Safety Data Sheet

According to Annex II to REACH - Regulation 2020/878 and to Annex II to UK REACH

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

1.1. Product identifier

Code: **V400/TEMP**
Product name **HIGH TEMPERATURES 400 ml AMBRO-SOL**
UFI : **M360-V0N0-Q00G-M923**

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

Intended use **Aerosol paint for surfaces subject to high temperatures.**

Identified Uses	Industrial	Professional	Consumer
Consumer	-	-	✔
Industrial Use	✔	-	-
Professional Use	-	✔	-

1.3. Details of the supplier of the safety data sheet

Name **AMBRO-SOL SRL SOCIETA' BENEFIT**
Full address **Via per Pavone del Mella n.21**
District and Country **25020 Cigole (BS)**
Italia

Tel. +39 030 9959674

Fax +39 030 959265

e-mail address of the competent person

responsible for the Safety Data Sheet **regulatory@ambro-sol.com**

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.
Acute toxicity, category 4	H332	Harmful if inhaled.
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 words: Danger

Hazard statements:

H222	Extremely flammable aerosol.
H229	Pressurised container: may burst if heated.
H332	Harmful if inhaled.
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.
P211	Do not spray on an open flame or other ignition source.
P271	Use only outdoors or in a well-ventilated area.

Contains: Acetone
N-butyl acetate
Isobutyl acetate
Hydrocarbons, C9, aromatics

VOC (Directive 2004/42/EC) :

Special finishes.

VOC given in g/litre of product in a ready-to-use condition :	686,41
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)**
Acetone		
INDEX 606-001-00-8	35 ≤ x < 39	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
EC 200-662-2		
CAS 67-64-1		
REACH Reg. 01-2119471330-49-XXXX		
Propane		
INDEX 601-003-00-5	15 ≤ x < 19	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		
Butane		
INDEX 601-004-00-0	7 ≤ x < 9	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		
Reaction mass of ethylbenzene and xylene		
INDEX -	7 ≤ x < 9	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 905-588-0		STA Dermal: 1100 mg/kg, STA Inhalation mists/powders: 1,5 mg/l
CAS -		
REACH Reg. 01-2119539452-40-XXXX		
N-butyl acetate		
INDEX 607-025-00-1	5 ≤ x < 7	Flam. Liq. 3 H226, STOT SE 3 H336, EUH066
EC 204-658-1		
CAS 123-86-4		
REACH Reg. 01-2119485493-29-XXXX		
Xylene (Mixture of isomers)		
INDEX 601-022-00-9	5 ≤ x < 7	Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Classification note according to Annex VI to the CLP Regulation: C
EC 215-535-7		LD50 Dermal: >1700 mg/kg, STA Inhalation mists/powders: 1,5 mg/l
CAS 1330-20-7		
REACH Reg. 01-2119488216-32-XXXX		
Petroleum Resins		
INDEX -	3 ≤ x < 5	Aquatic Chronic 4 H413
EC 265-116-8		
CAS 64742-16-1		
Isobutyl acetate		
INDEX 607-026-00-7	3 ≤ x < 5	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		
2-Butoxyethanol		
INDEX 603-014-00-0	3 ≤ x < 5	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, STA Inhalation mists/powders: 0,501 mg/l
CAS 111-76-2		
REACH Reg. 01-2119475108-36-XXXX		
Isobutane		
INDEX 601-004-00-0	1 ≤ x < 3	Flam. Gas 1A H220, Press. Gas H280
EC 200-857-2		
CAS 75-28-5		
REACH Reg. 01-2119485395-27-XXXX		
Hydrocarbons, C9, aromatics		
INDEX -	1 ≤ x < 2,5	Flam. Liq. 3 H226, Asp. Tox. 1 H304, STOT SE 3 H335, STOT SE 3 H336, Aquatic Chronic 2 H411, Classification note according to Annex VI to the CLP Regulation: P
EC 918-668-5		
CAS -		

REACH Reg. 01-2119455851-35-XXXX		
Isobutyl methyl ketone		
INDEX 606-004-00-4	0,5 ≤ x < 1	Flam. Liq. 2 H225, Acute Tox. 4 H332, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
EC 203-550-1		STA Inhalation mists/powders: 1,5 mg/l
CAS 108-10-1		
REACH Reg. 01-2119473980-30-XXXX		
Ethylbenzene		
INDEX 601-023-00-4	0 ≤ x < 0,5	Flam. Liq. 2 H225, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373
EC 202-849-4		STA Inhalation mists/powders: 1,5 mg/l
CAS 100-41-4		
REACH Reg. 01-2119489370-35-XXXX		
2-methoxy-1-methylethyl acetate		
INDEX 607-195-00-7	0 ≤ x < 0,5	Flam. Liq. 3 H226
EC 203-603-9		
CAS 108-65-6		
REACH Reg. 01-2119475791-29-XXXX		
1-methoxy-2-propanol		
INDEX 603-064-00-3	0 ≤ x < 0,5	Flam. Liq. 3 H226, STOT SE 3 H336
EC 203-539-1		
CAS 107-98-2		
REACH Reg. 01-2119457435-35-XXXX		
Methanol		
INDEX 603-001-00-X	0 ≤ x < 0,5	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%
CAS 67-56-1		STA Oral: 100 mg/kg, STA Dermal: 300 mg/kg, STA Inhalation mists/powders: 0,501 mg/l
REACH Reg. 01-2119433307-44-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: 29,23 %

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.
SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.
INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.
INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

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

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

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

Information not available

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.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

CZE	Česká Republika	Nařízení vlády č. 41/2020 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
DEU	Deutschland	Technischen Regeln für Gefahrstoffe (TRGS 900) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte. MAK- und BAT-Werte-Liste 2020, Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe, Mitteilung 56
ESP	España	Límites de exposición profesional para agentes químicos en España 2021
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
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
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
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
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 2021

Acetone

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	800	331,2	1500	621	
AGW	DEU	1200	500	2400 (C)	1000 (C)	
MAK	DEU	1200	500	2400	1000	
VLA	ESP	1210	500			
VLEP	FRA	1210	500	2420	1000	

TLV	GRC	1780		3560				
AK	HUN	1210						
VLEP	ITA	1210	500					
VLE	PRT	1210	500					
NDS/NDSCh	POL	600		1800				
NPEL	SVK	1210	500					
WEL	GBR	1210	500	3620	1500			
OEL	EU	1210	500					
TLV-ACGIH			250		500			

Predicted no-effect concentration - PNEC		
Normal value in fresh water	10,6	mg/l
Normal value in marine water	1,06	mg/l
Normal value for fresh water sediment	30,4	mg/kg
Normal value for marine water sediment	3,04	mg/kg
Normal value for water, intermittent release	21	mg/l
Normal value of STP microorganisms	100	mg/l
Normal value for the food chain (secondary poisoning)	29,5	mg/kg
Normal value for the terrestrial compartment	29,5	mg/kg/d
Normal value for the atmosphere	NPI	

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	62 mg/kg				
Inhalation			VND	200 mg/m3	VND	2,420 mg/m3	VND	1,210 mg/m3
Skin			VND	62 mg/kg			VND	186 mg/kg

Propane

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	1800	1000	7200	4000	
MAK	DEU	1800	1000	7200	4000	
VLA	ESP		1000			
TLV	GRC	1800	1000			
NDS/NDSCh	POL	1800				

Butane

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	2400	1000	9600	4000	
MAK	DEU	2400	1000	9600	4000	
VLA	ESP		1000			Gases
VLEP	FRA	1900	800			

TLV	GRC	2350	1000				
AK	HUN	2350		9400			
NDS/NDSCh	POL	1900		3000			
WEL	GBR	1450	600	1810	750		
WEL	GBR		4			RESP	
TLV-ACGIH					1000		

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

N-butyl acetate

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	950	196,65	1200	248,4	
AGW	DEU	300	62	600 (C)	124 (C)	
VLA	ESP	241	50	724	150	
VLEP	FRA	710	150	940	200	
TLV	GRC	710	150	950	200	
AK	HUN	241		723		
VLEP	ITA	241	50	723	150	
VLE	PRT	241	50	723	150	
NDS/NDSCh	POL	240		720		
NPEL	SVK	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

Xylene (Mixture of isomers)

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	200	45,4	400	90,8	SKIN
AGW	DEU	440	100	880	200	SKIN
MAK	DEU	440	100	880	200	SKIN
VLA	ESP	221	50	442	100	SKIN
VLEP	FRA	221	50	442	100	SKIN
TLV	GRC	435	100	650	150	
AK	HUN	221		442		SKIN
VLEP	ITA	221	50	442	100	SKIN
VLE	PRT	221	50	442	100	SKIN
NDS/NDSCh	POL	100		200		SKIN
NPEL	SVK	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				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

Isobutyl acetate

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	950	196,65	1200	248,4	
AGW	DEU	300	62	600 (C)	124 (C)	
VLA	ESP	724	150			
VLEP	FRA	710	150	940	200	
TLV	GRC	950	200	950	200	
AK	HUN	241		723		
VLEP	ITA	241	50	723	150	
VLE	PRT	241	50	723	150	
NDS/NDSCh	POL	240		720		
NPEL	SVK	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

Black spinel of Fe-Mn

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
Inhalation							10 mg/m3	

2-Butoxyethanol

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
TLV	CZE	100	20,4	200	40,8	SKIN	
AGW	DEU	49	10	98 (C)	20 (C)	SKIN	
MAK	DEU	49	10	98	20	SKIN	Hinweis
VLA	ESP	98	20	245	50	SKIN	

VLEP	FRA	49	10	246	50	SKIN
TLV	GRC	120	25			
AK	HUN	98		246		SKIN
VLEP	ITA	98	20	246	50	SKIN
VLE	PRT	98	20	246	50	SKIN
NDS/NDSCh	POL	98		200		SKIN
NPEL	SVK	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

Isobutane

Threshold Limit Value

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

Hydrocarbons, C9, aromatics

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OEL	EU	100	19			

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				11 mg/kg bw/d				
Inhalation				32 mg/m3				150 mg/m3
Skin				11 mg/kg bw/d				25 mg/kg bw/d

Isobutyl methyl ketone

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	80	19,2	200	48	SKIN
AGW	DEU	83	20	166	40	SKIN
MAK	DEU	83	20	166	40	SKIN
VLA	ESP	83	20	208	50	
VLEP	FRA	83	20	208	50	
TLV	GRC	410	100	410	100	
AK	HUN	83		208		
VLEP	ITA	83	20	208	50	
VLE	PRT	83	20	208	50	
NDS/NDSCh	POL	83		200		
NPEL	SVK	83	20	208	50	
WEL	GBR	208	50	416	100	SKIN
OEL	EU	83	20	208	50	
TLV-ACGIH		82	20	307	75	

Predicted no-effect concentration - PNEC		
Normal value in fresh water	600	µg/l
Normal value in marine water	60	µg/l
Normal value for fresh water sediment	8,27	mg/kg/d
Normal value for marine water sediment	830	µg/kg/d
Normal value for water, intermittent release	1,5	mg/l
Normal value of STP microorganisms	27,5	mg/l
Normal value for the terrestrial compartment	1,3	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	4,2 mg/kg bw/d

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics

Predicted no-effect concentration - PNEC	
Normal value for the atmosphere	NPI

Ethylbenzene

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	200	45,4	500	113,5	SKIN
AGW	DEU	88	20	176	40	SKIN
MAK	DEU	88	20	176	40	SKIN
VLA	ESP	441	100	884	200	SKIN
VLEP	FRA	88,4	20	442	100	SKIN

TLV	GRC	435	100	545	125	
AK	HUN	442		884		SKIN
VLEP	ITA	442	100	884	200	SKIN
VLE	PRT	442	100	884	200	SKIN
NDS/NDSCh	POL	200		400		SKIN
NPEL	SVK	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

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 (C)	400 (C)	
MAK	DEU	310	100	1240	400	
VLA	ESP	616	200	770	250	
VLEP	FRA	610	200	760	250	SKIN
TLV	GRC	610	200	760	250	
AK	HUN	310		1240		SKIN
NDS/NDSCh	POL	250		600		
NPEL	SVK	310	100	770	250	
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

2-methoxy-1-methylethyl acetate

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	270	49,14	550	100,1	SKIN
AGW	DEU	270	50	270	50	
MAK	DEU	270	50	270	50	
VLA	ESP	275	50	550	100	SKIN
VLEP	FRA	275	50	550	100	SKIN
TLV	GRC	275	50	550	100	
AK	HUN	275		550		
VLEP	ITA	275	50	550	100	SKIN
VLE	PRT	275	50	550	100	SKIN
NDS/NDSCh	POL	260		520		SKIN
NPEL	SVK	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

1-methoxy-2-propanol

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	270	72,09	550	146,85	SKIN
AGW	DEU	370	100	740	200	

MAK	DEU	370	100	740	200	
VLA	ESP	375	100	568	150	SKIN
VLEP	FRA	188	50	375	100	SKIN
TLV	GRC	360	100	1080	300	
AK	HUN	375		568		SKIN
VLEP	ITA	375	100	568	150	SKIN
VLE	PRT	375	100	568	150	
NDS/NDSCh	POL	180		360		SKIN
NPEL	SVK	375	100	568	150	SKIN
WEL	GBR	375	100	560	150	SKIN
OEL	EU	375	100	568	150	SKIN
TLV-ACGIH		184	50	368	100	

Predicted no-effect concentration - PNEC		
Normal value in fresh water	10	mg/l
Normal value in marine water	1	mg/l
Normal value for fresh water sediment	52,3	mg/kg/d
Normal value for marine water sediment	5,2	mg/kg/d
Normal value for water, intermittent release	100	mg/l
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	459	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				33 mg/kg bw/d		NPI		
Inhalation	NPI	NPI	NPI	43,9 mg/m3	553,5 mg/m3	553,5 mg/m3	NPI	369 mg/m3
Skin	NPI	NPI	NPI	78 mg/kg bw/d	NPI	NPI	NPI	183 mg/kg bw/d

Methyl formate

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		246	100			

Predicted no-effect concentration - PNEC		
Normal value in fresh water	115	µg/l
Normal value in marine water	11,5	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
Inhalation				14,29 mg/m3		VND		
Skin					VND	VND	NPI	

Methanol

Threshold Limit Value

Type	Country	TWA/8h	STEL/15min	Remarks / Observations

		mg/m3	ppm	mg/m3	ppm		
TLV	CZE	250	187,75	1000	751	SKIN	
AGW	DEU	270	200	1080	800	SKIN	
MAK	DEU	130	100	260	200	SKIN	
VLA	ESP	266	200			SKIN	
VLEP	FRA	260	200	1300	1000	SKIN	11
TLV	GRC	260	200	325	250		
AK	HUN	260				SKIN	
VLEP	ITA	260	200			SKIN	
VLE	PRT	260	200			SKIN	
NDS/NDSCh	POL	100		300		SKIN	
NPEL	SVK	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

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.

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 166).

RESPIRATORY PROTECTION
If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, a mask with a type AX filter combined with a type P filter should be worn (see standard EN 14387).
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. The protection provided by masks is in any case limited.

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	Da 10`` a 13`` Coppa Ford	
Solubility	insoluble in water	
Partition coefficient: n-octanol/water	not available	
Vapour pressure	not available	
Density and/or relative density	0,72 ÷ 0,76 kg/l	Temperature: 20 °C
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) :	92,76 %	-	686,41	g/litre
VOC (volatile carbon)	68,73 %	-	508,23	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.

N-butyl acetate

Decomposes on contact with: water.

Isobutyl acetate

Decomposes under the effect of heat.Attacks various types of plastic materials.

2-Butoxyethanol

Decomposes under the effect of heat.

Isobutyl methyl ketone

Reacts violently with: light metals.Attacks various types of plastic materials.

2-methoxy-1-methylethyl 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.

1-methoxy-2-propanol

Dissolves various plastic materials.Stable in normal conditions of use and storage.

Absorbs and disolves in water and in organic solvents. With air it may slowly form explosive peroxides.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

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

Acetone

Risk of explosion on contact with: bromine trifluoride,fluorine dioxide,hydrogen peroxide,nitrosyl chloride,2-methyl-1,3 butadiene,nitromethane,nitrosyl perchlorate.May react dangerously with: potassium tert-butoxide,alkaline hydroxides,bromine,bromoform,isoprene,sodium,sulphur dioxide,chromium trioxide,chromyl chloride,nitric acid,chloroform,peroxymonosulphuric acid,phosphoryl oxychloride,chromosulphuric acid,fluorine,strong oxidising agents,strong reducing agents.Develops flammable gas on contact with: nitrosyl perchlorate.

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.

Xylene (Mixture of isomers)

Stable in normal conditions of use and storage.Reacts violently with: strong oxidants,strong acids,nitric acid,perchlorates.May form 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.

2-Butoxyethanol

May react dangerously with: aluminium,oxidising agents.Forms peroxides with: air.

Isobutyl methyl ketone

May react violently with: oxidising agents.Forms peroxides with: air.Forms explosive mixtures with: hot air.

Ethylbenzene

Reacts violently with: strong oxidants.Attacks various types of plastic materials.May form explosive mixtures with: air.

2-methoxy-1-methylethyl acetate

May react violently with: oxidising substances,strong acids,alkaline metals.

1-methoxy-2-propanol

May react dangerously with: strong oxidising agents,strong acids.

10.4. Conditions to avoid

Avoid overheating.

Acetone

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.

2-Butoxyethanol

Avoid exposure to: sources of heat,naked flames.

Isobutyl methyl ketone

Avoid exposure to: sources of heat.

1-methoxy-2-propanol

Avoid exposure to: air.

10.5. Incompatible materials

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

Acetone

Incompatible with: acids,oxidising substances.

N-butyl acetate

Incompatible with: water,nitrates,strong oxidants,acids,alkalis,zinc.

Isobutyl acetate

Incompatible with: strong oxidants,nitrates,strong acids,strong bases.

2-Butoxyethanol

Keep away from: strong oxidants.

Isobutyl methyl ketone

Incompatible with: oxidising substances,reducing substances.

2-methoxy-1-methylethyl acetate

Incompatible with: oxidising substances,strong acids,alkaline metals.

1-methoxy-2-propanol

Incompatible with: oxidising substances,strong acids,alkaline metals.

10.6. Hazardous decomposition products

Acetone

May develop: ketenes,irritant substances.

2-Butoxyethanol

May develop: hydrogen.

Ethylbenzene

May develop: methane,styrene,hydrogen,ethane.

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

2-methoxy-1-methylethyl 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.

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

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

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

2-methoxy-1-methylethyl acetate
WORKERS: inhalation; contact with the skin.

1-methoxy-2-propanol
WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; inhalation of ambient air; 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.

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

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.

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

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.

2-methoxy-1-methylethyl 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).

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

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).

Interactive effects

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).

Xylene (Mixture of isomers)
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.

ACUTE TOXICITY

ATE (Inhalation - mists / powders) of the mixture:	4,8 mg/l
ATE (Oral) of the mixture:	>2000 mg/kg

ATE (Dermal) of the mixture:	>2000 mg/kg

Acetone

LD50 (Dermal):	7426 mg/kg bw guinea pig
LD50 (Oral):	5800 mg/kg bw
LC50 (Inhalation vapours):	> 20 mg/l/4h air

Propane

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

Butane

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

Reaction mass of ethylbenzene and xylene

LD50 (Dermal):	12126 mg/kg bw rabbit
STA (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):	3761,5 mg/kg bw rat
LC50 (Inhalation vapours):	6525 ppm/4h rat
STA (Inhalation mists/powders):	1,5 mg/l (figure used for calculation of the acute toxicity estimate of the mixture)

N-butyl acetate

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

Xylene (Mixture of isomers)

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

Petroleum Resins

LD50 (Oral):	2000 mg/kg

Isobutyl acetate

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

2-Butoxyethanol

LD50 (Oral):	1200 mg/kg Guinea pig
LC50 (Inhalation vapours):	3 mg/l/4h Rat
STA (Inhalation mists/powders):	0,501 mg/l (figure used for calculation of the acute toxicity estimate of the mixture)

Isobutane

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

Hydrocarbons, C9, aromatics

LD50 (Dermal):	> 3000 mg/kg bw rabbit
LD50 (Oral):	> 4 ml/kg bw rat

Isobutyl methyl ketone

LD50 (Dermal):	> 16000 mg/kg Rabbit
LD50 (Oral):	2080 mg/kg Rat
LC50 (Inhalation vapours):	11 mg/l/4h
STA (Inhalation mists/powders):	1,5 mg/l (figure used for calculation of the acute toxicity estimate of the mixture)

Ethylbenzene

LD50 (Dermal):	15354 mg/kg Rabbit
LD50 (Oral):	3500 mg/kg Rat
LC50 (Inhalation vapours):	17,2 mg/l/4h Rat

2-methoxy-1-methylethyl acetate

LD50 (Dermal):	> 5000 mg/kg Rat
LD50 (Oral):	> 5000 mg/kg Rat
LC50 (Inhalation vapours):	1805,05 ppm LC0 (4 h) rat

1-methoxy-2-propanol

LD50 (Dermal):	2000 mg/kg bw rat
LD50 (Oral):	> 3000 mg/kg bw rat
LC50 (Inhalation vapours):	> 6000 ppm/6h mouse

Methanol

LD50 (Oral):	1978 mg/kg bw rat
LC50 (Inhalation vapours):	123,3 mg/l/4h rat

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

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 (Mixture of isomers)
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."

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
2-methoxy-1-methylethyl 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
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

1-methoxy-2-propanol

LC50 - for Fish	> 1 g/l/96h
Chronic NOEC for Fish	> 1 g/l 4 days

Acetone

LC50 - for Fish	6,83 g/l
EC50 - for Crustacea	8,8 g/l/48h
Chronic NOEC for Crustacea	1,659 g/l 28 days

Isobutyl methyl ketone

LC50 - for Fish	179 mg/l/96h
EC50 - for Crustacea	200 mg/l/48h
Chronic NOEC for Fish	179 mg/l 4 days
Chronic NOEC for Crustacea	200 mg/l 48 h
Chronic NOEC for Algae / Aquatic Plants	146 mg/l 7 days

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 xylene

LC50 - for Fish	2,6 mg/l/96h
Chronic NOEC for Fish	1,3 mg/l 56 days
Chronic NOEC for Crustacea	1065 µg/l 7 days
Chronic NOEC for Algae / Aquatic Plants	440 µg/l 73 h

Hydrocarbons, C9, aromatics

EC50 - for Algae / Aquatic Plants	> 290 µg/l/72h
Chronic NOEC for Algae / Aquatic Plants	70 µg/l 72 h

12.2. Persistence and degradability

Propane
Global Warming Potential (GWP): 3. Ozone Depletion Potential (ODP): 0.
2-methoxy-1-methylethyl acetate
Easily biodegradable. It is rapidly oxidized into the air by photochemical reaction.

Xylene (Mixture of isomers)

Solubility in water	100 - 1000 mg/l

Rapidly degradable
2-methoxy-1-methylethyl 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
1-methoxy-2-propanol

Solubility in water	1000 - 10000 mg/l

Rapidly degradable
Acetone

Rapidly degradable
Isobutyl methyl ketone

Solubility in water	> 10000 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 xylene

Rapidly degradable
Hydrocarbons, C9, aromatics

Rapidly degradable

12.3. Bioaccumulative potential

Xylene (Mixture of isomers)	
Partition coefficient: n-octanol/water	3,12
BCF	25,9
2-methoxy-1-methylethyl acetate	
Partition coefficient: n-octanol/water	1,2
Butane	
Partition coefficient: n-octanol/water	1,09
Propane	
Partition coefficient: n-octanol/water	1,09
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
1-methoxy-2-propanol	
Partition coefficient: n-octanol/water	< 1
Acetone	
Partition coefficient: n-octanol/water	-0,23
BCF	3
Isobutyl methyl ketone	
Partition coefficient: n-octanol/water	1,9
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 (Mixture of isomers)	
Partition coefficient: soil/water	2,73

Isobutyl methyl ketone

Partition coefficient: soil/water	2,008

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.
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:	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:	NO
IATA:	NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: --	Limited Quantities: 1 L	Tunnel restriction code: (D)
	Special provision: -		
IMDG:	EMS: F-D, S-U	Limited Quantities: 1 L	
IATA:	Cargo:	Maximum quantity: 150 Kg	Packaging instructions: 203
	Pass.:	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

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors

Regulated explosives precursor
The acquisition, introduction, possession or use of that regulated explosives precursor by members of the general public is subject to reporting obligations as set out in Article 9.
All suspicious transactions and significant disappearances and thefts must be reported to the relevant national contact point.

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.

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
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
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
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.
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.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic 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.

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 as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- 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 as for REACH Regulation
- 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
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17. Regulation (EU) 2019/1148
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- The Merck Index. - 10th Edition
- Handling Chemical Safety
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- 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:
01 / 02 / 03 / 08 / 09 / 11 / 12 / 15.