

Fișa cu date de securitate

DILUENTE ADW

Fișa cu date de securitate din data 12/06/2023 versiunea 1

Atenție: numărătoarea a repornit de la 1.

SECȚIUNEA 1: Identificarea substanței/amestecului și a societății/întreprinderii

1.1. Identificator de produs

Identificarea preparatului:

Nume comercial: DILUENTE ADW

Cod comercial: 583K

UFI: D2M1-00XS-S00R-AKV1

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

Utilizarea recomandată: Diluant

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)

Flam. Liq. 2	Lichid și vapori foarte inflamabili.
Eye Irrit. 2	Provoacă o iritare gravă a ochilor.
STOT SE 3	Poate provoca somnolență sau amețeală.

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

H225	Lichid și vapori foarte inflamabili.
H319	Provoacă o iritare gravă a ochilor.
H336	Poate provoca somnolență sau amețeală.

Fraze de precauție

P210	A se păstra departe de surse de căldură, suprafețe fierbinți, scânteii, flăcări și alte surse de aprindere. Fumatul interzis.
P233	Păstrați recipientul închis etanș.
P261	Evitați să inspirați fumul/gazul/ceapa/vaporii/spray-ul.
P280	Purtați mănuși de protecție și protejați ochii/vederea.
P312	Sunați la un CENTRU DE INFORMARE TOXICOLOGICĂ/un medic dacă nu vă simțiți bine.
P370+P378	În caz de incendiu: a se utiliza extingtorul cu praf pentru a stinge.
P403+P235	A se depozita într-un spațiu bine ventilat. A se păstra la rece.

Prevederi speciale:

EUH066 Expunerea repetată poate provoca uscarea sau crăparea pielii.

Conține:

- acetat de etil
- acetat de n-butil

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: DILUENTE ADW

Componente periculoase în sensul Regulamentului CLP și clasificarea corespunzătoare:

Cantitate	Nume	Nr. de Ident.	Clasificare	Număr de înregistrare
≥ 80%	acetat de etil	CAS:141-78-6 EC:205-500-4 Index:607-022-00-5	Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336, EUH066	01-2119475103-46-xxxx
≥5 - <10 %	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

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 abundent 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:

- În caz de incendiu: a se utiliza extingtorul cu praf pentru a stinge.
- 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).
- Vaporii pot forma amestecuri explozive cu aerul.

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

Îmbrăcați dispozitivele de protecție individuală.
Îndepărtați orice sursă de aprindere.
Duceți persoanele în loc sigur.
Citiți măsurile de protecție prezentate la punctele 7 și 8.

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)
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.
A se feri de flacari necontrolate, scintei si surse de caldura. Evitati expunerea directa la soare
Țineți departe de alimente, băuturi și hrană pentru animale.

Materiale incompatibile

Vezi pct. 10.5

Instructiuni privind spatiile de depozitare:

Racoros si ventilat corespunzator

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

		Tip OEL țară	Termen lung mg/m3	Termen lung ppm	Termen scurt mg/m3	Termen scurt ppm	Not
acetat de etil CAS: 141-78-6	ACGIH			400			URT and eye irr
	UE		734	200	1468	400	
	MAK	AUSTRIA	734.000	200	1468.000	400	
	VLEP	BELGIUM	734.000	200	1468.000	400	
	VLEP	FRANCE	734.000	200	1468.000	400	
	AGW	GERMANY	730.000	200.000	1460.000	400	
	MAK	GERMANY	750.000	200.000	1500.000	400.000	
	ÁK	HUNGARY	1400		1400		
	VLEP	ITALY	734	200.000	1468	400.000	

acetat de n-butil CAS: 123-86-4	NDS	POLAND	734.000		1468.000	
	VLEP	ROMANIA	400.000	111.000	500.000	139.000
	VLA	SPAIN	734.000	200.000	1460.000	400.000
	SUVA	SWITZERLAND	730.000	200.000	1470.000	400.000
	WEL	U.K.	730.000	200.000	1460.000	400.000
	VLE	PORTUGAL	734.000	200.000	1468.000	400.000
	GVI	CROATIA	734.000	200.000	1468.000	400.000
	MV	SLOVENIA	734.000	200.000	1468.000	400.000
	TLV	CZECHIA	700.000	191.100	900.000	245.700
	IPRV	LITHUANIA	500.000	150.000	1100.000	300.000
	TLV	BULGARIA	734.000	200.000	1468.000	400.000
	ACGIH			50		150
						Eye and URT irr
	UE		241	50	723	150
	MAK	AUSTRIA	480	100	480.000	100.000
	VLEP	BELGIUM	238.000	50.000	712.000	150.000
	VLEP	FRANCE	710.000	150	940.000	200
	AGW	GERMANY	300.000	62.000	600.000	124.000
	MAK	GERMANY	480.000	100.000	960.000	200
	ÁK	HUNGARY	950		950	
	NDS	POLAND	240		720	
	VLEP	ROMANIA	715.000	150.000	950.000	200.000
	VLA	SPAIN	724.000	150.000	965.000	200.000
	SUVA	SWITZERLAND	240.000	50.000	720.000	150.000
	WEL	U.K.	724.000	150.000	966.000	200.000
	GVI	CROATIA	724.000	150.000	966.000	200.000
	MV	SLOVENIA	300.000	62.000	600.000	124.000
	TLV	CZECHIA	241.000		723.000	
	TLV	BULGARIA	710.000		950.000	

Valori limită de expunere PNEC

	PNEC Limită	Cale de expunere	Frecvență de expunere	Note
acetat de etil CAS: 141-78-6	0.024 mg/l	Apă sărată		
	0.24 mg/l	Apă dulce		
	0.115 mg/kg	Sedimente în apă sărată		
	1.15 mg/kg	Sedimente în apă dulce		
	650 mg/l	Microorganisme în tratamente de epurare		
	0.148 mg/kg	Sol (agricol)		
acetat de n-butil CAS: 123-86-4	0.018 mg/l	Apă sărată		
	0.18 mg/l	Apă dulce		
	0.098 mg/kg	Sedimente în apă sărată		
	0.981 mg/kg	Sedimente în apă dulce		

35.6 mg/l	Microorganisme în tratamente de epurare
0.09 mg/kg	Sol (agricol)

Nivel Derivat Fără Efect (DNEL)

	Lucrător r industrial	Lucrător r profesionalist	Consumator	Cale de expunere	Frecvență de expunere	Note
acetat de etil CAS: 141-78-6		734 mg/m3	367 mg/m3	Prin inhalare umană	Pe termen lung, efecte sistemice	
		734 mg/m3	367 mg/m3	Prin inhalare umană	Pe termen lung, efecte locale	
		1468 mg/m3	734 mg/m3	Prin inhalare umană	Pe termen scurt, efecte sistemice	
		1468 mg/m3	734 mg/m3	Prin inhalare umană	Pe termen scurt, efecte locale	
		63 mg/kg	37 mg/kg	Epidermic uman	Pe termen lung, efecte sistemice	
acetat de n-butil CAS: 123-86-4			4.5 mg/kg	Oral uman	Pe termen lung, efecte sistemice	
		300 mg/m3	35.7 mg/m3	Prin inhalare umană	Pe termen lung, efecte sistemice	
		600 mg/m3	300 mg/m3	Prin inhalare umană	Pe termen scurt, efecte sistemice	
		300 mg/m3	35.7 mg/m3	Prin inhalare umană	Pe termen lung, efecte locale	
		600 mg/m3	300 mg/m3	Prin inhalare umană	Pe termen scurt, efecte locale	
		11 mg/kg	6 mg/kg	Epidermic uman	Pe termen lung, efecte sistemice	
		11 mg/kg	6 mg/kg	Epidermic uman	Pe termen scurt, efecte sistemice	
			2 mg/kg	Oral uman	Pe termen scurt, efecte sistemice	
			2 mg/kg	Oral uman	Pe termen lung, efecte sistemice	

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

Personalul trebuie să poarte îmbrăcăminte antistatică din fibre naturale sau din fibre sintetice rezistente la temperaturi ridicate.

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: Lichid

Culoare: incolor

Miros: fructat

Punct de fuziune/congelare: N.D.

Punct de fierbere inițială și intervalul de fierbere: > 77 °C (171 °F)

Inflamabilitatea: Produsul este clasificat Flam. Liq. 2 H225

Limita superioară/inferioară de inflamabilitate sau explozie: N.D.

Punctul de aprindere: < 23°C

Temperatura de autoaprindere: N.D.

Temperatura de descompunere: N.D.

pH: N.A. (Nu se aplică datorită naturii produsului)

Viscozitatea cinematică: N.A.

Densitate: 0,9 kg/l (Metoda internă)

Densitatea vaporilor: 3,04

Presiunea vaporilor: N.D.

Solubilitatea în apă: N.A.

Solubilitate în ulei: N.A.

Coeficientul de repartizare (n-octanol/apă): N.A.

Caracteristicile particulei:

Dimensiunea particulei: N.A.

9.2. Alte informații

Conductivitatea: N.D.

Proprietati explozive: N.A.

Proprietati oxidante: N.A.

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

Din cauza efectului căldurii sau în caz de incendiu, se pot elibera oxizi de carbon și vapori care pot fi dăunători pentru sănătate.

A se păstra la distanță de agenți oxidanți, materiale puternic alcaline și puternic acide pentru a evita reacțiile exotermice.

Vaporii pot forma amestecuri explozive cu aerul.

10.4. Condiții de evitat

Evitați apropierea de surse de căldură.

10.5. Materiale incompatibile

Evitați contactul cu materiale oxidante. Produsul ar putea să se aprindă.

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

Neclasificat

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

b) corodarea/iritarea pielii	Neclasificat Pe baza datelor disponibile, criteriile de clasificare nu sunt îndeplinite.
c) lezarea gravă/iritarea ochilor	Produsul este clasificat: Eye Irrit. 2(H319)
d) sensibilizarea căilor respiratorii sau a pielii	Neclasificat Pe baza datelor disponibile, criteriile de clasificare nu sunt îndeplinite.
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	Produsul este clasificat: STOT SE 3(H336)
i) STOT (toxicitate asupra organelor țintă specifice) - expunere repetată	Neclasificat Pe baza datelor disponibile, criteriile de clasificare nu sunt îndeplinite.
j) pericol prin aspirare	Neclasificat Pe baza datelor disponibile, criteriile de clasificare nu sunt îndeplinite.

Informații toxicologice referitoare la substanțele principale găsite în acest produs:

acetat de etil	a) toxicitate acută	LD50 Oral Șobolan 4934 mg/kg LD50 Piele Iepure > 20000 mg/kg LC50 Vaporii de inhalare Șobolan > 22.5 mg/l 6h
acetat de n-butil	a) toxicitate acută	LD50 Oral Șobolan 10760 mg/kg LD50 Piele Iepure 14112 mg/kg LC50 Vaporii de inhalare Șobolan > 21.1 mg/l 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:

Lista proprietăților Eco-toxicologice ale produsului

Nu este clasificat pentru pericole pentru mediu

Nu sunt disponibile informații pentru acest produs

Lista componentelor cu proprietăți ecotoxicologice

Componentă	Nr. de Ident.	Informații Ecotox
acetat de etil	CAS: 141-78-6 - EINECS: 205-500-4 - INDEX: 607-022-00-5	a) Toxicitate acvatică acută : LC50 Pește 230 mg/l 96h
acetat de n-butil	CAS: 123-86-4 - EINECS: 204-658-1 - INDEX: 607-025-00-1	a) Toxicitate acvatică acută : EC50 Daphnia 165 mg/l 48h 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

12.2. Persistență și degradabilitate

Componentă	Persistență/degradabil:
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acetat de etil	Degradabil în mod rapid
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acetat de n-butil	Degradabil în mod rapid
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12.3. Potențial de bioacumulare

N.A.

12.4. Mobilitate în sol

N.A.

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.

SECȚIUNEA 14: Informații referitoare la transport



14.1. Numărul ONU sau numărul de identificare

1993

14.2. Denumirea corectă ONU pentru expediție

ADR-Nume transport îmbarcare: LICHID INFLAMABIL, N.S.A. (acetat de etil - acetat de n-butil)

IATA-Nume tehnic: FLAMMABLE LIQUID, N.O.S. (acetat de etil - acetat de n-butil)

IMDG-Nume tehnic: FLAMMABLE LIQUID, N.O.S. (acetat de etil - acetat de n-butil)

14.3. Clasa (clasele) de pericol pentru transport

ADR-clasa: 3

IATA-Clasa: 3

IMDG-Clasa: 3

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-E, S-E

14.6. Precauții speciale pentru utilizatori

Drumuri și Căi Ferate (ADR-RID):

ADR-Etichetă: 3

ADR - Număr de identificare a pericolului: 33

ADR-Dispoziții Speciale: 274 601 640D

ADR-Cod de restricție în tunel:

Aer (IATA):

IATA-Aeronavă de pasagerit: 353

IATA-Aeronavă de marfă: 364

IATA-Etichetă: 3

IATA-Riscul secundar: -

IATA-Erg: 3H

IATA-Dispoziții Speciale: A3

Mare (IMDG):

IMDG-Cod durată depozitare: Category B

IMDG-Notă durată depozitare: -

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)

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, 40

Restricții referitoare la substanțele conținute: 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)
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Produsul face parte din categoria: P5c	5000	50000
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Regulamentul (UE) nr. 649/2012 (Regulamentul PIC)

Nu există substanțe menționate

Clasa Germană a Periculozității Apei

1: Low hazard to waters

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.
H319	Provoacă o iritare gravă a ochilor.
H336	Poate provoca somnolență sau amețeală.

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
3.3/2	Eye Irrit. 2	Iritarea ochilor, Categoria 2
3.8/3	STOT SE 3	Toxicitate asupra unui organ țintă specific – o singură expunere, 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
2.6/2	Pe baza datelor colectate în timpul testului
3.3/2	Metoda de calcul
3.8/3	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.
CCNL - Anexa 1

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

Ethyl acetate

Substance identification

Chemical Name: Ethyl acetate

CAS number: 141-78-6

ETHYL ACETATE

ES 1: Cosmetics, personal care products (PC39); User for consumers (SU21).

ES 2: Filling of drums and small packages (CS6); INDUSTRIAL USES (SU3).

ES 3: Formulation or repackaging (F); INDUSTRIAL USES (SU3).

ES 4: Use of non-reactive processing aid at industrial site (no inclusion in article) (ERC4); Industrial uses (su3); Extraction agents (PC40).

ES 5: PROFESSIONAL APPLICATION OF COATINGS AND INKS; INDUSTRIAL USES (SU3).

ES 6: Use as laboratory reagent (PROC15); Industrial uses (su3); Industrial use.

ES 7: Use in cleaning products (GEST4_I, GEST4_P, GEST4_C); INDUSTRIAL USES (SU3).

ES 8: Use in lubricants (GEST6_I, GEST6_P, GEST6_C); INDUSTRIAL USES (SU3).

ES 9: Professional application of coatings and inks (14); INDUSTRIAL USES (SU3). Covers use in coatings (paints, inks, adhesives, etc.) including exposures during use (receipt of material, storage, preparation and transfer of bulk and semi-bulk products, application by spray, roller or spreader, dipping, flow, fluidized bed on production lines and film formation), the cleaning and maintenance of the equipment and the associated laboratory activities [GES3_I].

ES 10: Use as laboratory reagent (PROC15); Industrial uses (su3); Professional (G27).

ES 11: Use in agrochemical products (GEST11_P, GEST11_C); INDUSTRIAL USES (SU3).

ES 12: Use in detergent products (GEST4_I, GEST4_P, GEST4_C).

ES 13: Use in lubricants (GEST6_I, GEST6_P, GEST6_C)

ES 14: Adhesives, Sealants (PC1); Use in coatings (GEST3_I, GEST3_P, GEST3_C).

ES 5: PROFESSIONAL APPLICATION OF COATINGS AND INKS (17); INDUSTRIAL USES (SU3).

5.1. USE AT INDUSTRIAL SITES

Environment

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

Worker

SC 2: Generalized exposures (closed systems) PROC1

SC 3: Generalized exposures (closed systems); Use in closed systems, with sample taking PROC2

SC 4: Film formation - forced drying (50 -100°C). Stove (>100°C), Curing by UV/EB radiation PROC2

SC 5: Mixing operations, Generalized exposures PROC3

SC 6: Film formation, air drying PROC4

SC 7: Preparation of material for application, Mixing operations (open systems) PROC5

SC 8: Spraying (automatic/robotic) PROC7

SC 9: Manual spraying PROC7

SC 10: Material transfers, Non-Specialized site PROC8a

SC 11: Material transfers, Specialized site PROC8b

SC 12: Roller, diffusion, flow application PROC10

SC 13: Immersion, dipping and pouring PROC13

SC 14: Laboratory activities PROC15

SC 15: Material transfers, Drum/batch transfers, Transfer from/pour from containers PROC9

SC 16: Production or preparation of articles by tableting, compression, extrusion or pelettisation. PROC14

5.2. CONDITIONS OF USE THAT AFFECT EXPOSURE

5.2.1 Environmental exposure control: Use of non-reactive processing aid at industrial site (no inclusion in article) (ERC4)

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

Daily amount per site: ≤ 1 t/day

Annual amount per site: ≤ 300 t/year

Organizational and technical measures and conditions

A wastewater treatment plant is expected.

Assumed domestic sewage treatment plant flow: ≥ 2E³ m³/day.

Conditions and measures for waste treatment (including the article of waste)

Waste treatment: Dispose of waste products or used containers according to local regulations.

Other conditions affecting environmental exposure

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

5.2.2. Worker Exposure Control: Chemical production or refinement in closed processes without likelihood of exposure or in processes with equivalent containment conditions (PROC1)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

5.2.3. Worker Exposure Control: Chemical production or refinery in closed process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

5.2.4. Worker Exposure Control: Chemical production or refinery in closed process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

5.2.5. Worker Exposure Control: Chemical production or formulation in closed batch processes, with occasional controlled exposure or processes with equivalent containment conditions (PROC3)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

5.2.6. Worker Exposure Control: Production of chemicals with the possibility of exposure (PROC4)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Local exhaust ventilation

Inhalation - minimum yield of 90%

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

5.2.7. Worker Exposure Control: Mixing or blending in batch processes (PROC5)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Local exhaust ventilation

Inhalation - minimum yield of 90%

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

5.2.8. Worker Exposure Control: Industrial spraying (PROC7)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Local exhaust ventilation

Inhalation - minimum yield of 95%

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

5.2.9. Worker Exposure Control: Industrial spraying (PROC7)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Local exhaust ventilation

Inhalation - minimum yield of 95%

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

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

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Local exhaust ventilation

Inhalation - minimum yield of 90%

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

5.2.11. Worker Exposure Control: Transfer of a substance or a mixture (charging/discharging) at dedicated facilities (PROC8b)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Local exhaust ventilation

Inhalation - minimum yield of 95%

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

5.2.12. Worker Exposure Control: Application with rollers or brushes (PROC10)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Local exhaust ventilation

Inhalation - minimum yield of 90%

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

5.2.13. Worker Exposure Control: Treatment of articles by dipping and pouring (PROC13)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Local exhaust ventilation

Inhalation - minimum yield of 90%

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

5.2.14. Worker Exposure Control: Use as laboratory reagents (PROC15)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

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

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Local exhaust ventilation

Inhalation - minimum yield of 90%

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

5.2.16. Worker Exposure Control: Tableting, compression, extrusion, pelletising, granulation (PROC14)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Local exhaust ventilation

Inhalation - minimum yield of 90%

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

5.3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

5.3.1. 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	20 kg/day	Estimated release factor
air	980 kg/day	Estimated release factor
Soil	0 kg/day	Estimated release factor

Protection target	Estimated exposure	RCR
Fresh water	0.119 mg/l (EUSES v2.1)	0,495
freshwater sediments	0.708 mg/kg dry weight (EUSES v2.1)	0,616
Sea water	0.012 mg/l (EUSES v2.1)	0,495
Marine sediment	0.071 mg/kg dry weight (EUSES v2.1)	0,617
Sewage treatment plant	1.184 mg/l (EUSES v2.1)	< 0.01
Farmland	0.081 mg/kg dry weight (EUSES v2.1)	0,547
Prey for predators (freshwater)	1.469 mg/kg dry weight (EUSES v2.1)	< 0.01
Prey for predators (marine water)	0.148 mg/kg dry weight (EUSES v2.1)	< 0.01
Main predator prey (marine water)	0.031 mg/kg dry weight (EUSES v2.1)	< 0.01
Prey for Predators (Terrestrial)	0.028 mg/kg dry weight (EUSES v2.1)	< 0.01

5.3.2. Worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	0.037 mg/m ³ (ECETOC TRA worker v3)	< 0.01
inhalation	systemic	Short term	0.147 mg/m ³ (ECETOC TRA worker v3)	< 0.01
inhalation	local	Long-term	0.037 mg/m ³ (ECETOC TRA worker v3)	< 0.01
inhalation	local	Short term	0.147 mg/m ³ (ECETOC TRA worker v3)	< 0.01
dermal	systemic	Long-term	0.034 mg/kg p.c./day (ECETOC TRA worker v3)	< 0.01
combined routes	systemic	Long-term	/	< 0.01

5.3.3. Worker exposure: Chemical production or refinery in closed process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	91.77 mg/m ³ (ECETOC TRA worker v3)	0.125
inhalation	systemic	Short term	361.7 mg/m ³ (ECETOC TRA worker v3)	0.25
inhalation	local	Long-term	91.77 mg/m ³ (ECETOC TRA worker v3)	0.125
inhalation	local	Short term	361.7 mg/m ³ (ECETOC TRA worker v3)	0.25
dermal	systemic	Long-term	1.37 mg/kg p.c./day (ECETOC TRA worker v3)	0.022
combined routes	systemic	Long-term	/	0.147

5.3.4. Worker exposure: Chemical production or refinery in closed process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	91.77 mg/m ³ (ECETOC TRA worker v3)	0.125
inhalation	systemic	Short term	361.7 mg/m ³ (ECETOC TRA worker v3)	0.25
inhalation	local	Long-term	91.77 mg/m ³ (ECETOC TRA worker v3)	0.125
inhalation	local	Short term	361.7 mg/m ³ (ECETOC TRA worker v3)	0.25
dermal	systemic	Long-term	1.37 mg/kg p.c./day (ECETOC TRA worker v3)	0.022
combined routes	systemic	Long-term	/	0.147

5.3.5. Worker exposure: Chemical production or formulation in closed batch processes, with occasional controlled exposure or processes with equivalent containment conditions (PROC3)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	183.5 mg/m ³ (ECETOC TRA worker v3)	0.25
inhalation	systemic	Short term	734.2 mg/m ³ (ECETOC TRA worker v3)	0.5
inhalation	local	Long-term	183.5 mg/m ³ (ECETOC TRA worker v3)	0.25
inhalation	local	Short term	734.2 mg/m ³ (ECETOC TRA worker v3)	0.5
dermal	systemic	Long-term	0.69 mg/kg p.c./day (ECETOC TRA worker v3)	0.011
combined routes	systemic	Long-term	/	0.261

5.3.6. Worker exposure: Production of chemicals with the possibility of exposure (PROC4)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	36.71 mg/m ³ (ECETOC TRA worker v3)	0.05
inhalation	systemic	Short term	146.8 mg/m ³ (ECETOC TRA worker v3)	0.1
inhalation	local	Long-term	36.71 mg/m ³ (ECETOC TRA worker v3)	0.05
inhalation	local	Short term	146.8 mg/m ³ (ECETOC TRA worker v3)	0.1
dermal	systemic	Long-term	6.86 mg/kg p.c./day (ECETOC TRA worker v3)	0.109
combined routes	systemic	Long-term	/	0.159

5.3.7. Worker exposure: Mixing or blending in batch processes (PROC5)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	91.77 mg/m ³ (ECETOC TRA worker v3)	0.125
inhalation	systemic	Short term	367.1 mg/m ³ (ECETOC TRA worker v3)	0.25
inhalation	local	Long-term	91.77 mg/m ³ (ECETOC TRA worker v3)	0.125
inhalation	local	Short term	367.1 mg/m ³ (ECETOC TRA worker v3)	0.25
dermal	systemic	Long-term	13.71 mg/kg p.c./day (ECETOC TRA worker v3)	0.218
combined routes	systemic	Long-term	/	0.343

5.3.8. Worker exposure: Industrial spraying (PROC7)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	91.77 mg/m ³ (ECETOC TRA worker v3)	0.125
inhalation	systemic	Short term	367.1 mg/m ³ (ECETOC TRA worker v3)	0.25
inhalation	local	Long-term	91.77 mg/m ³ (ECETOC TRA worker v3)	0.125
inhalation	local	Short term	367.1 mg/m ³ (ECETOC TRA worker v3)	0.25
dermal	systemic	Long-term	42.86 mg/kg p.c./day (ECETOC TRA worker v3)	0.68
combined routes	systemic	Long-term	/	0.805

5.3.9. Worker exposure: Industrial spraying (PROC7)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	91.77 mg/m ³ (ECETOC TRA worker v3)	0.125
inhalation	systemic	Short term	367.1 mg/m ³ (ECETOC TRA worker v3)	0.25
inhalation	local	Long-term	91.77 mg/m ³ (ECETOC TRA worker v3)	0.125
inhalation	local	Short term	367.1 mg/m ³ (ECETOC TRA worker v3)	0.25
dermal	systemic	Long-term	42.86 mg/kg p.c./day (ECETOC TRA worker v3)	0.68
combined routes	systemic	Long-term	/	0.805

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

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	91.77 mg/m ³ (ECETOC TRA worker v3)	0.125
inhalation	systemic	Short term	367.1 mg/m ³ (ECETOC TRA worker v3)	0.25
inhalation	local	Long-term	91.77 mg/m ³ (ECETOC TRA worker v3)	0.125
inhalation	local	Short term	367.1 mg/m ³ (ECETOC TRA worker v3)	0.25
dermal	systemic	Long-term	13.71 mg/kg p.c./day (ECETOC TRA worker v3)	0.218
combined routes	systemic	Long-term	/	0.343

5.3.11. Worker exposure: Transfer of a substance or a mixture (charging/discharging) at dedicated facilities (PROC8b)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	27.53 mg/m ³ (ECETOC TRA worker v3)	0,038
inhalation	systemic	Short term	110.1 mg/m ³ (ECETOC TRA worker v3)	0,075
inhalation	local	Long-term	27.53 mg/m ³ (ECETOC TRA worker v3)	0,038
inhalation	local	Short term	110.1 mg/m ³ (ECETOC TRA worker v3)	0,075
dermal	systemic	Long-term	13.71 mg/kg p.c./day (ECETOC TRA worker v3)	0.218
combined routes	systemic	Long-term	/	0.255

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

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	91.77 mg/m ³ (ECETOC TRA worker v3)	0.125
inhalation	systemic	Short term	367.1 mg/m ³ (ECETOC TRA worker v3)	0.25
inhalation	local	Long-term	91.77 mg/m ³ (ECETOC TRA worker v3)	0.125
inhalation	local	Short term	367.1 mg/m ³ (ECETOC TRA worker v3)	0.25
dermal	systemic	Long-term	27.43 mg/kg p.c./day (ECETOC TRA worker v3)	0.435
combined routes	systemic	Long-term	/	0.56

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

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	91.77 mg/m ³ (ECETOC TRA worker v3)	0.125
inhalation	systemic	Short term	367.1 mg/m ³ (ECETOC TRA worker v3)	0.25
inhalation	local	Long-term	91.77 mg/m ³ (ECETOC TRA worker v3)	0.125
inhalation	local	Short term	367.1 mg/m ³ (ECETOC TRA worker v3)	0.25
dermal	systemic	Long-term	13.71 mg/kg p.c./day (ECETOC TRA worker v3)	0.218
combined routes	systemic	Long-term	/	0.343

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

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	183.5 mg/m ³ (ECETOC TRA worker v3)	0.25
inhalation	systemic	Short term	734.2 mg/m ³ (ECETOC TRA worker v3)	0.5
inhalation	local	Long-term	183.5 mg/m ³ (ECETOC TRA worker v3)	0.25
inhalation	local	Short term	734.2 mg/m ³ (ECETOC TRA worker v3)	0.5
dermal	systemic	Long-term	0.34 mg/kg p.c./day (ECETOC TRA worker v3)	< 0.01
combined routes	systemic	Long-term	/	0.255

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

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	73.42 mg/m ³ (ECETOC TRA worker v3)	0.1
inhalation	systemic	Short term	293.6 mg/m ³ (ECETOC TRA worker v3)	0.2
inhalation	local	Long-term	73.42 mg/m ³ (ECETOC TRA worker v3)	0.1
inhalation	local	Short term	293.6 mg/m ³ (ECETOC TRA worker v3)	0.2
dermal	systemic	Long-term	6.86 mg/kg p.c./day (ECETOC TRA worker v3)	0.109
combined routes	systemic	Long-term	/	0.209

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

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	91.77 mg/m ³ (ECETOC TRA worker v3)	0.125
inhalation	systemic	Short term	367.1 mg/m ³ (ECETOC TRA worker v3)	0.25
inhalation	local	Long-term	91.77 mg/m ³ (ECETOC TRA worker v3)	0.125
inhalation	local	Short term	367.1 mg/m ³ (ECETOC TRA worker v3)	0.25
dermal	systemic	Long-term	3.43 mg/kg p.c./day (ECETOC TRA worker v3)	0.054
combined routes	systemic	Long-term	/	0.179

5.4. 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: <https://echa.europa.eu/>

ES 9: PROFESSIONAL APPLICATION OF COATINGS AND INKS (14); INDUSTRIAL USES (SU3). COVERS USE IN COATINGS (PAINTS, INKS, ADHESIVES, ETC.) INCLUDING EXPOSURES DURING USE (RECEIPT OF MATERIAL, STORAGE, PREPARATION AND TRANSFER OF BULK AND SEMI-BULK PRODUCTS, APPLICATION BY SPRAY, ROLLER OR SPREADER, DIPPING, FLOW, FLUIDIZED BED ON PRODUCTION LINES AND FILM FORMATION), THE CLEANING AND MAINTENANCE OF THE EQUIPMENT AND THE ASSOCIATED LABORATORY ACTIVITIES [GES3_I].

9.1. WIDE DISPERSIVE USE BY PROFESSIONAL WORKERS

Environment

SC 1: Wide dispersive use of non-reactive processing aid (no inclusion into the article, outdoor) ERC8d

Worker

SC 3: Generalized exposures (closed systems) PROC1
SC 4: Filling of equipment from drums and containers PROC2
SC 5: Generalized exposures (closed systems), Use in closed systems PROC2
SC 6: Preparation of material for application, Generalized exposures PROC3
SC 7: Film formation - air drying, Indoor use PROC4
SC 8: Film formation - air drying, Outdoor use PROC4
SC 9: Preparation of material for application, Indoor use PROC5
SC 10: Preparation of material for application, Outdoor use PROC5
SC 11: Material transfers, Drum/batch transfers, Non-Specialized site PROC8a
SC 12: 12 Material Transfers, Drum/batch transfers, specialized site PROC8b
SC 13: Roller, diffusion, flow application, Indoor use PROC10
SC 14: Roller, diffusion, flow application, Outdoor use PROC10
SC 15: Manual spraying, Indoor use PROC11
SC 16: Manual spraying, Outdoor use PROC11
SC 17: Immersion, dipping and pouring, Indoor use PROC13
SC 18: Immersion, dipping and pouring, Outdoor use PROC13
SC 19: Laboratory activities PROC15
SC 20: Hand application - finger paints, crayons, stickers, Indoor use PROC19
SC 21: Hand application - finger paints, crayons, stickers, Outdoor use PROC19

9.2. CONDITIONS OF USE THAT AFFECT EXPOSURE

9.2.1 Environmental exposure control: Wide dispersive use of non-reactive processing aid (no inclusion into the article, outdoor) (ERC8d)

Organizational and technical measures and conditions

A wastewater treatment plant is expected.

Conditions and measures for waste treatment (including the article of waste)

Waste treatment: Dispose of waste products or used containers according to local regulations.

9.2.3. Worker Exposure Control: Chemical production or refinement in closed processes without likelihood of exposure or in processes with equivalent containment conditions (PROC1)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

9.2.4. Worker Exposure Control: Chemical production or refinery in closed process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

9.2.5. Worker Exposure Control: Chemical production or refinery in closed process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

9.2.6. Worker Exposure Control: Chemical production or formulation in closed batch processes, with occasional controlled exposure or processes with equivalent containment conditions (PROC3)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Provide a basic level of general ventilation (3 to 5 air changes per hour).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

9.2.7. Worker Exposure Control: Production of chemicals with the possibility of exposure (PROC4)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Local exhaust ventilation

Inhalation - minimum yield of 80%

Provide a basic level of general ventilation (3 to 5 air changes per hour).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

9.2.8. Worker Exposure Control: Production of chemicals with the possibility of exposure (PROC4)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Assumes that activities are undertaken with appropriate and well maintained equipment by trained personnel operating under supervision.

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

9.2.9. Worker Exposure Control: Mixing or blending in batch processes (PROC5)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Local exhaust ventilation

Inhalation - minimum yield of 80%

Provide a basic level of general ventilation (3 to 5 air changes per hour).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

9.2.10. Worker Exposure Control: Mixing or blending in batch processes (PROC5)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Conditions and measures for personal protection, hygiene and health assessment

Wear suitable respirator.

For more information, refer to Section 8 of the SDS (safety data sheet).

Inhalation - minimum yield of 90%

Other conditions affecting worker exposure

Indoor and outdoor use: Outdoor use

Temperature: Process temperature up to 40°C is assumed

9.2.11. Worker Exposure Control: Transfer of a substance or a preparation (filling/emptying) at non-dedicated facilities (PROC8a) (PROC8b)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Local exhaust ventilation

Inhalation - minimum yield of 90%

Provide a basic level of general ventilation (3 to 5 air changes per hour).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

9.2.12. Worker Exposure Control: Transfer of a substance or a mixture (charging/discharging) at dedicated facilities (PROC8b)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Local exhaust ventilation

Inhalation - minimum yield of 90%

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

9.2.13. Worker Exposure Control: Application with rollers or brushes (PROC10)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Local exhaust ventilation

Inhalation - minimum yield of 80%

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

9.2.14. Worker Exposure Control: Application with rollers or brushes (PROC10)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Conditions and measures for personal protection, hygiene and health assessment

Wear suitable respirator.

For more information, refer to Section 8 of the SDS (safety data sheet).

Inhalation - minimum yield of 90%

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

9.2.15. Worker Exposure Control: Non-industrial spray application (PROC11)

Product features (article)

Covers concentrations up to 25 %

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Local exhaust ventilation

Inhalation - minimum yield of 80%

Provide a basic level of general ventilation (3 to 5 air changes per hour).

Conditions and measures for personal protection, hygiene and health assessment

Wear suitable gloves tested to EN374.

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.

For more information, refer to Section 8 of the SDS (safety data sheet).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

9.2.16. Worker Exposure Control: Non-industrial spray application (PROC11)

Product features (article)

Covers concentrations up to 25 %

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

Frequency of use: Covers use up to 8 h/day

Conditions and measures for personal protection, hygiene and health assessment

Wear suitable gloves tested to EN374.

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.

For more information, refer to Section 8 of the SDS (safety data sheet).

Wear suitable respirator.

For more information, refer to Section 8 of the SDS (safety data sheet).

Inhalation - minimum yield of 90%

Other conditions affecting worker exposure

Indoor and outdoor use: Outdoor use

Temperature: Process temperature up to 40°C is assumed

9.2.17. Worker Exposure Control: Treatment of articles by dipping and pouring (PROC13)

Product features (article)

Covers concentrations up to 25 %

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Provide a good standard of general ventilation (from 5 to 10 air changes per hour).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

9.2.18. Worker Exposure Control: Treatment of articles by dipping and pouring (PROC13)

Product features (article)

Covers concentrations up to 25 %

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

Frequency of use: Covers use up to 8 h/day

Conditions and measures for personal protection, hygiene and health assessment

Wear suitable respirator.

For more information, refer to Section 8 of the SDS (safety data sheet).

Inhalation - minimum yield of 90%

Other conditions affecting worker exposure

Indoor and outdoor use: Outdoor use

Temperature: Process temperature up to 40°C is assumed

9.2.19. Worker Exposure Control: Use as laboratory reagents (PROC15)

Product features (article)

Covers concentrations up to 100%.

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

9.2.20. Worker Exposure Control: Hand-mixing with direct contact and only PPE available (PROC19)

Product features (article)

Covers concentrations up to 25 %

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Provide a good standard of general ventilation (from 5 to 10 air changes per hour).

Conditions and measures for personal protection, hygiene and health assessment

Wear suitable gloves tested to EN374.

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.

For more information, refer to Section 8 of the SDS (safety data sheet).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

9.2.21. Worker Exposure Control: Hand-mixing with direct contact and only PPE available (PROC19)

Product features (article)

Covers concentrations up to 5 %

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

Frequency of use: Covers use up to 8 h/day

Conditions and measures for personal protection, hygiene and health assessment

Wear suitable gloves tested to EN374.

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.

For more information, refer to Section 8 of the SDS (safety data sheet).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

9.3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

9.3.1. Environmental release and exposure: Wide dispersive use of non-reactive processing aid (no inclusion into the article, outdoor) (ERC8d)

Route release	Release rate	Method for estimating for release
water	0.014 kg/day	Estimated release factor
air	980 kg/day	Estimated release factor
Soil	0 kg/day	Estimated release factor

Protection target	Estimated exposure	RCR
Fresh water	0.000396 mg/l (EUSES v2.1)	< 0.01
freshwater sediments	0.00236 mg/kg dry weight (EUSES v2.1)	< 0.01
Sea water	0.0000597 mg/l (EUSES v2.1)	< 0.01
Marine sediment	0.000356 mg/kg dry weight (EUSES v2.1)	< 0.01
Sewage treatment plant	0.000805 mg/l (EUSES v2.1)	< 0.01
Farmland	0.000131 mg/kg dry weight (EUSES v2.1)	< 0.01
Prey for predators (freshwater)	0.011 mg/kg wet weight (EUSES v2.1)	< 0.01
Prey for predators (marine water)	0.00167 mg/kg wet weight (EUSES v2.1)	< 0.01
Main predator prey (marine water)	0.00158 mg/kg wet weight (EUSES v2.1)	< 0.01
Prey for Predators (Terrestrial)	0.000114 mg/kg wet weight (EUSES v2.1)	< 0.01

9.3.3. Worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	0.367 mg/m ³ (ECETOC TRA worker v3)	< 0.01
inhalation	systemic	Short term	1.468 mg/m ³ (ECETOC TRA worker v3)	< 0.01
inhalation	local	Long-term	0.367 mg/m ³ (ECETOC TRA worker v3)	< 0.01
inhalation	local	Short term	1.468 mg/m ³ (ECETOC TRA worker v3)	< 0.01
dermal	systemic	Long-term	0.034 mg/kg p.c./day (ECETOC TRA worker v3)	< 0.01
combined routes	systemic	Long-term	/	< 0.01

9.3.4. Worker exposure: Chemical production or refinery in closed process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	183.5 mg/m ³ (ECETOC TRA worker v3)	0.25
inhalation	systemic	Short term	734.2 mg/m ³ (ECETOC TRA worker v3)	0.5
inhalation	local	Long-term	183.5 mg/m ³ (ECETOC TRA worker v3)	0.25
inhalation	local	Short term	734.2 mg/m ³ (ECETOC TRA worker v3)	0.5
dermal	systemic	Long-term	1.37 mg/kg p.c./day (ECETOC TRA worker v3)	0.022
combined routes	systemic	Long-term	/	0.272

9.3.5. Worker exposure: Chemical production or refinery in closed process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	183.5 mg/m ³ (ECETOC TRA worker v3)	0.25
inhalation	local	Short term	734.2 mg/m ³ (ECETOC TRA worker v3)	0.5
inhalation	local	Long-term	183.5 mg/m ³ (ECETOC TRA worker v3)	0.25
inhalation	systemic	Short term	734.2 mg/m ³ (ECETOC TRA worker v3)	0.5
dermal	systemic	Long-term	1.37 mg/kg p.c./day (ECETOC TRA worker v3)	0.022
combined routes	systemic	Long-term	/	0.272

9.3.6. Worker exposure: Chemical production or formulation in closed batch processes, with occasional controlled exposure or processes with equivalent containment conditions (PROC3)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	256.9 mg/m ³ (ECETOC TRA worker v3)	0.35
inhalation	systemic	Short term	1.03 g/m ³ (ECETOC TRA worker v3)	0.7
inhalation	local	Long-term	256.9 mg/m ³ (ECETOC TRA worker v3)	0.35
inhalation	local	Short term	1.03 g/m ³ (ECETOC TRA worker v3)	0.7
dermal	systemic	Long-term	0.69 mg/kg p.c./day (ECETOC TRA worker v3)	0.011
combined routes	systemic	Long-term	/	0.361

9.3.7. Worker exposure: Production of chemicals with the possibility of exposure (PROC4)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	128.4 mg/m ³ (ECETOC TRA worker v3)	0.175
inhalation	systemic	Short term	513.9 mg/m ³ (ECETOC TRA worker v3)	0.35
inhalation	local	Long-term	128.4 mg/m ³ (ECETOC TRA worker v3)	0.175
inhalation	local	Short term	513.9 mg/m ³ (ECETOC TRA worker v3)	0.35
dermal	systemic	Long-term	6.86 mg/kg p.c./day (ECETOC TRA worker v3)	0.109
combined routes	systemic	Long-term	/	0.284

9.3.8. Worker exposure: Production of chemicals with the possibility of exposure (PROC4)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	256.9 mg/m ³ (ECETOC TRA worker v3)	0.35
inhalation	systemic	Short term	1.03 g/m ³ (ECETOC TRA worker v3)	0.7
inhalation	local	Long-term	256.9 mg/m ³ (ECETOC TRA worker v3)	0.35
inhalation	local	Short term	1.03 g/m ³ (ECETOC TRA worker v3)	0.7
dermal	systemic	Long-term	6.86 mg/kg p.c./day (ECETOC TRA worker v3)	0.109
combined routes	systemic	Long-term	/	0.459

9.3.9. Worker exposure: Mixing or blending in batch processes (PROC5)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	256.9 mg/m ³ (ECETOC TRA worker v3)	0.35
inhalation	systemic	Short term	1.03 g/m ³ (ECETOC TRA worker v3)	0.7
inhalation	local	Long-term	256.9 mg/m ³ (ECETOC TRA worker v3)	0.35
inhalation	local	Short term	1.03 g/m ³ (ECETOC TRA worker v3)	0.7
dermal	systemic	Long-term	13.71 mg/kg p.c./day (ECETOC TRA worker v3)	0.218
combined routes	systemic	Long-term	/	0.568

9.3.10. Worker exposure: Mixing or blending in batch processes (PROC5)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	128.4 mg/m ³ (ECETOC TRA worker v3)	0.175
inhalation	systemic	Short term	513.9 mg/m ³ (ECETOC TRA worker v3)	0.35
inhalation	local	Long-term	128.4 mg/m ³ (ECETOC TRA worker v3)	0.175
inhalation	local	Short term	513.9 mg/m ³ (ECETOC TRA worker v3)	0.35
dermal	systemic	Long-term	13.71 mg/kg p.c./day (ECETOC TRA worker v3)	0.218
combined routes	systemic	Long-term	/	0.393

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

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	256.9 mg/m ³ (ECETOC TRA worker v3)	0.35
inhalation	systemic	Short term	1.03 g/m ³ (ECETOC TRA worker v3)	0.7
inhalation	local	Long-term	256.9 mg/m ³ (ECETOC TRA worker v3)	0.35
inhalation	local	Short term	1.03 g/m ³ (ECETOC TRA worker v3)	0.7
dermal	systemic	Long-term	13.71 mg/kg p.c./day (ECETOC TRA worker v3)	0.218
combined routes	systemic	Long-term	/	0.568

9.3.12. Worker exposure: Transfer of a substance or a mixture (charging/discharging) at dedicated facilities (PROC8b)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	91.77 mg/m ³ (ECETOC TRA worker v3)	0.125
inhalation	systemic	Short term	367.1 mg/m ³ (ECETOC TRA worker v3)	0.25
inhalation	local	Long-term	91.77 mg/m ³ (ECETOC TRA worker v3)	0.125
inhalation	local	Short term	367.1 mg/m ³ (ECETOC TRA worker v3)	0.25
dermal	systemic	Long-term	13.71 mg/kg p.c./day (ECETOC TRA worker v3)	0.218
combined routes	systemic	Long-term	/	0.343

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

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	256.9 mg/m ³ (ECETOC TRA worker v3)	0.35
inhalation	systemic	Short term	1.03 g/m ³ (ECETOC TRA worker v3)	0.7
inhalation	local	Long-term	256.9 mg/m ³ (ECETOC TRA worker v3)	0.35
inhalation	local	Short term	1.03 g/m ³ (ECETOC TRA worker v3)	0.7
dermal	systemic	Long-term	27.43 mg/kg p.c./day (ECETOC TRA worker v3)	0.435
combined routes	systemic	Long-term	/	0.785

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

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	128.4 mg/m ³ (ECETOC TRA worker v3)	0.175
inhalation	systemic	Short term	513.9 mg/m ³ (ECETOC TRA worker v3)	0.35
inhalation	local	Long-term	128.4 mg/m ³ (ECETOC TRA worker v3)	0.175
inhalation	local	Short term	513.9 mg/m ³ (ECETOC TRA worker v3)	0.35
dermal	systemic	Long-term	27.43 mg/kg p.c./day (ECETOC TRA worker v3)	0.435
combined routes	systemic	Long-term	/	0.61

9.3.15. Worker exposure: Non-industrial spray application (PROC11)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	308.3 mg/m ³ (ECETOC TRA worker v3)	0.42
inhalation	systemic	Short term	mg/m ³ (ECETOC TRA worker v3)	0.84
inhalation	local	Long-term	308.3 mg/m ³ (ECETOC TRA worker v3)	0.42
inhalation	local	Short term	mg/m ³ (ECETOC TRA worker v3)	0.84
dermal	systemic	Long-term	12.85 mg/kg p.c./day (ECETOC TRA worker v3)	0.204
combined routes	systemic	Long-term	/	0.624

9.3.16. Worker exposure: Non-industrial spray application (PROC11)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	154.1 mg/m ³ (ECETOC TRA worker v3)	0.21
inhalation	systemic	Short term	616.7 mg/m ³ (ECETOC TRA worker v3)	0.42
inhalation	local	Long-term	154.1 mg/m ³ (ECETOC TRA worker v3)	0.21
inhalation	local	Short term	616.7 mg/m ³ (ECETOC TRA worker v3)	0.42
dermal	systemic	Long-term	12.85 mg/kg p.c./day (ECETOC TRA worker v3)	0.204
combined routes	systemic	Long-term	/	0.414

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

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	165.1 mg/m ³ (ECETOC TRA worker v3)	0.225
inhalation	systemic	Short term	660.7 mg/m ³ (ECETOC TRA worker v3)	0.45
inhalation	local	Long-term	165.1 mg/m ³ (ECETOC TRA worker v3)	0.225
inhalation	local	Short term	660.7 mg/m ³ (ECETOC TRA worker v3)	0.45
dermal	systemic	Long-term	8.226 mg/kg p.c./day (ECETOC TRA worker v3)	0.131
combined routes	systemic	Long-term	/	0.356

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

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	38.54 mg/m ³ (ECETOC TRA worker v3)	0.053
inhalation	systemic	Short term	154.1 mg/m ³ (ECETOC TRA worker v3)	0.105
inhalation	local	Long-term	38.54 mg/m ³ (ECETOC TRA worker v3)	0.053
inhalation	local	Short term	154.1 mg/m ³ (ECETOC TRA worker v3)	0.105
dermal	systemic	Long-term	8.226 mg/kg p.c./day (ECETOC TRA worker v3)	0.131
combined routes	systemic	Long-term	/	0.183

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

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	183.5 mg/m ³ (ECETOC TRA worker v3)	0.25
inhalation	systemic	Short term	734.2 mg/m ³ (ECETOC TRA worker v3)	0.5
inhalation	local	Long-term	183.5 mg/m ³ (ECETOC TRA worker v3)	0.25
inhalation	local	Short term	734.2 mg/m ³ (ECETOC TRA worker v3)	0.5
dermal	systemic	Long-term	0.34 mg/kg p.c./day (ECETOC TRA worker v3)	< 0.01
combined routes	systemic	Long-term	/	0.255

9.3.20. Worker exposure: Hand-mixing with direct contact and only PPE available (PROC19)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	330.3 mg/m ³ (ECETOC TRA worker v3)	0.45
inhalation	systemic	Short term	1.32 g/m ³ (ECETOC TRA worker v3)	0.9
inhalation	local	Long-term	330.3 mg/m ³ (ECETOC TRA worker v3)	0.45
inhalation	local	Short term	1.32 g/m ³ (ECETOC TRA worker v3)	0.9
dermal	systemic	Long-term	16.97 mg/kg p.c./day (ECETOC TRA worker v3)	0.269
combined routes	systemic	Long-term	/	0.72

9.3.21. Worker exposure: Hand-mixing with direct contact and only PPE available (PROC19)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	256.9 mg/m ³ (ECETOC TRA worker v3)	0.35
inhalation	systemic	Short term	mg/m ³ (ECETOC TRA worker v3)	0.7
inhalation	local	Long-term	256.9 mg/m ³ (ECETOC TRA worker v3)	0.35
inhalation	local	Short term	mg/m ³ (ECETOC TRA worker v3)	0.7
dermal	systemic	Long-term	5.657 mg/kg p.c./day (ECETOC TRA worker v3)	0.09
combined routes	systemic	Long-term	/	0.44

9.4. 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: <https://echa.europa.eu/>

ES 12: USE IN DETERGENT PRODUCTS (GEST4_I, GEST4_P, GEST4_C).

12.1. WIDE DISPERSIVE USE BY PROFESSIONAL WORKERS

Environment

SC 1: Wide dispersive use of non-reactive processing aid (no inclusion into the article, indoors) ERC8a

Worker

SC 2: Filling of equipment from drums and containers, specialised site PROC8b

SC 3: Automated process with (semi) closed systems; Use in closed systems PROC2

SC 4: Automated process with (semi) closed systems Drum/batch transfers, Use in closed systems PROC3

SC 5: Semi-automatic process (e.g: Semi-automatic application of floor care and maintenance products) PROC4

SC 6: Filling of equipment from drums and containers, Outdoor use PROC8a

SC 7: Immersion, dipping and pouring, Manual, Surfaces, Cleaning PROC13

SC 8: Cleaning with low-pressure washers, Roller application or brushing, No spraying PROC10

SC 9: Cleaning with high pressure washers, Spraying, Indoor use PROC11

SC 10: Cleaning with high pressure washers Spraying, Outdoor use PROC11

SC 11: Application of cleaning products in closed systems, Manual, Surfaces, Cleaning PROC10

SC 12: Ad hoc manual application via trigger sprays, partial dipping, etc., Roller application or brushing PROC10

SC 13: Application of cleaning products in closed systems, Outdoor use PROC4

SC 14: Cleaning of medical devices PROC4

12.2. CONDITIONS OF USE THAT AFFECT EXPOSURE

12.2.1 Environmental exposure control: Wide dispersive use of non-reactive processing aid (no inclusion into the article, indoors) (ERC8a)

Organizational and technical measures and conditions

A wastewater treatment plant is expected.

Conditions and measures for waste treatment (including the article of waste)

Waste treatment: Dispose of waste products or used containers according to local regulations.

12.2.2. Worker Exposure Control: Transfer of a substance or a mixture (charging/discharging) at dedicated facilities (PROC8b)

Product features (article)

Covers concentrations up to 25 %

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Provide a good standard of general ventilation (from 5 to 10 air changes per hour).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

12.2.3. Worker Exposure Control: Chemical production or refinery in closed process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Product features (article)

Covers concentrations up to 25 %

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

12.2.4. Worker Exposure Control: Chemical production or formulation in closed batch processes, with occasional controlled exposure or processes with equivalent containment conditions (PROC3)

Product features (article)

Covers concentrations up to 25 %

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

12.2.5. Worker Exposure Control: Production of chemicals with the possibility of exposure (PROC4)

Product features (article)

Covers concentrations up to 25 %

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Provide a good standard of general ventilation (from 5 to 10 air changes per hour).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

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

Product features (article)

Covers concentrations up to 25 %

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

Frequency of use: Covers use up to 8 h/day

Conditions and measures for personal protection, hygiene and health assessment

Wear suitable respirator.

For more information, refer to Section 8 of the SDS (safety data sheet).

Inhalation - minimum yield of 90%

Other conditions affecting worker exposure

Indoor and outdoor use: Outdoor use

Temperature: Process temperature up to 40°C is assumed

12.2.7. Worker Exposure Control: Treatment of articles by dipping and pouring (PROC13)

Product features (article)

Covers concentrations up to 25 %

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Provide a good standard of general ventilation (from 5 to 10 air changes per hour).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

12.2.8. Worker Exposure Control: Application with rollers or brushes (PROC10)

Product features (article)

Covers concentrations up to 25 %

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Provide a good standard of general ventilation (from 5 to 10 air changes per hour).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

12.2.9. Worker Exposure Control: Non-industrial spray application (PROC11)

Product features (article)

Covers concentrations up to 5 %

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Provide a good standard of general ventilation (from 5 to 10 air changes per hour).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

12.2.10. Worker Exposure Control: Non-industrial spray application (PROC11)

Product features (article)

Covers concentrations up to 1%.

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

Frequency of use: Covers use up to 8 h/day

Conditions and measures for personal protection, hygiene and health assessment

Wear suitable gloves tested to EN374.

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.

For more information, refer to Section 8 of the SDS (safety data sheet).

Other conditions affecting worker exposure

Indoor and outdoor use: Outdoor use

Temperature: Process temperature up to 40°C is assumed

12.2.11. Worker Exposure Control: Application with rollers or brushes (PROC10)

Product features (article)

Covers concentrations up to 5 %

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

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

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

5.2.12. Worker Exposure Control: Application with rollers or brushes (PROC10)

Product features (article)

Covers concentrations up to 25 %

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Local exhaust ventilation

Inhalation - minimum yield of 80%

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

12.2.13. Worker Exposure Control: Production of chemicals with the possibility of exposure (PROC4)

Product features (article)

Covers concentrations up to 25 %

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

Frequency of use: Covers use up to 8 h/day

Conditions and measures for personal protection, hygiene and health assessment

Wear suitable respirator.

For more information, refer to Section 8 of the SDS (safety data sheet).

Inhalation - minimum yield of 90%

Other conditions affecting worker exposure

Indoor and outdoor use: Outdoor use

Temperature: Process temperature up to 40°C is assumed

12.2.14. Worker Exposure Control: Production of chemicals with the possibility of exposure (PROC4)

Product features (article)

Covers concentrations up to 25 %

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

Frequency of use: Covers use up to 8 h/day

Organizational and technical measures and conditions

Local exhaust ventilation

Inhalation - minimum yield of 80%

Provide a basic level of general ventilation (1 to 3 air changes per hour).

Other conditions affecting worker exposure

Indoor and outdoor use: Indoor use

Temperature: Process temperature up to 40°C is assumed

12.3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

12.3.1. Environmental release and exposure: Wide dispersive use of non-reactive processing aid (no inclusion into the article, indoors) (ERC8a)

Route release	Release rate	Method for estimating for release
water	0.014 kg/day	Environmental Release Category (ERC)
air	0.014 kg/day	Environmental Release Category (ERC)
Soil	0 kg/day	Environmental Release Category (ERC)

Protection target	Estimated exposure	RCR
Fresh water	0.000397 mg/l (EUSES v2.1)	< 0.01
freshwater sediments	0.00237 mg/kg dry weight (EUSES v2.1)	< 0.01
Sea water	0.0000598 mg/l (EUSES v2.1)	< 0.01
Marine sediment	0.000357 mg/kg dry weight (EUSES v2.1)	< 0.01
Sewage treatment plant	0.000811 mg/l (EUSES v2.1)	< 0.01
Farmland	0.000131 mg/kg dry weight (EUSES v2.1)	< 0.01
Prey for predators (freshwater)	0.011 mg/kg dry weight (EUSES v2.1)	< 0.01
Prey for predators (marine water)	0.00167 mg/kg dry weight (EUSES v2.1)	< 0.01
Main predator prey (marine water)	0.00158 mg/kg dry weight (EUSES v2.1)	< 0.01
Prey for Predators (Terrestrial)	0.000114 mg/kg dry weight (EUSES v2.1)	< 0.01

12.3.2. Worker exposure: Transfer of a substance or a mixture (charging/discharging) at dedicated facilities (PROC8b)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	165.1 mg/m ³ (ECETOC TRA worker v3)	0.225
inhalation	systemic	Short term	660.7 mg/m ³ (ECETOC TRA worker v3)	0.45
inhalation	local	Long-term	165.1 mg/m ³ (ECETOC TRA worker v3)	0.225
inhalation	local	Short term	660.7 mg/m ³ (ECETOC TRA worker v3)	0.45
dermal	systemic	Long-term	8.226 mg/kg p.c./day (ECETOC TRA worker v3)	0.131
combined routes	systemic	Long-term	/	0.356

12.3.3. Worker exposure: Chemical production or refinery in closed process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	110.1 mg/m ³ (ECETOC TRA worker v3)	0.15
inhalation	local	Long-term	110.1 mg/m ³ (ECETOC TRA worker v3)	0.15
inhalation	local	Short term	440.5 mg/m ³ (ECETOC TRA worker v3)	0.3
inhalation	systemic	Short term	440.5 mg/m ³ (ECETOC TRA worker v3)	0.3
dermal	systemic	Long-term	0.822 mg/kg p.c./day (ECETOC TRA worker v3)	0.013
combined routes	systemic	Long-term	/	0.163

12.3.4. Worker exposure: Chemical production or formulation in closed batch processes, with occasional controlled exposure or processes with equivalent containment conditions (PROC3)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	220.2 mg/m ³ (ECETOC TRA worker v3)	0.3
inhalation	systemic	Short term	881.0 mg/m ³ (ECETOC TRA worker v3)	0.6
inhalation	local	Long-term	220.2 mg/m ³ (ECETOC TRA worker v3)	0.3
inhalation	local	Short term	881.0 mg/m ³ (ECETOC TRA worker v3)	0.6
dermal	systemic	Long-term	0.414 mg/kg p.c./day (ECETOC TRA worker v3)	< 0.01
combined routes	systemic	Long-term	/	0.307

12.3.5. Worker exposure: Production of chemicals with the possibility of exposure (PROC4)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	165.1 mg/m ³ (ECETOC TRA worker v3)	0.225
inhalation	systemic	Short term	660.7 mg/m ³ (ECETOC TRA worker v3)	0.45
inhalation	local	Long-term	165.1 mg/m ³ (ECETOC TRA worker v3)	0.225
inhalation	local	Short term	660.7 mg/m ³ (ECETOC TRA worker v3)	0.45
dermal	systemic	Long-term	4.116 mg/kg p.c./day (ECETOC TRA worker v3)	0.065
combined routes	systemic	Long-term	/	0.29

12.3.6. Worker exposure: Transfer of substance or preparation (charging/discharging) at non dedicated facilities (PROC8a)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	77.09 mg/m ³ (ECETOC TRA worker v3)	0.105
inhalation	systemic	Short term	308.3 mg/m ³ (ECETOC TRA worker v3)	0.21
inhalation	local	Long-term	77.09 mg/m ³ (ECETOC TRA worker v3)	0.105
inhalation	local	Short term	308.3 mg/m ³ (ECETOC TRA worker v3)	0.21
dermal	systemic	Long-term	8.226 mg/kg p.c./day (ECETOC TRA worker v3)	0.131
combined routes	systemic	Long-term	/	0.236

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

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	165.1 mg/m ³ (ECETOC TRA worker v3)	0.225
inhalation	systemic	Short term	660.7 mg/m ³ (ECETOC TRA worker v3)	0.45
inhalation	local	Long-term	165.1 mg/m ³ (ECETOC TRA worker v3)	0.225
inhalation	local	Short term	660.7 mg/m ³ (ECETOC TRA worker v3)	0.45
dermal	systemic	Long-term	8.226 mg/kg p.c./day (ECETOC TRA worker v3)	0.131
combined routes	systemic	Long-term	/	0.356

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

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	330.3 mg/m ³ (ECETOC TRA worker v3)	0.45
inhalation	systemic	Short term	mg/m ³ (ECETOC TRA worker v3)	0.9
inhalation	local	Long-term	330.3 mg/m ³ (ECETOC TRA worker v3)	0.45
inhalation	local	Short term	mg/m ³ (ECETOC TRA worker v3)	0.9
dermal	systemic	Long-term	16.45 mg/kg p.c./day (ECETOC TRA worker v3)	0.261
combined routes	systemic	Long-term	/	0.711

12.3.9. Worker exposure: Non-industrial spray application (PROC11)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	220.2 mg/m ³ (ECETOC TRA worker v3)	0.3
inhalation	systemic	Short term	881.0 mg/m ³ (ECETOC TRA worker v3)	0.6
inhalation	local	Long-term	220.2 mg/m ³ (ECETOC TRA worker v3)	0.3
inhalation	local	Short term	881.0 mg/m ³ (ECETOC TRA worker v3)	0.6
dermal	systemic	Long-term	21.42 mg/kg p.c./day (ECETOC TRA worker v3)	0.34
combined routes	systemic	Long-term	/	0.64

12.3.10. Worker exposure: Non-industrial spray application (PROC11)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	256.9 mg/m ³ (ECETOC TRA worker v3)	0.35
inhalation	systemic	Short term	1.03 g/m ³ (ECETOC TRA worker v3)	0.7
inhalation	local	Long-term	256.9 mg/m ³ (ECETOC TRA worker v3)	0.35
inhalation	local	Short term	1.03 g/m ³ (ECETOC TRA worker v3)	0.7
dermal	systemic	Long-term	2.143 mg/kg p.c./day (ECETOC TRA worker v3)	0.034
combined routes	systemic	Long-term	/	0.384

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

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	256.9 mg/m ³ (ECETOC TRA worker v3)	0.35
inhalation	systemic	Short term	1.03 g/m ³ (ECETOC TRA worker v3)	0.7
inhalation	local	Long-term	256.9 mg/m ³ (ECETOC TRA worker v3)	0.35
inhalation	local	Short term	1.03 g/m ³ (ECETOC TRA worker v3)	0.7
dermal	systemic	Long-term	5.486 mg/kg p.c./day (ECETOC TRA worker v3)	0.087
combined routes	systemic	Long-term	/	0.437

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

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	220.2 mg/m ³ (ECETOC TRA worker v3)	0.3
inhalation	systemic	Short term	881.0 mg/m ³ (ECETOC TRA worker v3)	0.6
inhalation	local	Long-term	220.2 mg/m ³ (ECETOC TRA worker v3)	0.3
inhalation	local	Short term	881.0 mg/m ³ (ECETOC TRA worker v3)	0.6
dermal	systemic	Long-term	16.45 mg/kg p.c./day (ECETOC TRA worker v3)	0.261
combined routes	systemic	Long-term	/	0.561

12.3.13. Worker exposure: Production of chemicals with the possibility of exposure (PROC4)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	38.54 mg/m ³ (ECETOC TRA worker v3)	0.053
inhalation	systemic	Short term	154.1 mg/m ³ (ECETOC TRA worker v3)	0.105
inhalation	local	Long-term	38.54 mg/m ³ (ECETOC TRA worker v3)	0.053
inhalation	local	Short term	154.1 mg/m ³ (ECETOC TRA worker v3)	0.105
dermal	systemic	Long-term	4.116 mg/kg p.c./day (ECETOC TRA worker v3)	0.065
combined routes	systemic	Long-term	/	0.118

12.3.14. Worker exposure: Production of chemicals with the possibility of exposure (PROC4)

Exposure routes	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	110.1 mg/m ³ (ECETOC TRA worker v3)	0.15
inhalation	systemic	Short term	440.5 mg/m ³ (ECETOC TRA worker v3)	0.3
inhalation	local	Long-term	110.1 mg/m ³ (ECETOC TRA worker v3)	0.15
inhalation	local	Short term	440.5 mg/m ³ (ECETOC TRA worker v3)	0.3
dermal	systemic	Long-term	4.116 mg/kg p.c./day (ECETOC TRA worker v3)	0.065
combined routes	systemic	Long-term	/	0.215

12.4. 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: <https://echa.europa.eu/>

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>