm²

Other operational conditions affecting worker exposure

Outdoors/in closed environments: outdoor

Organizational measures to prevent/limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects

Wear a full face respirator conforming to EN136 with type A filter or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

2.4. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC8b: TRANSFER OF A SUBSTANCE OR A PREPARATION (FILLING/ EMPTYING) FROM/ TO VESSELS/ LARGE CONTAINERS, IN DEDICATED FACILITIES

Product features

Remarks: Covers percentage substance in the product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use

Duration of the activity: < 4 h

Human factors not influenced by risk management

Dermal exposure: ≤ 960 cm²

Other operational conditions affecting worker exposure

Outdoors/in closed environments: outdoor

Pre-conditions and technical measures

Use in semi-closed loading procedure with occasional controlled exposure.

Organizational measures to prevent/limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects

Wear a full face respirator conforming to EN136 with type A filter or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

2.5. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC9: TRANSFER OF SUBSTANCE OR PREPARATION INTO SMALL CONTAINERS (DEDICATED FILLING LINE, INCLUDING WEIGHING)

Product features

Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use

Duration of the activity: < 4 h

Human factors not influenced by risk management

Dermal exposure: ≤ 480 cm²

Other operational conditions affecting worker exposure

Outdoors/in closed environments: outdoor

Pre-conditions and technical measures

Use in semi-closed loading procedure with occasional controlled exposure.

Organizational measures to prevent/limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects

Wear a full face respirator conforming to EN136 with type A filter or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

2.6. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC10: APPLICATION WITH ROLLERS OR BRUSHES

Product features

Remarks: Covers percentage substance in the product up to 100 % (unless otherwise stated).

Physical Form (at time of use): liquid

Conditions: $e \leq 40^{\circ}\text{C}$

Frequency and duration of use

Duration of the activity: < 4 h

Human factors not influenced by risk management

Dermal exposure: $\leq 960\text{ cm}^2$

Other operational conditions affecting worker exposure

Outdoors/in closed environments: outdoor

Organizational measures to prevent/limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects

Wear a full face respirator conforming to EN136 with type A filter or better.

Effectiveness: 95 %

During the basic training wear chemical resistant gloves (tested according to EN 374).

Effectiveness: 90 %

2.7. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC11: NON-INDUSTRIAL SPRAY APPLICATION

Product features

Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).

Physical Form (at time of use): liquid

Conditions: $e \leq 40^{\circ}\text{C}$

Frequency and duration of use

Duration of the activity: < 4 h

Human factors not influenced by risk management

Dermal exposure: $\leq 1500\text{ cm}^2$

Other operational conditions affecting worker exposure

Outdoors/in closed environments: outdoor

Organizational measures to prevent/limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects

Wear a full face respirator conforming to EN136 with type A filter or better.

Effectiveness: 95 %

During the basic training wear chemical resistant gloves (tested according to EN 374).

Effectiveness: 90 %

2.8. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC13: TREATMENT OF ARTICLES BY DIPPING AND POURING

Product features

Remarks: Covers up to 100 % (unless otherwise stated).

Physical Form (at time of use): liquid

Conditions: $e \leq 40^{\circ}\text{C}$

Frequency and duration of use

Duration of the activity: < 4 h

Human factors not influenced by risk management

Dermal exposure: $\leq 480\text{ cm}^2$

Other operational conditions affecting worker exposure

Outdoors/in closed environments: outdoor

Organizational measures to prevent/limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects

Wear a full face respirator conforming to EN136 with type A filter or better.

Effectiveness: 95 %

During the basic training wear chemical resistant gloves (tested according to EN 374).

Effectiveness: 90 %

2.9. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC14: PRODUCTION OF PREPARATIONS OR ARTICLES BY TABLETTING, COMPRESSION, EXTRUSION, PELLETISATION

Product features

Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use

Duration of the activity: < 4 h

Human factors not influenced by risk management

Dermal exposure: ≤ 480 cm²

Other operational conditions affecting worker exposure

Outdoors/in closed environments: outdoor

Organizational measures to prevent/limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects

Wear a full face respirator conforming to EN136 with type A filter or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

2.10. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC19: HAND-MIXING WITH DIRECT CONTACT AND ONLY PPE AVAILABLE

Product features

Remarks: Covers percentage substance in the product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use

Duration of the activity: < 4 h

Human factors not influenced by risk management

Dermal exposure: ≤ 1980 cm²

Other operational conditions affecting worker exposure

Outdoors/in closed environments: outdoor

Organizational measures to prevent/limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects

Wear a full face respirator conforming to EN136 with type A filter or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

3. EXPOSURE ESTIMATION AND REFERENCE TO RELATED SOURCE

Environment

Contributing scenario	Procedure for exposure assessment	Specific conditions	Sub-fund	Exposure level	RCR	Remarks
ERC8f	CHESAR model used	/	Fresh water	0.000024 mg/l	< 0.01	/
ERC8f	CHESAR model used	/	Fresh water sediment	0.00014 mg/kg dry weight	< 0.01	/
ERC8f	CHESAR model used	/	Sea water	0.0000025 mg/l	< 0.01	/
ERC8f	CHESAR model used	/	Marine sediment	0.000015 mg/kg dry weight	< 0.01	/
ERC8f	CHESAR model used	/	STP	0.00003 mg/l	< 0.01	/
ERC8f	CHESAR model used	/	Soil	0.0000018 mg/kg dry weight	< 0.01	/
ERC8f	CHESAR model used	/	Man	0.0000007 mg/kg dry weight	< 0.01	/

Workers

Contributing scenario	Procedure for exposure assessment	Value type	Exposure level	Remarks
PROC5	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	1.385 mg/m ³	/
PROC5	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	9.234 mg/m ³	/
PROC5	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	1.371 mg/kg pc/day	/
PROC5	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC5	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.2 mg/kg pc/day	/
PROC5	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC5	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC8a	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	3.463 mg/m ³	/
PROC8a	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	23.08 mg/m ³	/
PROC8a	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	1.371 mg/kg pc/day	/
PROC8a	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC8a	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.1 mg/kg bw/day	/
PROC8a	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC8a	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC8b	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	1.385 mg/m ³	/
PROC8b	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	9.234 mg/m ³	/
PROC8b	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	1.371 mg/kg pc/day	/
PROC8b	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC8b	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.1 mg/kg bw/day	/
PROC8b	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC8b	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC9	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	1.385 mg/m ³	/
PROC9	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	9.234 mg/m ³	/
PROC9	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	0.686 mg/kg bw/day	/
PROC9	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC9	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.1 mg/kg bw/day	/
PROC9	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC9	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.

Contributing scenario	Procedure for exposure assessment	Value type	Exposure level	Remarks
PROC10	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	3.463 mg/m ³	/
PROC10	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	23.08 mg/m ³	/
PROC10	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	2.743 mg/kg bw/day	/
PROC10	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC10	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.2 mg/kg pc/day	/
PROC10	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC10	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC11	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	13.85 mg/m ³	/
PROC11	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	92.34 mg/m ³	/
PROC11	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	10.71 mg/kg bw/day	/
PROC11	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC11	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.5 mg/kg bw/day	/
PROC11	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC11	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC13	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	1.385 mg/m ³	/
PROC13	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	9.234 mg/m ³	/
PROC13	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	1.371 mg/kg pc/day	/
PROC13	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC13	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.2 mg/kg pc/day	/
PROC13	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC13	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC14	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	1.385 mg/m ³	/
PROC14	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	9.234 mg/m ³	/
PROC14	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	0.343 mg/kg bw/day	/
PROC14	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC14	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.05 mg/kg bw/day	/
PROC14	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC14	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC19	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	3.463 mg/m ³	/

Contributing scenario	Procedure for exposure assessment	Value type	Exposure level	Remarks
PROC19	ECETOC TRA v3 (2012)	Worker - inhalative, short-term - systemic	23.08 mg/m ³	/
PROC19	ECETOC TRA v3 (2012)	Worker - dermal, longterm - systemic	14.14 mg/kg bw/day	/
PROC19	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC19	ECETOC TRA v3 (2012)	Worker - dermal, longterm - local	0.05 mg/kg bw/day	/
PROC19	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC19	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.

Guidance to downstream users to evaluate whether they work inside the boundaries set by the exposure scenario

ECETOC TRA, o, EUSES v2.1: Methods are based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. If scaling reveals a condition of unsafe use (i.e. RCR > 1), additional risk management measures or a site-specific chemical safety assessment are required.

m-phenylenebis(methylamine)

Substance identification

Chemical Name: m-phenylenebis(methylamine)

CAS number: CAS-1477-55-0

Date - Version: 10/03/2020 - 1.0

PROFESSIONAL USES - GENERALIZED USE BY PROFESSIONAL OPERATORS: VARIOUS PRODUCTS (PC9a, PC9b, PC1); CONSTRUCTION (SU19)

1. TITLE SECTION

Exposure scenario name: Professional use of coatings and paints - Use in composite and foundry materials

Life cycle stage: Professional uses

Sectors of use: Construction (SU19) - Professional uses (SU22)

Product categories: Coatings and paints, thinners, pickling solutions (PC9a) - Additives, fillers, plasters, modeling clay (PC9b) - Adhesives, Sealants (PC1)

CONTRIBUTION SCENARIO - ENVIRONMENT

CS1: Wet cure - Wet formulation ERC8c - ERC8f

CONTRIBUTION SCENARIO - WORKER

CS2: Application with rollers or brushes PROC10

CS3: Non-industrial spray application PROC11

CS4: Treatment of articles by dipping and pouring PROC13

CS5: Manual activities with direct contact PROC19

CS6: Low energy handling of substances included in or on materials and/or articles PROC21

2. CONDITIONS OF USE AFFECTING EXPOSURE

2.1. CS1: CONTRIBUTION SCENARIO - ENVIRONMENT: Wet cure - Wet formulation (ERC8c, ERC8f)

Environmental release categories

Widespread use resulting in inclusion in or on the surface of an article (indoor use) - Wide use leading to inclusion in/on article (outdoor use) (ERC8c, ERC8f)

Product features (article)

Physical form of the product: Liquid

Amount used, frequency and duration of use/(or duration of use)

Amounts used:

PROC10 ≤ 0,4 l/min

PROC11 ≤ 0,3 l/min

PROC13 ≤ 2 l/min

PROC19 ≤ 1 l/min

PROC21 ≤ 0,3 l/min

Measures and technical-organizational conditions

Control measures to prevent releases: No entry of substance into waste water.

Conditions and measures for waste treatment (including the product waste)

Waste treatment: This material and its container must be disposed of as hazardous.

Dispose of waste product or used containers according to local regulations.

Incineration of hazardous waste.

2.2. CS2: CONTRIBUTION SCENARIO - WORKER: Application with rollers or brushes (PROC10)

Product features (article)

Physical form of the product: Liquid.

Concentration of the substance in the product: Includes substance shares in the product up to 5%.

Amount used, frequency and duration of use/(or duration of use)

Amounts used: Quantity per use 0.4 l/min

Duration: ≤ 5 h/day

Frequency: 365 days/year

Technical organizational measures

Ensure that direct skin contact is avoided.

Avoid direct contact with the product, even with contaminated hands.

Ensure operating personnel are trained to minimize exposure.

See main part of the safety data sheet, Sections 7 and/or 8, for measures mitigating the risks deriving from the physical-chemical properties.

Ensure a sufficient amount of general ventilation (1 to 3 air changes per hour).

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment:

Wear suitable face protection.

Use adequate eye protection.

Wear a suitable apron to avoid skin exposure.

Wear suitable gloves, tested according to EN347.

Use a respiratory protective device according to EN140.

Dermal: minimum efficiency of 80%.

Inhalation: minimum efficiency of 95%.

2.3. CS3: CONTRIBUTION SCENARIO - WORKER: Non-industrial spray application (PROC11)

Product features (article)

Physical form of the product: Liquid.

Concentration of the substance in the product: Includes substance shares in the product up to 5%.

Amount used, frequency and duration of use/(or duration of use)

Amounts used: Quantity per use 0.3 l/min

Duration: ≤ 6 h/day

Frequency: 365 days/year

Technical organizational measures

Ensure that direct skin contact is avoided.

Avoid direct contact with the product, even with contaminated hands.

Ensure operating personnel are trained to minimize exposure.

See main part of the safety data sheet, Sections 7 and/or 8, for measures mitigating the risks deriving from the physical-chemical properties.

Ensure a sufficient amount of general ventilation (1 to 3 air changes per hour).

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment:

Wear suitable face protection.

Use adequate eye protection.

Wear a suitable apron to avoid skin exposure.

Wear suitable gloves, tested according to EN347.

Use a respiratory protective device according to EN140.

Dermal: minimum efficiency of 80%.

Inhalation: minimum efficiency of 95%.

2.4. CS4: CONTRIBUTION SCENARIO - WORKER: Treatment of articles by dipping and pouring (PROC13)

Product features (article)

Physical form of the product: Liquid.

Concentration of the substance in the product: Includes substance shares in the product up to 5%.

Amount used, frequency and duration of use/(or duration of use)

Amounts used: Quantity per use 2 l/min

Duration: ≤ 1 h/day

Frequency: 365 days/year

Technical organizational measures

Ensure that direct skin contact is avoided.

Avoid direct contact with the product, even with contaminated hands.

Ensure operating personnel are trained to minimize exposure.

See main part of the safety data sheet, Sections 7 and/or 8, for measures mitigating the risks deriving from the physical-chemical properties.

Ensure a sufficient amount of general ventilation (1 to 3 air changes per hour).

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment:

Wear suitable face protection.

Use adequate eye protection.

Wear a suitable apron to avoid skin exposure.

Wear suitable gloves, tested according to EN347.

Use a respiratory protective device according to EN140.

Dermal: minimum efficiency of 80%.

Inhalation: minimum efficiency of 95%.

2.5. CS5: CONTRIBUTION SCENARIO - WORKER: Manual activities with direct contact (PROC19)

Product features (article)

Physical form of the product: Liquid.

Concentration of the substance in the product: Includes substance shares in the product up to 40%.

Amount used, frequency and duration of use/(or duration of use)

Amounts used: Quantity per use 1 l/min

Duration: ≤ 2 h/day

Frequency: 365 days/year

Technical organizational measures

Ensure that direct skin contact is avoided.

Avoid direct contact with the product, even with contaminated hands.

Ensure operating personnel are trained to minimize exposure.

See main part of the safety data sheet, Sections 7 and/or 8, for measures mitigating the risks deriving from the physical-chemical properties.

Ensure a sufficient amount of general ventilation (1 to 3 air changes per hour).

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment:

Wear suitable face protection.

Use adequate eye protection.

Wear a suitable apron to avoid skin exposure.

Wear suitable gloves, tested according to EN347.

Use a respiratory protective device according to EN140.

Dermal: minimum efficiency of 80%.

Inhalation: minimum efficiency of 95%.

2.6. CS6: CONTRIBUTION SCENARIO - WORKER: Low energy handling of substances included in or on materials and/or articles (PROC21)

Product features (article)

Physical form of the product: Liquid.

Concentration of the substance in the product: Includes substance shares in the product up to 5%.

Amount used, frequency and duration of use/(or duration of use)

Amounts used: Quantity per use 0.3 l/min

Duration: ≤ 6 h/day

Frequency: 365 days/year

Technical organizational measures

Ensure that direct skin contact is avoided.

Avoid direct contact with the product, even with contaminated hands.

Ensure operating personnel are trained to minimize exposure.

See main part of the safety data sheet, Sections 7 and/or 8, for measures mitigating the risks deriving from the physical-chemical properties.

Ensure a sufficient amount of general ventilation (1 to 3 air changes per hour).

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment:

Wear suitable face protection.

Use adequate eye protection.

Wear a suitable apron to avoid skin exposure.

Wear suitable gloves, tested according to EN347.

Use a respiratory protective device according to EN140.

Dermal: minimum efficiency of 80%.

Inhalation: minimum efficiency of 95%.

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

3.1. CS1: CONTRIBUTION SCENARIO - ENVIRONMENT: Wet cure - Wet formulation (ERC8c, ERC8f)

Protection goal	Degree of exposure	Calculation method	Risk Characterization Ratio (RCR)
fresh water	N.d.	ECETOC TRA environment v2.0	0.169
fresh water sediment	N.d.	ECETOC TRA environment v2.0	0.411
sea water	N.d.	ECETOC TRA environment v2.0	0.089
Marine sediment	N.d.	ECETOC TRA environment v2.0	0.412
Agricultural land	N.d.	ECETOC TRA environment v2.0	0.004

3.2. CS2: CONTRIBUTION SCENARIO - ENVIRONMENT: Application with rollers or brushes (PROC10)

Route of exposure, Impact on health, Exposure indicator	Degree of exposure	Calculation method	Risk Characterization Ratio (RCR)
skin contact, systemic, long-term	N.d.	RISKOFDERM v2.1	0.83
by inhalation, systemic, long-term	N.d.	ECETOC TRA worker v2.0	0.2

3.3. CS3 CONTRIBUTION SCENARIO - ENVIRONMENT: Non-industrial spray application (PROC11)

Route of exposure, Impact on health, Exposure indicator	Degree of exposure	Calculation method	Risk Characterization Ratio (RCR)
skin contact, systemic, long-term	N.d.	RISKOFDERM v2.1	0.83
by inhalation, systemic, long-term	N.d.	ECETOC TRA worker v2.0	0.2

3.4. CS4 CONTRIBUTION SCENARIO - ENVIRONMENT: Treatment of articles by dipping and pouring (PROC13)

Route of exposure, Impact on health, Exposure indicator	Degree of exposure	Calculation method	Risk Characterization Ratio (RCR)
skin contact, systemic, long-term	N.d.	RISKOFDERM v2.1	0.83
by inhalation, systemic, long-term	N.d.	ECETOC TRA worker v2.0	0.2

3.5. CS5 CONTRIBUTION SCENARIO - ENVIRONMENT: Manual activities with direct contact (PROC19)

Route of exposure, Impact on health, Exposure indicator	Degree of exposure	Calculation method	Risk Characterization Ratio (RCR)
skin contact, systemic, long-term	N.d.	RISKOFDERM v2.1	0.83
by inhalation, systemic, long-term	N.d.	ECETOC TRA worker v2.0	0.2

3.6. CS6 CONTRIBUTION SCENARIO - ENVIRONMENT: Low energy handling of substances included in or on materials and/or articles (PROC21)

Route of exposure, Impact on health, Exposure indicator	Degree of exposure	Calculation method	Risk Characterization Ratio (RCR)
skin contact, systemic, long-term	N.d.	RISKOFDERM v2.1	0.83
by inhalation, systemic, long-term	N.d.	ECETOC TRA worker v2.0	0.2

4. GUIDANCE FOR DOWNSTREAM USERS TO ASSESS WHETHER THEY COMPLY WITH THE LIMITS SET BY THE EXPOSURE SCENARIO

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

phenol, styrenated

Substance identification

Chemical Name: phenol, styrenated
CAS number: 61788-44-1

COATINGS AND PAINTS - PROFESSIONAL USE

1. TITLE SECTION

Exposure scenario name: Professional use of coatings and paints

Date - Version: 10/03/2020 - 1.0

Life cycle stage: Generalized use by professional operators

Main user group: Professional uses

Sectors of use Professional uses (SU22)

Contributing scenario - Environment

CS1 Wet polymerization - wet formulation: ERC8c

Contributing scenario - Worker

CS2 Blend Operations: PROC5

CS3 Material Transfers: PROC8a

CS4 Material Transfers: PROC8b

2. CONTRIBUTIVE SCENARIOS

2.1. Contributing Scenario CS1 - Environment: Wet polymerization - wet formulation (ERC8c)

Environmental release categories: Widespread use resulting in inclusion in or on the surface of an article (indoor use) (ERC8c)

Amount used, frequency and duration of use

Quantities used: Daily quantity per site 8.25E-06 ton/day

Conditions and measures relating to municipal sewage treatment plants

Type of sewage treatment plant (STP): Municipal STP Water - 92.56% minimum efficiency

STP effluent (m³/day): 2000

Waste treatment conditions and measures (including product waste)

Waste treatment: No specific measures identified.

Other operational conditions affecting environmental exposure

Flow rate of receiving surface water: 18000 m³/day

2.2. CS2 Contributing Scenario - Worker: Mixing Operations (PROC5)

Environmental release categories: Mixing or blending in batch processes (PROC5)

Product features (article)

Physical form of the product: Liquid

Concentration of the substance in the product: Substance as it is.

Amount used, frequency and duration of use

Duration: Covers exposure up to 8 hours.

Measures and technical-organizational conditions

Ensure a sufficient amount of general ventilation (1 to 3 air changes per hour).

Ensure operating personnel are trained to minimize exposure.

Dermal - minimum 80% efficiency.

Inhalation - minimum 80% efficiency.

Conditions and measures for personal protection, hygiene and health verification

Personal protective equipment: Wear suitable respiratory protection. Inhalation - minimum 90% efficiency.

Other operational conditions affecting worker exposure

Indoor use

Temperature: A process temperature of up to 40°C is assumed.

Body parts exposed: Possible skin contact is believed to be limited to the hands.

2.3. CS3 Contributing Scenario - Worker: Material transfers (PROC8a)

Process categories: Transfer of a substance or a preparation (filling/emptying) at non-dedicated facilities (PROC8a)

Product features (article)

Physical form of the product: Liquid

Concentration of the substance in the product: Substance as it is.

Amount used, frequency and duration of use/exposure

Duration: Covers a daily exposure of up to 1 hour.

Measures and technical-organizational conditions

Ensure a sufficient amount of general ventilation (1 to 3 air changes per hour).

Ensure operating personnel are trained to minimize exposure.

Dermal - minimum 80% efficiency.

Inhalation - minimum 80% efficiency.

Conditions and measures for personal protection, hygiene and health verification

Personal protective equipment: Wear suitable respiratory protection. Inhalation - minimum 90% efficiency.

Other operational conditions affecting worker exposure

Indoor use

Temperature: A process temperature of up to 40°C is assumed.

Body parts exposed: Possible skin contact is believed to be limited to the hands.

2.4. CS4 Contributing Scenario - Worker: Material transfers (PROC8b)

Process categories: Transfer of a substance or a preparation (filling/emptying) at dedicated facilities (PROC8b)

Product features (article)

Physical form of the product: Liquid

Concentration of the substance in the product: Substance as it is.

Amount used, frequency and duration of use/exposure

Duration: Covers a daily exposure of up to 1 hour.

Measures and technical-organizational conditions

Ensure a sufficient amount of general ventilation (1 to 3 air changes per hour).

Ensure operating personnel are trained to minimize exposure.

Dermal - minimum 80% efficiency.

Inhalation - minimum 80% efficiency.

Conditions and measures for personal protection, hygiene and health verification

Personal protective equipment: Wear suitable respiratory protection. Inhalation - minimum 90% efficiency.

Other operational conditions affecting worker exposure

Indoor use

Temperature: A process temperature of up to 40°C is assumed.

Body parts exposed: Possible skin contact is believed to be limited to the hands.

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

3.1. Contributing Scenario CS1 - Environment: Wet polymerization - Wet Formulation (ERC8c)

Release route	Release rate	Release evaluation method
Water	8.25E-05 kg/day	N.d.
Air	15%	N.d.

Protection target	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
fresh water	1.821E-06 mg/l	N.d.	<0.01
fresh water sediment	0.383 mg/kg dry weight	N.d.	<0.01
sewage treatment plant	3.578E-07 mg/l	N.d.	<0.01
Marine sediment	0.075 mg/kg dry weight	N.d.	<0.01
sewage treatment plant	3.071E-06 mg/l	N.d.	<0.01
agricultural land	0.004 mg/kg dry weight	N.d.	<0.01
environmentally exposed people - Inhalation	0.000288 mg/m ³	N.d.	<0.01
environmentally exposed people - Oral	2.25E-06 mg/kg bw/day	N.d.	<0.01
all ways	N.d.	N.d.	<0.01

3.2. CS2 Contributing Scenario - Worker: Mixing Operations (PROC5)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
by inhalation, systemic, long-term	1.65 mg/m ³	ECETOC TRA Worker v3	0.15
skin contact, systemic, long-term	2.742 mg/kg bw/day	ECETOC TRA Worker v3	0.439
combined routes, systemic, long-term	N.d.	ECETOC TRA Worker v3	0.588

3.3. CS3 Contributing Scenario - Worker: Material transfers (PROC8a)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
by inhalation, systemic, long-term	0.825 mg/m ³	ECETOC TRA Worker v3	0.075
skin contact, systemic, long-term	2.742 mg/kg bw/day	ECETOC TRA Worker v3	0.439
combined routes, systemic, long-term	N.d.	ECETOC TRA Worker v3	0.514

2.3. CS4 Contributing Scenario - Worker: Material transfers (PROC8b)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
by inhalation, systemic, long-term	1.65 mg/m ³	ECETOC TRA Worker v3	0.15
skin contact, systemic, long-term	2.742 mg/kg bw/day	ECETOC TRA Worker v3	0.439
combined routes, systemic, long-term	N.d.	ECETOC TRA Worker v3	0.588

4. GUIDANCE FOR DOWNSTREAM USERS TO ASSESS WHETHER THEY COMPLY WITH THE LIMITS SET BY THE EXPOSURE SCENARIO

Guidance to check compliance with the exposure scenario: Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

2-methoxy-1-methylethyl acetate

Substance identification

Chemical Name: 2-methoxy-1-methylethyl acetate

CAS number: 108-65-6

Date - Version: 02/08/2021 18.0

4. USE IN COATINGS. - USE IN INDUSTRIAL PLANTS

Short title of the exposure scenario: Use in coatings. - Use in industrial plants

SU3; ERC4; PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC4: Industrial use of processing aids not becoming part of articles.

Operating conditions

Yearly amount used in EU: 63,050,000 kg

Daily amount per site: 105.087 kg

Minimum continuous emission days per year: 300

Emission factor to air: 27%

Emission factor in water: 2%

Emission factor in soil: 0.1%

Releases based on A&B tables from TGD 2003

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Treat air emissions to provide a typical removal efficiency of 70%.

Prevent discharge of undissolved substance, or recover from wastewater.

Type of treatment plant: Municipal sewage treatment plant.

Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%

Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.1338

Risk from environmental exposure is driven by freshwater and marine water.

Maximum safe use amount: 79,180 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC1: Use in closed process, no likelihood of exposure.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 0.04 mg/m³

Risk Characterization Ratio (RCR): 0.0001

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 0.34 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure.
General exposure. Continuous process (closed system) with sample collection.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 1.37 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure.
Film formation - Fast drying.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.5

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 1.37 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC3: Use in batch process (synthesis or formulation). Mixing operations. General exposure (closed system).

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 93.85 mg/m³

Risk Characterization Ratio (RCR): 0.25

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 0.34 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch process (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 75.08 mg/m³

Risk Characterization Ratio (RCR): 0.2

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application. Mixing operations (open systems).

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application. Spraying (automatic/robotic).

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Carry out in a vented booth or extracted enclosure. Effectiveness: 95%.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 46.93 mg/m³

Risk Characterization Ratio (RCR): 0.13

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 2.14 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.04

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application. Spraying (manual).

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Effectiveness: 70%.

Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 281.56 mg/m³

Risk Characterization Ratio (RCR): 0.76

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 8.57 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.17

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers. Non-dedicated system.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. Material transfers. Dedicated plant.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Material transfers. Drum/batch transfers. Transfer from containers. Dedicated plant.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 5.49 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.11

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC14: Production of preparations or articles by tableting, compression, extrusion or pelletising. Production or preparation of articles by tableting, compression, extrusion.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 3.43 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.07

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC15: Use as laboratory reagent. Laboratory activities.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 0.34 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

5. USE IN COATINGS. - USE IN INDUSTRIAL PLANTS

Short title of the exposure scenario: Use in coatings. - Use in industrial plants

SU3; ERC4; PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC4: Industrial use of processing aids not becoming part of articles.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs

Daily amount per site: 430kg

Minimum continuous emission days per year: 300

Emission factor to air: 80%

Emission factor in water: 10%

Emission factor in soil: 0.1%

Releases based on A&B tables from TGD 2003

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.

Type of treatment plant: Municipal sewage treatment plant.

Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%

Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.029

Risk from environmental exposure is driven by freshwater and marine water.

Maximum safe use amount: 140.104 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC1: Use in closed process, no likelihood of exposure (closed system). General exposure.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure.

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. General exposure. Continuous process (closed system) with sample collection.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 7.51 mg/m³

Risk Characterization Ratio (RCR): 0.02

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 1.37 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. Film formation - Fast drying.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Operation is carried out at elevated temperature ($> 20^\circ\text{C}$ above ambient temperature).

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 1.37 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC3: Use in batch process (synthesis or formulation). Mixing operations. General exposure (closed system).

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 18.77 mg/m³

Risk Characterization Ratio (RCR): 0.05

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 0.34 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch process (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 15.02 mg/m³

Risk Characterization Ratio (RCR): 0.04

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application. Mixing operations (open systems).

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application. Spraying (automatic/robotic). Spraying (manual)

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 8.57 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.17

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application. Spraying (manual).

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Wear suitable gloves compliant with EN ISO 374-1.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers. Non-dedicated system.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. Material transfers. Dedicated plant.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Material transfers. Drum/batch transfers. Transfer from containers. Dedicated plant.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 27.43 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.54

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC14: Production of preparations or articles by tableting, compression, extrusion or pelletising. Production or preparation of articles by tableting, compression, extrusion.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 3.43 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.07

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC15: Use as laboratory reagent. Laboratory activities.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 7.51 mg/m³

Risk Characterization Ratio (RCR): 0.02

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 0.34 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

7 USE IN COATINGS. - USE IN INDUSTRIAL PLANTS

Short title of the exposure scenario: Use in coatings. - Use in professional installations

SU22; ERC8a, ERC8d; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC15, PROC19

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC8a: Wide dispersive indoor use of processing aids in open systems.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs

Daily amount per site: 433 kg

Minimum continuous emission days per year: 300

Emission factor to air: 80%

Emission factor in water: 10%

Emission factor in soil: 0.1%

Releases based on A&B tables from TGD 2003

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.

Type of treatment plant: Municipal sewage treatment plant.

Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%

Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.029

Risk from environmental exposure is driven by freshwater and marine water.

Maximum safe use amount: 15,141 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC8d: Wide dispersive outdoor use of processing aids in open systems.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs

Daily amount per site: 433 kg

Minimum continuous emission days per year: 300

Emission factor to air: 80%

Emission factor in water: 10%

Emission factor in soil: 0.1%

Releases based on A&B tables from TGD 2003

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.

Type of treatment plant: Municipal sewage treatment plant.

Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%

Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.029

Risk from environmental exposure is driven by freshwater and marine water.

Maximum safe use amount: 15,141 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC1: Use in closed process, no likelihood of exposure.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 0.04 mg/m³

Risk Characterization Ratio (RCR): 0.0001

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 0.34 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure.

Filling/Preparation of equipment required for drums and containers.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure.

The use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure.

General exposure. Use in confined systems (closed system). Filling/Preparation of equipment required for drums and containers.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Operation is carried out at elevated temperature ($> 20^\circ\text{C}$ above ambient temperature).

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 75.08 mg/m³

Risk Characterization Ratio (RCR): 0.2

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 1.37 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC3: Use in batch process (synthesis or formulation). Preparation of material for application

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 93.85 mg/m³

Risk Characterization Ratio (RCR): 0.25

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 0.34 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch process (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch and other processes (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure.

The use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.

Alternatively: Ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 269.79 mg/m³

Risk Characterization Ratio (RCR): 0.71

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers. Drum/batch transfers. Non-dedicated system.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 262.79 mg/m³

Risk Characterization Ratio (RCR): 0.71

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. Material transfers. Drum/batch transfers Dedicated plant.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.

Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%

If there is no general ventilation, ensure that operations are carried out outdoors.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 262.79 mg/m³

Risk Characterization Ratio (RCR): 0.71

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 5.49 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.11

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.

Wear suitable gloves compliant with EN ISO 374-1.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application. Spraying (manual).

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Carry out in a vented booth or extracted enclosure. Effectiveness: 80%.

Wear a respirator conforming to EN140 with type A filter or better. Effectiveness: 90%.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 2.14 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.04

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application. Spraying (manual).

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally. Effectiveness: 30%.

Wear a respirator conforming to EN140 with type A filter or better. Effectiveness: 90%.

Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 131.4 mg/m³

Risk Characterization Ratio (RCR): 0.36

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 21.43 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.42

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.

Alternatively: Ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 262.79 mg/m³

Risk Characterization Ratio (RCR): 0.71

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC15: Use as laboratory reagent. Laboratory activities.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 0.34 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact using only personal protective equipment. Hand application - fingerpaints, pastels, adhesives.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 100\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%.

If there is no general ventilation, ensure that operations are carried out outdoors.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 262.79 mg/m³

Risk Characterization Ratio (RCR): 0.71

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 14.14 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.28

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact using only personal protective equipment. Hand application - fingerpaints, pastels, adhesives.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.

Wear chemically resistant gloves in combination with "basic" employee training.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

8. USE IN COATINGS. - USE IN INDUSTRIAL PLANTS

Short title of the exposure scenario: Use in coatings. - Use in professional installations

SU22; ERC8a, ERC8d; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC15, PROC19

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC8a: Wide dispersive indoor use of processing aids in open systems.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs

Daily amount per site: 433 kg

Minimum continuous emission days per year: 300

Emission factor to air: 80%

Emission factor in water: 10%

Emission factor in soil: 0.1%

Releases based on A&B tables from TGD 2003

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.

Type of treatment plant: Municipal sewage treatment plant.

Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%

Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.029

Risk from environmental exposure is driven by freshwater and marine water.

Maximum safe use amount: 15,141 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC8d: Wide dispersive outdoor use of processing aids in open systems.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs

Daily amount per site: 433 kg

Minimum continuous emission days per year: 300

Emission factor to air: 80%

Emission factor in water: 10%

Emission factor in soil: 0.1%

Releases based on A&B tables from TGD 2003

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.

Type of treatment plant: Municipal sewage treatment plant.

Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%

Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.029

Risk from environmental exposure is driven by freshwater and marine water.

Maximum safe use amount: 15,141 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC1: Use in closed process, no likelihood of exposure. General exposure (closed system).

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. Filling/Preparation of equipment required for drums and containers.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. General exposure. Use in confined systems (closed system). Filling/Preparation of equipment required for drums and containers.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Operation is carried out at elevated temperature ($> 20^\circ\text{C}$ above ambient temperature).

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 15.02 mg/m³

Risk Characterization Ratio (RCR): 0.4

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 1.37 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC3: Use in batch process (synthesis or formulation). Preparation of material for application

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 18.77 mg/m³

Risk Characterization Ratio (RCR): 0.05

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 0.34 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch and other processes (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch and other processes (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Indoor use.

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 75.08 mg/m³

Risk Characterization Ratio (RCR): 0.2

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers. Drum/batch transfers. Non-dedicated system.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 75.08 mg/m³

Risk Characterization Ratio (RCR): 0.2

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. Material transfers. Drum/batch transfers Dedicated plant.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 75.08 mg/m³

Risk Characterization Ratio (RCR): 0.2

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 27.43 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.54

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%

Indoor/Outdoor: Outdoor use.

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application. Spraying (manual).

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%.

If there is no general ventilation, ensure that operations are carried out outdoors.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 262.79 mg/m³

Risk Characterization Ratio (RCR): 0.71

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 10.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.21

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application. Spraying (manual).

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.

Wear chemically resistant gloves in combination with "basic" employee training.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 75.08 mg/m³

Risk Characterization Ratio (RCR): 0.2

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Indoor use.

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC15: Use as laboratory reagent. Laboratory activities.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 7.51 mg/m³

Risk Characterization Ratio (RCR): 0.02

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 0.34 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact using only personal protective equipment. Hand application - fingerpaints, pastels, adhesives.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.

Exposure estimation: 75.08 mg/m³

Risk Characterization Ratio (RCR): 0.2

Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.

Exposure estimation: 28.29 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.56

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact using only personal protective equipment. Hand application - fingerpaints, pastels, adhesives.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥ 0 - $\leq 5\%$

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days a week

Indoor/Outdoor: Outdoor use.

Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Wear suitable gloves compliant with EN ISO 374-1.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>