Safety Data Sheet

According to Annex II to REACH - Regulation (EU) 2020/878

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: **V400**
Product name **ACRYLIC SPRAY 400 ml AMBRO-SOL**

UFI : **26D1-H0TH-1008-DRSY**

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use **Acrylic spray paint**

Identified Uses	Industrial	Professional	Consumer
Consumer	-	-	✓
Industrial Use	✓	-	-
Professional Use	-	✓	-

1.3. Details of the supplier of the safety data sheet

Name **AMBRO-SOL S.R.L. SB**
Full address **Via per Pavone del Mella, 21 - 23**
District and Country **25020 Cigole (BS)**
Italia
Tel. +39 030 9959674

e-mail address of the competent person responsible for the Safety Data Sheet **regulatory@ambro-sol.com**

Supplier: **Importer: Ambro-Sol UK Ltd, Express Park, Bridgwater, Somerset, TA6 4RR, UK, info@ambro-sol.co.uk, phone number / emergency number +44 1278 552999**

1.4. Emergency telephone number

For urgent inquiries refer to

IT - Centro Antiveleni di Milano - Ospedale Niguarda: Tel. 02 66101029 (Italy)
AT - Vergiftungsinformationszentrale (VIZ): Tel. +43 01 406 4343 (Austria)
BE - Belgisch Antigifcentrum: Tel. 070 245245 (Belgium)
BG - НАЦИОНАЛЕН ЦЕНТЪР ПО ТОКСИКОЛОГИЯ: Tel. +359 2 9154 233 (Bulgaria)
HR - Centar za kontrolu otrovanja: Tel. +385 1 2348342 (Croatia)
CY - Τμήμα Επιθεώρησης Εργασίας (TEE): Tel. 1401 (Cyprus)
CZ - Toxikologické informační středisko (TIS): Tel. +420 224 919 293 / +420 224 915 402 (Czech Republic)
DK - Giftlinjen: Ring 82 12 12 12 (Denmark)
EE - Mürgistusteabekeskus: Tel. 16662 (Estonia)
FI - Myrkytystietokeskus: Tel. 0800 147 111 / 09 471 977 (Finland)
FR - ORFILA (INRS): Tél. +33 (0) 1 45 42 59 59 (France)
DE - Giftnotruf der Charité Universitätsmedizin Berlin: Tel. +49 030 19240 (Germany)
GR - Κέντρο Δηλητηριάσεων: Τηλ. 210 7793777 (Greece)
HU - Egészségügyi Toxikológiai Tájékoztató Szolgálat (ETTSZ): Tel. +36 80 20 1199 (Hungary)
IS - Eitrunarmiðstöð: Tel. 543 2222 (Iceland)
IE - National Poisons Information Centre (NPIC): Tel. 01 8092566 / 01 8379964 (Republic of Ireland)
LV - Latvian Poisons Information Centre: Tel. +371 67042473 (Latvia)
LT - Apsinuodijimų Informacijos biuras: Tel. 8-5 236 2052 (Lithuania)
LU - Giftinformationszentrum: Tel. +352 8002 5500 (Luxembourg)
NL - Nationaal Vergiftigingen Informatie Centrum (NVIC): Tel. 030 274 88 88 (Netherlands)
NO - Giftinformasjonen: Tel. 22 9 13 00 (Norway)
PL - Pomorskie Centrum Toksykologii: Tel. +58 682 04 04 (Poland)
PT - Centro de Informação Antivenenos (CIAV): Tel. 800 250 250 (Portugal)
RO - Biroul RSI Si Informare Toxicologica: Tel. 021 318 36 06 (Romania)
SK - Národné Toxikologické informačné centrum (NTIC): Tel. 02 5477 4166

(Slovakia)
SI - Center za klinično toksikologijo in farmakologijo: Tel. 112 (Slovenia)
ES - Servicio de Información Toxicológica (SIT) España: Tel.+34 91 562 04 20 (Spain)
SE - Giftinformationscentralen: Tel. 112 (Sweden)
CH - Schweizerisches Toxikologisches Informationszentrum (STIZ): Tel. +41 145 (Switzerland)
GB - National Poisons Information Service (NPIS) Tel. 0344 892 0111 (United Kingdom)
Members of the Public: NHS 111 (England), NHS 24 (Scotland) or NHS Direct (Wales)

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Aerosol, category 1	H222	Extremely flammable aerosol.
	H229	Pressurised container: may burst if heated.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H336	May cause drowsiness or dizziness.

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal word: Danger

Hazard statements:

H222	Extremely flammable aerosol.
H229	Pressurised container: may burst if heated.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
EUH211	Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

Precautionary statements:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P251	Do not pierce or burn, even after use.
P410+P412	Protect from sunlight. Do no expose to temperatures exceeding 50°C / 122°F.
P501	Dispose of contents/container in accordance with local regulations.
P102	Keep out of reach of children.
P101	If medical advice is needed, have product container or label at hand.
P211	Do not spray on an open flame or other ignition source.

Contains: Methyl acetate
N-butyl acetate

SECTION 2. Hazards identification ... / >>

VOC (Directive 2004/42/EC) :
Special finishes - All types.
VOC given in g/litre of product in a ready-to-use condition : 712,92
Limit value: 840,00

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

The product does not contain substances with endocrine disrupting properties in concentration ≥ 0.1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification		x = Conc. %	Classification (EC) 1272/2008 (CLP)
Methyl acetate			
INDEX	*607-021-00-X*	30 ≤ x < 31,5	**Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066**
EC	*201-185-2*		
CAS	*79-20-9*		
REACH Reg.	*01-2119459211-47-XXXX*		
Propane			
INDEX	*601-003-00-5*	19 ≤ x < 20,5	**Flam. Gas 1A H220, Press. Gas (Liq.) H280, Classification note according to Annex VI to the CLP Regulation: U**
EC	*200-827-9*		
CAS	*74-98-6*		
REACH Reg.	*01-2119486944-21-0046*		
N-butyl acetate			
INDEX	*607-025-00-1*	12,5 ≤ x < 14	**Flam. Liq. 3 H226, STOT SE 3 H336, EUH066**
EC	*204-658-1*		
CAS	*123-86-4*		
REACH Reg.	*01-2119485493-29-XXXX*		
Xylene			
INDEX	*601-022-00-9*	10,5 ≤ x < 12	**Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Aquatic Chronic 3 H412, Classification note according to Annex VI to the CLP Regulation: C**
EC	*215-535-7*		**LD50 Dermal: >1700 mg/kg, ATE Inhalation mists/powders: 1,5 mg/l**
CAS	*1330-20-7*		
REACH Reg.	*01-2119488216-32-XXXX*		
Butane			
INDEX	*601-004-00-0*	9 ≤ x < 10,5	**Flam. Gas 1A H220, Press. Gas (Liq.) H280, Classification note according to Annex VI to the CLP Regulation: C, U**
EC	*203-448-7*		
CAS	*106-97-8*		
REACH Reg.	*01-2119474691-32-XXXX*		
Petroleum Resins			
INDEX		4,4 ≤ x < 4,6	**Aquatic Chronic 4 H413**
EC	*265-116-8*		
CAS	*64742-16-1*		
REACH Reg.	*Numero di registrazione dell'unità monomerica (EC 265-198-5; CAS 64742-94-5): 01-2119510128-50-XXXX*		
Ethylbenzene			
INDEX	*601-023-00-4*	1,5 ≤ x < 1,6	**Flam. Liq. 2 H225, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373, Aquatic Chronic 3 H412**
EC	*202-849-4*		**ATE Inhalation mists/powders: 1,5 mg/l**
CAS	*100-41-4*		
REACH Reg.	*01-2119489370-35-XXXX*		
1-methyl-2-methoxyethyl acetate			
INDEX	*607-195-00-7*	1,5 ≤ x < 1,6	**Flam. Liq. 3 H226, STOT SE 3 H336**
EC	*203-603-9*		
CAS	*108-65-6*		
REACH Reg.	*01-2119475791-29-XXXX*		

SECTION 3. Composition/information on ingredients ... / >>

Methanol			
INDEX	*603-001-00-X*	1,5 ≤ x < 1,6	**Flam. Liq. 2 H225, Acute Tox. 3 H301, Acute Tox. 3 H311, Acute Tox. 3 H331, STOT SE 1 H370**
EC	*200-659-6*		**STOT SE 2 H371: ≥ 3% - < 10%**
CAS	*67-56-1*		**ATE Oral: 100 mg/kg, ATE Dermal: 300 mg/kg, ATE Inhalation mists/powders: 0,501 mg/l**
REACH Reg.	*01-2119433307-44-XXXX*		
Isobutane			
INDEX	*601-004-00-0*	1,415 ≤ x < 1,515	**Flam. Gas 1A H220, Press. Gas H280**
EC	*200-857-2*		
CAS	*75-28-5*		
REACH Reg.	*01-2119485395-27-XXXX*		
Reaction mass of ethylbenzene and m-xylene and p-xylene			
INDEX		1,314 ≤ x < 1,414	**Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335**
EC	*905-562-9*		**ATE Dermal: 1100 mg/kg, ATE Inhalation mists/powders: 1,5 mg/l**
CAS			
REACH Reg.	*01-2119555267-33-XXXX*		
Isobutyl acetate			
INDEX	*607-026-00-7*	0,4045 ≤ x < 0,4545	**Flam. Liq. 2 H225, STOT SE 3 H336, EUH066, Classification note according to Annex VI to the CLP Regulation: C**
EC	*203-745-1*		
CAS	*110-19-0*		
REACH Reg.	*01-2119488971-22-XXXX*		
Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]			
INDEX	*022-006-00-2*	0,3035 ≤ x < 0,3535	**Carc. 2 H351, EUH211, EUH212, Classification note according to Annex VI to the CLP Regulation: 10, V, W**
EC	*236-675-5*		
CAS	*13463-67-7*		
2-butoxyethanol			
INDEX	*603-014-00-0*	0,1 ≤ x < 0,15	**Acute Tox. 3 H331, Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315**
EC	*203-905-0*		**LD50 Oral: 1200 mg/kg, ATE Inhalation mists/powders: 0,501 mg/l**
CAS	*111-76-2*		
REACH Reg.	*01-2119475108-36-XXXX*		

The full wording of hazard (H) phrases is given in section 16 of the sheet.

The product is an aerosol containing propellants. For the purposes of calculation of the health hazards, propellants are not considered (unless they have health hazards). The percentages indicated are inclusive of the propellants.
Percentage of propellants: 30,00 %

SECTION 4. First aid measures

4.1. Description of first aid measures

In case of doubt or in the presence of symptoms contact a doctor and show him this document.
In case of more severe symptoms, ask for immediate medical aid.
EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.
SKIN: Take off contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice. Avoid further contact with contaminated clothing.
INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.
INHALATION: Remove victim to fresh air, away from the accident scene. In the event of respiratory symptoms (coughing, wheezing, breathing difficulty, asthma) keep the victim in a comfortable position for breathing. If necessary administer oxygen. If the subject stops breathing, administer artificial respiration. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

SECTION 4. First aid measures ... / >>

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

4.3. Indication of any immediate medical attention and special treatment needed

Call a POISON CENTER or doctor/physician if you feel unwell.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.
UNSUITABLE EXTINGUISHING EQUIPMENT
None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
If overheated, aerosol cans can deform, explode and be propelled considerable distances. Put a protective helmet on before approaching the fire. Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site. Send away individuals who are not suitably equipped. Wear protective gloves / protective clothing / eye protection / face protection.

6.2. Environmental precautions

Do not disperse in the environment.

6.3. Methods and material for containment and cleaning up

Use inert absorbent material to soak up leaked product. Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Avoid bunching of electrostatic charges. Do not spray on flames or incandescent bodies. Vapours may catch fire and an explosion may occur; vapour accumulation is therefore to be avoided by leaving windows and doors open and ensuring good cross ventilation. Do not eat, drink or smoke during use. Do not breathe spray.

7.2. Conditions for safe storage, including any incompatibilities

Store in a place where adequate ventilation is ensured, away from direct sunlight at a temperature below 50°C / 122°F, away from any combustion sources.

SECTION 7. Handling and storage ... / >>

1-methyl-2-methoxyethyl acetate
Store in an inert atmosphere, sheletered from moisture because it hydrolises easily.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory references:

BGR	България	НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.5 от 17 Януари 2020г.)
CZE	Česká Republika	NAŘÍZENÍ VLÁDY ze dne 10. května 2021, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci
DEU	Deutschland	Forschungsgemeinschaft MAK- und BAT-Werte-Liste 2022 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe Mitteilung 58
DNK	Danmark	Bekendtgørelse om grænseværdier for stoffer og materialer - BEK nr 1458 af 13/12/2019
ESP	España	Límites de exposición profesional para agentes químicos en España 2023
EST	Eesti	Ohtlike kemikaalide ja neid sisaldavate materjalide kasutamise töötervishoiu ja tööohutuse nõuded ning töökeskkonna keemiliste ohutegurite piirnormid [RT I, 21.12.2022, 14]
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 décembre 2021
FIN	Suomi	HTP-VÄRDEN 2020. Koncentrationer som befunnits skadliga. SOCIAL - OCH HÄLSOVÅRDSMINISTERIETS PUBLIKATIONER 2020:25
GRC	Ελλάδα	Π.Δ. 26/2020 (ΦΕΚ 50/Α` 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ ''σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιγόνους παράγοντες κατά την εργασία''»
HUN	Magyarország	Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
LTU	Lietuva	Jsakymas dėl lietuvos higienos normos hn 23:2011 „cheminių medžiagų profesinio poveikio ribiniai dydžiai. Matavimo ir poveikio vertinimo bendrieji reikalavimai“ patvirtinimo
LVA	Latvija	Grozījumi Ministru kabineta 2007. gada 15. maija noteikumos Nr. 325 "Darba aizsardzības prasības saskarē ar ķīmiskajām vielām darba vietās" (prot. Nr. 32 18. §; prot. Nr. 1 22. §)
NOR	Norge	Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. august 2018 nr. 1255
NLD	Nederland	Arbeidsomstandighedenregeling. Lijst van wettelijke grenswaarden op grond van de artikelen 4.3, eerste lid, en 4.16, eerste lid, van het Arbeidsomstandighedenbesluit
PRT	Portugal	Decreto-Lei n.º 1/2021 de 6 de janeiro, valores-limite de exposição profissional indicativos para os agentes químicos. Decreto-Lei n.º 35/2020 de 13 de julho, proteção dos trabalhadores contra os riscos ligados à exposição durante o trabalho a agentes cancerígenos ou mutagénicos
POL	Polska	Rozporządzenie ministra rozwoju, pracy i technologii z dnia 18 lutego 2021 r. Zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy
ROU	România	Hotărârea nr. 53/2021 pentru modificarea hotărârii guvernului nr. 1.218/2006, precum și pentru modificarea și completarea hotărârii guvernului nr. 1.093/2006
SWE	Sverige	Hygieniska gränsvärden, Arbetsmiljöverkets föreskrifter och allmänna råd om hygieniska gränsvärden (AFS 2018:1)
SVK	Slovensko	NARIADENIE VLÁDY Slovenskej republiky z 12. augusta 2020, ktorým sa mení a dopĺňa nariadenie vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení neskorších predpisov
TUR	Türkiye	Kimyasal Maddelerle Çalışmalarda Sağlık ve Güvenlik Önlemleri Hakkında Yönetmelik 12.08.2013 / 28733; 20.10.2023 / 32345.
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Fourth Edition 2020)
EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2023

SECTION 8. Exposure controls/personal protection ... / >>

Xylene

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
TLV	BGR	221	50	442	100	SKIN	
TLV	CZE	200	45,4	400	90,8	SKIN	
AGW	DEU	220	50	440	100	SKIN	
MAK	DEU	220	50	440	100	SKIN	
TLV	DNK	109	25			SKIN	E
VLA	ESP	221	50	442	100	SKIN	
TLV	EST	200	50	450	100	SKIN	
VLEP	FRA	221	50	442	100	SKIN	
HTP	FIN	220	50	440	100	SKIN	
TLV	GRC	435	100	650	150		
AK	HUN	221	50	442	100	SKIN	
VLEP	ITA	221	50	442	100	SKIN	
RD	LTU	221	50	442	100	SKIN	
RV	LVA	221	50	442	100	SKIN	
TLV	NOR	108	25			SKIN	
TGG	NLD	210		442		SKIN	
VLE	PRT	221	50	442	100	SKIN	
NDS/NDSCh	POL	100		200		SKIN	
TLV	ROU	221	50	442	100	SKIN	
NGV/KGV	SWE	221	50	442	100	SKIN	
NPEL	SVK	221	50	442	100	SKIN	
ESD	TUR	221	50	442	100	SKIN	
WEL	GBR	220	50	441	100	SKIN	
OEL	EU	221	50	442	100	SKIN	
TLV-ACGIH			20				

Predicted no-effect concentration - PNEC

Normal value in fresh water	327	µg/l
Normal value in marine water	327	µg/l
Normal value for fresh water sediment	12,46	mg/kg/d
Normal value for marine water sediment	12,46	mg/kg/d
Normal value of STP microorganisms	6,58	mg/l
Normal value for the terrestrial compartment	2,31	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				5 mg/kg bw/d				
Inhalation	260 mg/m3	260 mg/m3	65 mg/m3	65.3 mg/m3	442 mg/m3	442 mg/m3	221 mg/m3	221 mg/m3
Skin				125 mg/kg bw/d		LOW		212 mg/kg bw/d

SECTION 8. Exposure controls/personal protection ... / >>

Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
TLV	BGR	10				RESP	
MAK	DEU	0,3		2,4		RESP	Hinweis
TLV	DNK	6					Som Ti
VLA	ESP	10					
TLV	EST	5					
VLEP	FRA	10					
TLV	GRC		10				
RD	LTU	5					
RV	LVA	10					
TLV	NOR	5					
NDS/NDSCh	POL	10				INHAL	
TLV	ROU	10		15			
NGV/KGV	SWE	5					Totaldamm
NPEL	SVK	5					
WEL	GBR	10				INHAL	
WEL	GBR	4				RESP	
TLV-ACGIH		0,2				RESP	

SECTION 8. Exposure controls/personal protection ... / >>

1-methyl-2-methoxyethyl acetate

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
TLV	BGR	275	50	550	100	SKIN	
TLV	CZE	270	49,14	550	100,1	SKIN	
AGW	DEU	270	50	270	50		
MAK	DEU	270	50	270	50		
TLV	DNK	275	50	550	100	SKIN	E
VLA	ESP	275	50	550	100	SKIN	
TLV	EST	275	50	550	100	SKIN	
VLEP	FRA	275	50	550	100	SKIN	
HTP	FIN	270	50	550	100	SKIN	
TLV	GRC	275	50	550	100		
AK	HUN	275	50	550	100		
VLEP	ITA	275	50	550	100	SKIN	
RD	LTU	250	50	400	75	SKIN	
RV	LVA	275	50	550	100	SKIN	
TLV	NOR	270	50			SKIN	
TGG	NLD	550					
VLE	PRT	275	50	550	100	SKIN	
NDS/NDSCh	POL	260		520		SKIN	
TLV	ROU	275	50	550	100	SKIN	
NGV/KGV	SWE	275	50	550	100	SKIN	
NPEL	SVK	275	50	550	100	SKIN	
ESD	TUR	275	50	550	100	SKIN	
WEL	GBR	274	50	548	100	SKIN	
OEL	EU	275	50	550	100	SKIN	

Predicted no-effect concentration - PNEC

Normal value in fresh water	635	µg/l
Normal value in marine water	63,5	µg/l
Normal value for fresh water sediment	3,29	mg/kg/d
Normal value for marine water sediment	329	µg/kg/d
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	290	µg/kg soil dw

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		NPI		36 mg/kg bw/d				
Inhalation	NPI	NPI	33 mg/m3	33 mg/m3	550 mg/m3	NPI	NPI	275 mg/m3
Skin	NPI	NPI	NPI	320 mg/kg bw/d	NPI	NPI	NPI	796 mg/kg bw/d

SECTION 8. Exposure controls/personal protection ... / >>

Butane

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	1900				
AGW	DEU	2400	1000	9600	4000	
MAK	DEU	2400	1000	9600	4000	
TLV	DNK	1200	500			
VLA	ESP		1000			Gases
TLV	EST	1500	800			
VLEP	FRA	1900	800			
HTP	FIN	1900	800	2400	1000	
TLV	GRC	2350	1000			
AK	HUN	2350		9400		
RV	LVA	300				
TLV	NOR	600	250			
TGG	NLD	1430				
NDS/NDSCh	POL	1900		3000		
WEL	GBR	1450	600	1810	750	
WEL	GBR		4			RESP
TLV-ACGIH					1000	

Propane

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	1800				
AGW	DEU	1800	1000	7200	4000	
MAK	DEU	1800	1000	7200	4000	
TLV	DNK	1800	1000			
VLA	ESP		1000			
TLV	EST	1800	1000			
HTP	FIN	1500	800	2000	1100	
TLV	GRC	1800	1000			
RV	LVA	1800	100			
TLV	NOR	900	500			
NDS/NDSCh	POL	1800				
TLV	ROU	1400	778	1800	1000	
ESD	TUR	1800	1000			

SECTION 8. Exposure controls/personal protection ... / >>

Ethylbenzene

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
TLV	BGR	435		545		SKIN	
TLV	CZE	200	45,4	500	113,5	SKIN	
AGW	DEU	88	20	176	40	SKIN	
MAK	DEU	88	20	176	40	SKIN	
TLV	DNK	217	50	434	100	SKIN	E
VLA	ESP	441	100	884	200	SKIN	
TLV	EST	442	100	884	200	SKIN	
VLEP	FRA	88,4	20	442	100	SKIN	
HTP	FIN	220	50	880	200	SKIN	
TLV	GRC	435	100	545	125		
AK	HUN	442	100	884	200	SKIN	
VLEP	ITA	442	100	884	200	SKIN	
RD	LTU	442	100	884	200	SKIN	
RV	LVA	442	100	884	200	SKIN	
TLV	NOR	20	5			SKIN	
TGG	NLD	215		430		SKIN	
VLE	PRT	442	100	884	200	SKIN	
NDS/NDSCh	POL	200		400		SKIN	
TLV	ROU	442	100	884	200	SKIN	
NGV/KGV	SWE	220	50	884	200	SKIN	
NPEL	SVK	442	100	884	200	SKIN	
ESD	TUR	442	100	884	200	SKIN	
WEL	GBR	441	100	552	125	SKIN	
OEL	EU	442	100	884	200	SKIN	
TLV-ACGIH		87	20				

Predicted no-effect concentration - PNEC

Normal value in fresh water	100	µg/l
Normal value in marine water	55	µg/l
Normal value for fresh water sediment	13,7	mg/kg/d
Normal value for marine water sediment	1,37	mg/kg/d
Normal value for water, intermittent release	55	µg/l
Normal value of STP microorganisms	9,6	mg/l
Normal value for the food chain (secondary poisoning)	20	mg/kg
Normal value for the terrestrial compartment	2,68	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		NPI		1,6 mg/kg bw/d				1,6
Inhalation	NPI	VND	NPI	15 mg/m3	293 mg/m3	VND	NPI	77 mg/m3
Skin		NPI		NPI	NPI	NPI	NPI	180 mg/kg bw/d

SECTION 8. Exposure controls/personal protection ... / >>

Methanol

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
TLV	BGR	260	200			SKIN	
TLV	CZE	250	187,75	1000	751	SKIN	
AGW	DEU	130	100	260	200	SKIN	
MAK	DEU	130	100	260	200	SKIN	
TLV	DNK	260	200			SKIN	E
VLA	ESP	266	200			SKIN	
TLV	EST	250	200	350	250	SKIN	
VLEP	FRA	260	200	1300	1000	SKIN	11
HTP	FIN	270	200	330	250	SKIN	
TLV	GRC	260	200	325	250		
AK	HUN	260	200			SKIN	
VLEP	ITA	260	200			SKIN	
RD	LTU	260	200			SKIN	
RV	LVA	260	200			SKIN	
TLV	NOR	130	100			SKIN	
TGG	NLD	133				SKIN	
VLE	PRT	260	200			SKIN	
NDS/NDSCh	POL	100		300		SKIN	
TLV	ROU	260	200			SKIN	
NGV/KGV	SWE	250	200	350 (C)	250 (C)	SKIN	
NPEL	SVK	260	200			SKIN	
ESD	TUR	260	200			SKIN	
WEL	GBR	266	200	333	250	SKIN	
OEL	EU	260	200				
TLV-ACGIH		262	200	328	250	SKIN	

Predicted no-effect concentration - PNEC

Normal value in fresh water	20,8	mg/l
Normal value in marine water	2,08	mg/l
Normal value for fresh water sediment	77	mg/kg/d
Normal value for marine water sediment	7,7	mg/kg/d
Normal value for water, intermittent release	1,54	g/l
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	100	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		8 mg/kg bw/d		8 mg/kg bw/d				
Inhalation	50 mg/m3	50 mg/m3	50 mg/m3	50 mg/m3	260 mg/m3	260 mg/m3	260 mg/m3	260 mg/m3
Skin		8 mg/kg bw/d		8 mg/kg bw/d		40 mg/kg bw/d		40 mg/kg bw/d

SECTION 8. Exposure controls/personal protection ... / >>

Ethanol

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	1000				
TLV	CZE	1000	522	3000	1566	
AGW	DEU	380	200	1520	800	
MAK	DEU	380	200	1520	800	
TLV	DNK	1900	1000			
VLA	ESP			1910	1000	
TLV	EST	1000	500	1900	1000	
VLEP	FRA	1900	1000	9500	5000	
HTP	FIN	1900	1000	2500	1300	
TLV	GRC	1900	1000			
AK	HUN	1900	1000	3800	2000	
RD	LTU	1000	500	1900	1000	
RV	LVA	1000				
TLV	NOR	950	500			
TGG	NLD	260		1900		SKIN
NDS/NDSCh	POL	1900				
TLV	ROU	1900	1000	9500	5000	
NGV/KGV	SWE	1000	500	1900 (C)	1000 (C)	
NPEL	SVK	960	500	1920	1000	
ESD	TUR	1900	1000			
WEL	GBR	1920	1000			
TLV-ACGIH				1884	1000	

Predicted no-effect concentration - PNEC

Normal value in fresh water	960	µg/l
Normal value in marine water	790	µg/l
Normal value for fresh water sediment	3,6	mg/kg/d
Normal value for marine water sediment	2,9	mg/kg/d
Normal value for water, intermittent release	2,75	mg/l
Normal value of STP microorganisms	580	mg/l
Normal value for the food chain (secondary poisoning)	380	mg/kg
Normal value for the terrestrial compartment	630	µg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		NPI		87 mg/kg bw/d				87
Inhalation	950 mg/m3	NPI	NPI	114 mg/m3	1900 mg/m3	NPI	NPI	950 mg/m3
Skin	NPI	NPI	NPI	206 mg/kg bw/d	NPI	NPI	NPI	343 mg/kg bw/d

SECTION 8. Exposure controls/personal protection ... / >>

2-butoxyethanol

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
TLV	BGR	98	20	246	50	SKIN	
TLV	CZE	100	20,4	200	40,8	SKIN	
AGW	DEU	49	10	98	20	SKIN	
MAK	DEU	49	10	98	20	SKIN	Hinweis
TLV	DNK	98	20	246	50	SKIN	E
VLA	ESP	98	20	245	50	SKIN	
TLV	EST	98	20	246	50		
VLEP	FRA	49	10	246	50	SKIN	
HTP	FIN	98	20	250	50	SKIN	
TLV	GRC	120	25				
AK	HUN	98	20	246	50	SKIN	
VLEP	ITA	98	20	246	50	SKIN	
RD	LTU	50	10	100	20	SKIN	
RV	LVA	98	20	246	50	SKIN	
TLV	NOR	50	10			SKIN	
TGG	NLD	100		246		SKIN	
VLE	PRT	98	20	246	50	SKIN	
NDS/NDSCh	POL	98		200		SKIN	
TLV	ROU	98	20	246	50	SKIN	
NGV/KGV	SWE	50	10	246	50	SKIN	
NPEL	SVK	98	20	246	50	SKIN	
ESD	TUR	98	20	246	50	SKIN	
WEL	GBR	123	25	246	50	SKIN	
OEL	EU	98	20	246	50	SKIN	
TLV-ACGIH		97	20				

Predicted no-effect concentration - PNEC

Normal value in fresh water	8,8	mg/l
Normal value in marine water	880	µg/l
Normal value for fresh water sediment	34,6	mg/kg/d
Normal value for water, intermittent release	9,1	mg/l
Normal value of STP microorganisms	463	mg/l
Normal value for the food chain (secondary poisoning)	20	mg/kg
Normal value for the terrestrial compartment	2,33	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		26,7 mg/kg bw/d		6,3 mg/kg bw/d				
Inhalation	147 mg/m3	426 mg/m3	NPI	59 mg/m3	246 mg/m3	1091 mg/m3	NPI	98 mg/m3
Skin	VND	89 mg/kg bw/d	NPI	75 mg/kg bw/d	VND	89 mg/kg bw/d	NPI	125 mg/kg bw/d

SECTION 8. Exposure controls/personal protection ... / >>

Propan-2-ol

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	980		1225		
TLV	CZE	500	200	1000	400	
AGW	DEU	500	200	1000	400	
MAK	DEU	500	200	1000	400	
TLV	DNK	490	200			
VLA	ESP	500	200	1000	400	
TLV	EST	350	150	600	250	
VLEP	FRA			980	400	
HTP	FIN	500	200	620	250	
TLV	GRC	500	200	1000	400	
AK	HUN	500	200	1000	400	SKIN
RD	LTU	350	150	600	250	
RV	LVA	350		600		
TLV	NOR	245	100			
TGG	NLD	650				
NDS/NDSCh	POL	900		1200		SKIN
TLV	ROU	200	81	500	203	
NGV/KGV	SWE	350	150	600 (C)	250 (C)	
NPEL	SVK	500	200	1000	400	
ESD	TUR	980	400			
WEL	GBR	999	400	1250	500	
TLV-ACGIH		492	200	983	400	

Predicted no-effect concentration - PNEC

Normal value in fresh water	140,9	mg/l
Normal value in marine water	140,9	mg/l
Normal value for fresh water sediment	552	mg/kg/d
Normal value for marine water sediment	552	mg/kg/d
Normal value for water, intermittent release	140,9	mg/l
Normal value of STP microorganisms	2,251	g/l
Normal value for the food chain (secondary poisoning)	160	mg/kg
Normal value for the terrestrial compartment	28	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral	VND	VND	VND	26 mg/kg bw/d	VND	VND	VND	VND
Inhalation	VND	VND	VND	89 mg/m3	VND	VND	VND	500 mg/m3
Skin	VND	VND	VND	319 mg/kg bw/d	VND	VND	VND	888 mg/kg

SECTION 8. Exposure controls/personal protection ... / >>

Methyl acetate

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	600	195	800	260	
AGW	DEU	620	200	1240	400	
MAK	DEU	310	100	1240	400	
TLV	DNK	455	150			
VLA	ESP	616	200	770	250	
TLV	EST	450	150	900	300	
VLEP	FRA	610	200	760	250	SKIN
HTP	FIN	610	200	770	250	
TLV	GRC	610	200	760	250	
AK	HUN	310	200	1240	400	SKIN
RD	LTU	450	150	900	300	
RV	LVA	100				
TLV	NOR	305	100			
TGG	NLD	100				
NDS/NDSCh	POL	250		600		
TLV	ROU	200	63	600	188	
NGV/KGV	SWE	450	150	900 (C)	300 (C)	
NPEL	SVK	310	100	770	250	
ESD	TUR	610	200			
WEL	GBR	616	200	770	250	
TLV-ACGIH		606	200	757	250	

Predicted no-effect concentration - PNEC

Normal value in fresh water	120	µg/l
Normal value in marine water	12	µg/l

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		NPI		44 mg/kg bw/d				
Inhalation	VND	VND	152 mg/m3		VND	VND	305 mg/m3	610 mg/m3
Skin			NPI	44 mg/kg bw/d	NPI	VND	NPI	88 mg/kg bw/d

SECTION 8. Exposure controls/personal protection ... / >>

N-butyl acetate

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	710		950		
TLV	CZE	241		723		
AGW	DEU	300	62	600	124	
MAK	DEU	480	100	960	200	
TLV	DNK	241	50	723	150	E
VLA	ESP	241	50	723	150	
TLV	EST	500	100	700	150	
VLEP	FRA	241	50	723	150	
TLV	GRC	710	150	950	200	
AK	HUN	241	50	723	150	
VLEP	ITA	241	50	723	150	
RD	LTU	241	50	723	150	
RV	LVA	200				
TLV	NOR		75			
TGG	NLD	150				
VLE	PRT	241	50	723	150	
NDS/NDSCh	POL	240		720		
TLV	ROU	241	50	723	150	
NGV/KGV	SWE	241	50	723 (C)	150 (C)	
NPEL	SVK	241	50	723	150	
ESD	TUR	241	50	723	150	
WEL	GBR	724	150	966	200	
OEL	EU	241	50	723	150	
TLV-ACGIH			50		150	

Predicted no-effect concentration - PNEC

Normal value in fresh water	180	µg/l
Normal value in marine water	18	µg/l
Normal value for fresh water sediment	981	µg/kg/d
Normal value for marine water sediment	98,1	µg/kg/d
Normal value of STP microorganisms	35,6	mg/l
Normal value for the terrestrial compartment	90,3	µg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		2 mg/kg bw/d		2 mg/kg bw/d		2		2
Inhalation	300 mg/m3	300 mg/m3	35,7 mg/m3	12 mg/m3	600 mg/m3	600 mg/m3	300 mg/m3	48 mg/m3
Skin	NPI	6 mg/kg bw/d	NPI	3,4 mg/kg bw/d	NPI	11 mg/kg bw/d	NPI	7 mg/kg bw/d

SECTION 8. Exposure controls/personal protection ... / >>

Isobutyl acetate

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	241		723		
AGW	DEU	300	62	600	124	
MAK	DEU	480	100	960	200	
TLV	DNK	241	50	723	150	E, Sut Is
VLA	ESP	241	50	723	150	
TLV	EST	500	100	700	150	
VLEP	FRA	241	50	723	150	
TLV	GRC	950	200	950	200	
AK	HUN	241	50	723	150	
VLEP	ITA	241	50	723	150	
RD	LTU	241	50	723	150	
TLV	NOR		75			
TGG	NLD	480				
VLE	PRT	241	50	723	150	
NDS/NDSCh	POL	240		720		
TLV	ROU	241	50	723	150	
NGV/KGV	SWE	241	50	723 (C)	150 (C)	
NPEL	SVK	241	50	723	150	
ESD	TUR	241	50	723	150	
WEL	GBR	724	150	903	187	
OEL	EU	241	50	723	150	
TLV-ACGIH			50		150	

Predicted no-effect concentration - PNEC

Normal value in fresh water	170	µg/l
Normal value in marine water	17	µg/l
Normal value for fresh water sediment	877	µg/kg/d
Normal value for marine water sediment	87,7	µg/kg/d
Normal value of STP microorganisms	200	mg/l
Normal value for the terrestrial compartment	75,5	µg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		5 mg/kg bw/d		5 mg/kg bw/d				
Inhalation	300 mg/m3		35,7 mg/m3	35,7 mg/m3	600 mg/m3	600 mg/m3	300 mg/m3	300 mg/m3
Skin	NPI	5 mg/kg bw/d	NPI	5 mg/kg bw/d	NPI	10 mg/kg bw/d	NPI	10 mg/kg bw/d

Isobutane

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH			800			

SECTION 8. Exposure controls/personal protection ... / >>

Reaction mass of ethylbenzene and xylene		
Predicted no-effect concentration - PNEC		
Normal value in fresh water	327	µg/l
Normal value in marine water	327	µg/l
Normal value for fresh water sediment	12,46	mg/kg/d
Normal value for marine water sediment	12,46	mg/kg/d
Normal value for water, intermittent release	327	µg/l
Normal value of STP microorganisms	6,58	mg/l
Normal value for the terrestrial compartment	2,31	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				1,6 mg/kg bw/d				
Inhalation				14,8 mg/m3	289 mg/m3			77 mg/m3
Skin				108 mg/kg bw/d				180 mg/kg bw/d

Reaction mass of ethylbenzene and m-xylene and p-xylene		
Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,327	mg/l
Normal value in marine water	0,327	mg/l
Normal value for fresh water sediment	12,46	mg/kg/d
Normal value for marine water sediment	12,46	mg/kg/d
Normal value for water, intermittent release	0,327	mg/l
Normal value of STP microorganisms	6,58	mg/l
Normal value for the terrestrial compartment	2,31	mg/kg/d
Normal value for the atmosphere	0,327	mg/l

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				1,6 mg/kg bw/d				
Inhalation				14,8 mg/m3	289 mg/m3			77 mg/m3
Skin				108 mg/kg bw/d				180 mg/kg bw/d

Legend:
(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

Reaction mass of ethylbenzene and m-xylene and p-xylene
MCA (mg / m3): 221.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.
When choosing personal protective equipment, ask your chemical substance supplier for advice.
Personal protective equipment must be CE marked, showing that it complies with applicable standards.
Provide an emergency shower with face and eye wash station.
HAND PROTECTION
None required.
SKIN PROTECTION
Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.
EYE PROTECTION
Wear airtight protective goggles (see standard EN ISO 16321).
RESPIRATORY PROTECTION
Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. Use a mask with a type AX filter combined with a type P filter should be worn (see standard EN 14387).

SECTION 8. Exposure controls/personal protection ... / >>

ENVIRONMENTAL EXPOSURE CONTROLS
The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties		Value		Information
Appearance		aerosol		
Colour		various		
Odour		characteristic of solvent		
Melting point / freezing point		not available		
Initial boiling point		not available		
Flammability		flammable gas		
Lower explosive limit		not available		
Upper explosive limit		not available		
Flash point	<	0	°C	
Auto-ignition temperature		not available		
Decomposition temperature		not available		
pH		not available		
Kinematic viscosity		10'' - 13'' Coppa Ford		
Solubility		insoluble in water		
Partition coefficient: n-octanol/water		not available		
Vapour pressure		not available		
Density and/or relative density		0,78	kg/l	
Relative vapour density		not available		
Particle characteristics		not applicable		

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

VOC (Directive 2004/42/EC) :	91,40 %	-	712,92	g/litre
VOC (volatile carbon)	60,17 %	-	469,36	g/litre
Explosive properties	not applicable			
Oxidising properties	not applicable			

SECTION 10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

1-methyl-2-methoxyethyl acetate
Stable in normal conditions of use and storage.On contact with: strong oxidising agents.
With the air it may slowly develop peroxides that explode with an increase in temperature.

2-butoxyethanol
Decomposes under the effect of heat.
N-butyl acetate
Decomposes on contact with: water.
Isobutyl acetate
Decomposes under the effect of heat.Attacks various types of plastic materials.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

SECTION 10. Stability and reactivity ... / >>

10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

Xylene
Stable in normal conditions of use and storage.Reacts violently with: strong oxidants,strong acids,nitric acid,perchlorates.May form explosive mixtures with: air.
1-methyl-2-methoxyethyl acetate
May react violently with: oxidising substances,strong acids,alkaline metals.
Ethylbenzene
Reacts violently with: strong oxidants.Attacks various types of plastic materials.May form explosive mixtures with: air.
2-butoxyethanol
May react dangerously with: aluminium,oxidising agents.Forms peroxides with: air.
N-butyl acetate
Risk of explosion on contact with: strong oxidising agents.May react dangerously with: alkaline hydroxides,potassium tert-butoxide.Forms explosive mixtures with: air.
Isobutyl acetate
Risk of explosion on contact with: strong oxidising agents.May react violently with: alkaline hydroxides,potassium tert-butoxide.Forms explosive mixtures with: air.

10.4. Conditions to avoid

Avoid overheating.

2-butoxyethanol
Avoid exposure to: sources of heat,naked flames.
N-butyl acetate
Avoid exposure to: moisture,sources of heat,naked flames.
Isobutyl acetate
Avoid exposure to: sources of heat,naked flames.

10.5. Incompatible materials

Strong reducing or oxidising agents, strong acids or alkalis, hot material.

1-methyl-2-methoxyethyl acetate
Incompatible with: oxidising substances,strong acids,alkaline metals.
2-butoxyethanol
Keep away from: strong oxidants.
N-butyl acetate
Incompatible with: water,nitrates,strong oxidants,acids,alkalis,zinc.
Isobutyl acetate
Incompatible with: strong oxidants,nitrates,strong acids,strong bases.

10.6. Hazardous decomposition products

Ethylbenzene
May develop: methane,styrene,hydrogen,ethane.
2-butoxyethanol
May develop: hydrogen.

SECTION 11. Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Metabolism, toxicokinetics, mechanism of action and other information

1-methyl-2-methoxyethyl acetate
The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product.

Information on likely routes of exposure

Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

Xylene
WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; inhalation of ambient air.

1-methyl-2-methoxyethyl acetate
WORKERS: inhalation; contact with the skin.

SECTION 11. Toxicological information ... / >>

Ethylbenzene
WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; contact with the skin of products containing the substance.

Methanol
WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; contact with the skin of products containing the substance.

N-butyl acetate
WORKERS: inhalation; contact with the skin.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Xylene
Toxic action on the central nervous system (encephalopathies); irritant action on the skin, conjunctiva, cornea and respiratory system.

1-methyl-2-methoxyethyl acetate
Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported (INCR, 2010).

Ethylbenzene
As the counterparts of benzene, may have an acute effect on the central nervous system, with depression, narcosis, often preceded by dizziness and associated with headache (Ispesl). Is irritating for skin, conjunctiva and respiratory tract.

Methanol
The minimum lethal dose for humans by ingestion is considered to be in the range from 300 to 1000 mg/kg. Ingestion of 4-10 ml of the substance may cause permanent blindness in adult humans (IPCS).

N-butyl acetate
In humans, the substance's vapours cause irritation of the eyes and nose. In the event of repeated exposure, skin irritation, dermatitis (dryness and cracking of the skin) and keratitis appear.

Interactive effects

Xylene
Alcohol intake interferes with the metabolism of the substance, inhibiting it. Consumption of ethanol (0.8 g / kg) before a 4-hour exposure to xylenes vapors (145 and 280 ppm) causes a 50% decrease in the excretion of metilippuric acid, while the blood concentration of xylenes rises about 1.5-2 times. At the same time, there is an increase in the secondary side effects of ethanol. The metabolism of xylenes is enhanced by phenobarbital and 3-methyl-colanthrene type enzyme inducers. Aspirin and xylenes mutually inhibit their conjugation with glycine, which results in a decrease in urinary excretion of metilippuric acid. Other industrial products can interfere with the metabolism of xylenes.

N-butyl acetate
A case of acute intoxication been reported involving a 33 year old worker while cleaning a tank with a preparation containing xylenes, butyl acetate and ethylene glycol acetate. The person had irritation of the conjunctiva and upper respiratory tract, drowsiness and motor coordination disorders, which disappeared within 5 hours. The symptoms are attributed to poisoning by mixed xylenes and butyl acetate, with a possible synergistic effect responsible for the neurological effects. Cases of vacuolar keratitis are reported in workers exposed to a mixture of butyl acetate and isobutanol vapours, but with uncertainty concerning the responsibility of a particular solvent (INRC, 2011).

ACUTE TOXICITY

ATE (Inhalation - mists / powders) of the mixture:	> 5 mg/l
ATE (Oral) of the mixture:	>2000 mg/kg
ATE (Dermal) of the mixture:	>2000 mg/kg

Petroleum Resins

LD50 (Oral):	2000 mg/kg

Xylene

LD50 (Dermal):	> 1700 mg/kg rabbit
LD50 (Oral):	> 3000 mg/kg rat
LC50 (Inhalation vapours):	5000 ppm/4h rat
ATE (Inhalation mists/powders):	1,5 mg/l (figure used for calculation of the acute toxicity estimate of the mixture)

SECTION 11. Toxicological information ... / >>

Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]
LD50 (Oral): > 10000 mg/kg Rat

1-methyl-2-methoxyethyl acetate
LD50 (Dermal): > 5000 mg/kg Rat
LD50 (Oral): > 5000 mg/kg Rat
LC50 (Inhalation vapours): 1805,05 ppm LC0 (4 h) rat

Butane
LC50 (Inhalation mists/powders): > 1442,738 mg/l/15min rat

Propane
LC50 (Inhalation mists/powders): 800000 ppm 15 min

Ethylbenzene
LD50 (Dermal): 15354 mg/kg Rabbit
LD50 (Oral): 3500 mg/kg Rat
LC50 (Inhalation vapours): 17,2 mg/l/4h Rat
ATE (Inhalation mists/powders): 1,5 mg/l
(figure used for calculation of the acute toxicity estimate of the mixture)

Methanol
ATE (Dermal): 300 mg/kg estimate from table 3.1.2 of Annex I of the CLP
(figure used for calculation of the acute toxicity estimate of the mixture)
ATE (Oral): 100 mg/kg estimate from table 3.1.2 of Annex I of the CLP
(figure used for calculation of the acute toxicity estimate of the mixture)
LC50 (Inhalation vapours): > 87,6 mg/l/4h Rat
ATE (Inhalation mists/powders): 0,501 mg/l
(figure used for calculation of the acute toxicity estimate of the mixture)

2-butoxyethanol
LD50 (Oral): 1200 mg/kg Guinea pig
LC50 (Inhalation vapours): 3 mg/l Rat
ATE (Inhalation mists/powders): 0,501 mg/l
(figure used for calculation of the acute toxicity estimate of the mixture)

Methyl acetate
LD50 (Dermal): 2000 mg/kg bw rat
LD50 (Oral): 6482 mg/kg rat
LC50 (Inhalation vapours): 49,2 mg/l/4h rabbit

N-butyl acetate
LD50 (Dermal): > 5000 mg/kg rabbit
LD50 (Oral): > 10000 mg/kg Rat
LC50 (Inhalation vapours): 0,74 mg/l/4h Rat

Isobutyl acetate
LD50 (Dermal): 17400 mg/kg bw rabbit
LD50 (Oral): 13413 mg/kg bw rat
LC50 (Inhalation vapours): 30 mg/l/6h rat

Isobutane
LC50 (Inhalation mists/powders): > 1442,738 mg/l/15min rat

Reaction mass of ethylbenzene and m-xylene and p-xylene
LD50 (Dermal): 5000 ml/kg bw rabbit
ATE (Dermal): 1100 mg/kg estimate from table 3.1.2 of Annex I of the CLP
(figure used for calculation of the acute toxicity estimate of the mixture)
LD50 (Oral): > 3000 mg/kg rat
LC50 (Inhalation vapours): > 6000 ppm/4h rat
ATE (Inhalation mists/powders): 1,5 mg/l
(figure used for calculation of the acute toxicity estimate of the mixture)

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

SECTION 11. Toxicological information ... / >>

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

Xylene
Classified in group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC).
The US Environmental Protection Agency (EPA) claims that "the data were found to be inadequate for an assessment of carcinogenic potential."

Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]
The classification as a carcinogen by inhalation applies only to mixtures in powder form containing 1% or more of titanium dioxide which is in the form of or incorporated in particles with aerodynamic diameter ≤ 10 µm.

Ethylbenzene
Classified in Group 2B (possible human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 2000).
Classified in Group D (not classifiable as a human carcinogen) by the US Environmental Protection Agency (EPA) - (US EPA file on-line 2014).

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause drowsiness or dizziness

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Excluded because the aerosol does not allow the accumulation of a significant amount of product in the mouth

11.2. Information on other hazards

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

SECTION 12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity

Petroleum Resins	
EC50 - for Crustacea	100 mg/l/48h
EC50 - for Algae / Aquatic Plants	100 mg/l/72h
1-methyl-2-methoxyethyl acetate	
LC50 - for Fish	> 100 mg/l/96h
EC50 - for Crustacea	> 100 mg/l/48h
EC50 - for Algae / Aquatic Plants	> 100 mg/l/72h
Chronic NOEC for Fish	> 10 mg/l 14 days
Chronic NOEC for Crustacea	100 mg/l
Chronic NOEC for Algae / Aquatic Plants	1 g/l 4 days

SECTION 12. Ecological information ... / >>

Butane

LC50 - for Fish	> 24,11 mg/l/96h

Propane

LC50 - for Fish	85,82 mg/l/96h
EC50 - for Crustacea	41,82 mg/l/48h

Ethylbenzene

LC50 - for Fish	4,65 mg/l/96h
EC50 - for Crustacea	2,1 mg/l/48h
EC50 - for Algae / Aquatic Plants	5,15 mg/l/72h
Chronic NOEC for Fish	3,3 mg/l 4 days
Chronic NOEC for Crustacea	960 µg/l 7 days
Chronic NOEC for Algae / Aquatic Plants	3,95 mg/l 4 days

Methanol

LC50 - for Fish	15,4 g/l/96h
Chronic NOEC for Fish	446,7 mg/l 28 days
Chronic NOEC for Crustacea	208 mg/l 21 days

2-butoxyethanol

LC50 - for Fish	1,474 g/l
EC50 - for Crustacea	1,55 g/l
EC50 - for Algae / Aquatic Plants	911 mg/l/72h
EC10 for Crustacea	134 mg/l 21 days
Chronic NOEC for Fish	100 mg/l 21 days
Chronic NOEC for Crustacea	100 mg/l 21 days
Chronic NOEC for Algae / Aquatic Plants	88 mg/l 72 h

Methyl acetate

LC50 - for Fish	300 mg/l/96h
EC50 - for Crustacea	1,027 g/l
EC50 - for Algae / Aquatic Plants	120 mg/l/72h
Chronic NOEC for Algae / Aquatic Plants	120 mg/l 72 h

N-butyl acetate

LC50 - for Fish	18 mg/l/96h
EC50 - for Crustacea	32 mg/l/48h
EC50 - for Algae / Aquatic Plants	246 mg/l/72h
Chronic NOEC for Crustacea	23,2 mg/l 21 days
Chronic NOEC for Algae / Aquatic Plants	105 mg/l 72 h

Isobutyl acetate

LC50 - for Fish	16,6 mg/l/96h
EC50 - for Crustacea	24,6 mg/l/48h
EC50 - for Algae / Aquatic Plants	321,5 mg/l/72h
Chronic NOEC for Crustacea	23,2 mg/l 21 days
Chronic NOEC for Algae / Aquatic Plants	1505 mg/l 72 h

Isobutane

LC50 - for Fish	> 24,11 mg/l/96h

Reaction mass of ethylbenzene and m-xylene and p-xylene

LC50 - for Fish	2,6 mg/l/96h
EC10 for Algae / Aquatic Plants	> 720 µg/l/73h
Chronic NOEC for Fish	1,3 mg/l 56 days
Chronic NOEC for Crustacea	> 960 µg/l 7 days
Chronic NOEC for Algae / Aquatic Plants	440 µg/l 73 h

12.2. Persistence and degradability

1-methyl-2-methoxyethyl acetate
Easily biodegradable. It is rapidly oxidized into the air by photochemical reaction.

Propane
Global Warming Potential (GWP): 3. Ozone Depletion Potential (ODP): 0.

SECTION 12. Ecological information ... / >>

Xylene
Solubility in water 100 - 1000 mg/l
Rapidly degradable

Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]
Solubility in water < 0,001 mg/l
Degradability: information not available

1-methyl-2-methoxyethyl acetate
Solubility in water > 10000 mg/l
Rapidly degradable

Butane
Solubility in water 0,1 - 100 mg/l
Rapidly degradable

Propane
Solubility in water 0,1 - 100 mg/l
Rapidly degradable

Ethylbenzene
Solubility in water 1000 - 10000 mg/l
Rapidly degradable

Methanol
Solubility in water 1000 - 10000 mg/l
Rapidly degradable

2-butoxyethanol
Solubility in water 1000 - 10000 mg/l
Rapidly degradable

Methyl acetate
Solubility in water 243500 mg/l
Rapidly degradable

N-butyl acetate
Solubility in water 5,3 g/l
Rapidly degradable

Isobutyl acetate
Solubility in water 1000 - 10000 mg/l
Rapidly degradable

Isobutane
Rapidly degradable

Reaction mass of ethylbenzene and m-xylene and p-xylene
Rapidly degradable

12.3. Bioaccumulative potential

Xylene
Partition coefficient: n-octanol/water 3,12
BCF 25,9

1-methyl-2-methoxyethyl acetate
Partition coefficient: n-octanol/water 1,2

Butane
Partition coefficient: n-octanol/water 1,09

Propane
Partition coefficient: n-octanol/water 1,09

SECTION 12. Ecological information ... / >>

Ethylbenzene
Partition coefficient: n-octanol/water 3,6

Methanol
Partition coefficient: n-octanol/water -0,77
BCF 0,2

2-butoxyethanol
Partition coefficient: n-octanol/water 0,81

Methyl acetate
Partition coefficient: n-octanol/water 0,18

N-butyl acetate
Partition coefficient: n-octanol/water 2,3
BCF 15,3

Isobutyl acetate
Partition coefficient: n-octanol/water 2,3
BCF 15,3

12.4. Mobility in soil

Xylene
Partition coefficient: soil/water 2,73
Methyl acetate
Partition coefficient: soil/water 0,18
N-butyl acetate
Partition coefficient: soil/water < 3

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

12.6. Endocrine disrupting properties

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

12.7. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
Waste transportation may be subject to ADR restrictions.
The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety regulations. See section 8 for possible need for PPE.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

Product residues are to be considered special hazardous waste.
Empty cans, even if completely emptied, must not be dispersed in the environment.
The aerosol container overheated to a temperature above 50 ° C may burst even if it contains a small residue of gas.
Disposal must take place in an authorized place and in compliance with the laws in force.
The transport of waste may be subject to ADR.
European waste catalog code (contaminated containers):
Aerosol as domestic waste is excluded from the application of the aforementioned rule.
The exhausted aerosol for professional / industrial use can be classified:
15.01.11 *: metallic packaging containing dangerous solid porous matrices, including empty pressure containers.

SECTION 14. Transport information

14.1. UN number or ID number

ADR / RID, IMDG, IATA: UN 1950

14.2. UN proper shipping name

ADR / RID: AEROSOLS
IMDG: AEROSOLS
IATA: AEROSOLS, FLAMMABLE

14.3. Transport hazard class(es)

ADR / RID: Class: 2 Label: 2.1



IMDG: Class: 2 Label: 2.1



IATA: Class: 2 Label: 2.1



14.4. Packing group

ADR / RID, IMDG, IATA: -

14.5. Environmental hazards

ADR / RID: NO
IMDG: not marine pollutant
IATA: NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: --	Limited Quantities: 1 lt	Tunnel restriction code: (D)
	Special provision: 190, 327, 344, 625		
IMDG:	EMS: F-D, S-U	Limited Quantities: 1 lt	
IATA:	Cargo:	Maximum quantity: 150 kg	Packaging instructions: 203
	Passengers:	Maximum quantity: 75 kg	Packaging instructions: 203
	Special provision:	A145, A167, A802	

14.7. Maritime transport in bulk according to IMO instruments

Information not relevant

SECTION 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EU: P3a

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product
Point 40
Contained substance
Point 75
Point 69 Methanol
REACH Reg.: 01-2119433307-44-XXXX

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors
not applicable

SECTION 15. Regulatory information ... / >>

Substances in Candidate List (Art. 59 REACH)
On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)
None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:
None

Substances subject to the Rotterdam Convention:
None

Substances subject to the Stockholm Convention:
None

Healthcare controls
Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

VOC (Directive 2004/42/EC) :
Special finishes - All types.

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Gas 1A	Flammable gas, category 1A
Aerosol 1	Aerosol, category 1
Aerosol 3	Aerosol, category 3
Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Press. Gas	Pressurised gas
Press. Gas (Liq.)	Liquefied gas
Carc. 2	Carcinogenicity, category 2
Acute Tox. 3	Acute toxicity, category 3
STOT SE 1	Specific target organ toxicity - single exposure, category 1
Acute Tox. 4	Acute toxicity, category 4
Asp. Tox. 1	Aspiration hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
STOT SE 2	Specific target organ toxicity - single exposure, category 2
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
Aquatic Chronic 4	Hazardous to the aquatic environment, chronic toxicity, category 4
H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H229	Pressurised container: may burst if heated.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H280	Contains gas under pressure; may explode if heated.
H351	Suspected of causing cancer.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H319	Causes serious eye irritation.

SECTION 16. Other information ... / >>

H315	Causes skin irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H371	May cause damage to organs.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
EUH066	Repeated exposure may cause skin dryness or cracking.
EUH211	Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.
EUH212	Warning! Hazardous respirable dust may be formed when used. Do not breathe dust.

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent, bioaccumulative and toxic
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PMT: Persistent, mobile and toxic
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very persistent and very bioaccumulative
- vPvM: Very persistent and very mobile
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY
1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
23. Delegated Regulation (UE) 2023/707

SECTION 16. Other information ... / >>

24. Delegated Regulation (UE) 2023/1434 (XIX Atp. CLP)
25. Delegated Regulation (UE) 2023/1435 (XX Atp. CLP)
26. Delegated Regulation (UE) 2024/197 (XXI Atp. CLP)
27. Delegated Regulation (UE) 2024/2564 (XXII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION
Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.
Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.
Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:
The following sections were modified:
03.