

**V400TEMP/ISA - SPRAYS - ESMALTE ALTA TEMPERATURA 400 ml
ISAVAL**

Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

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

1.1. Product identifier

Code: V400TEMP/ISA
 Product name: SPRAYS - ESMALTE ALTA TEMPERATURA 400 ml ISAVAL
 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 S.R.L.
 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

quality@ambro-sol.com

1.4. Emergency telephone number

For urgent inquiries refer to

Centro Antiveleni di Pavia: Tel. (+39) 0382-24444 (IRCCS Fondazione Maugeri - Pavia)
 Centro Antiveleni di Bergamo: Tel. 800 883300 (Ospedale Papa Giovanni XXIII - Bergamo)
 Centro Antiveleni di Firenze: Tel. 055 7947819 (Ospedale Careggi - Firenze)
 Centro Antiveleni di Roma: Tel. 06 3054 343 (Policlinico Gemelli - Roma)
 Centro Antiveleni di Napoli: Tel. 081 5453333 (Ospedale Cardarelli - Napoli)
 Servicio de Información Toxicológica (SIT) España: Tel. 91 5620420 (Instituto Nacional de Toxicología y Ciencias Forenses - España)
 Centro de Informação Antivenenos (CIAV): Tel. 800 250 250 (Instituto Nacional de Emergência Médica - Portugal)
 Centre Antipoison de Paris: Tel. 01 40 05 48 48 (Centre Antipoison et de Toxicovigilance de Paris - France)
 Pomorskie Centrum Toksykologii: Tel. (58) 682 04 04 (Zakład Toksykologii Klinicznej - Polska)
 American Association of Poison Control Centers (USA): Tel. +1 (800) 222 1222
 Giftnotrufzentralen (Berlin, Deutschland): Tel. +49 030 19 240

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

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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 2015/830. 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 H229	Extremely flammable aerosol. Pressurised container: may burst if heated.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
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.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.

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 not expose to temperatures exceeding 50°C / 122°F.
P211	Do not spray on an open flame or other ignition source.
P102	Keep out of reach of children.
P261	Avoid breathing dust / fume / gas / mist / vapours / spray.

Contains:	Acetone N-butyl acetate Reaction mass of ethylbenzene and xylene Isobutyl acetate
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Statements on the aspiration toxicity classification were not included in the label

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elements, based on
section 1.3.3. of Annex I
to CLP.

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 \geq than 0,1%.

SECTION 3. Composition/information on ingredients**3.2. Mixtures**

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
Acetone		
CAS 67-64-1	$35 \leq x < 39$	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
EC 200-662-2		
INDEX 606-001-00-8		
Reg. no. 01-2119471330-49-XXXX		
Propane		
CAS 74-98-6	$15 \leq x < 19$	Flam. Gas 1A H220, Press. Gas (Liq.) H280, Classification note according to Annex VI to the CLP Regulation: U
EC 200-827-9		
INDEX 601-003-00-5		
Reg. no. 01-2119486944-21-0046		
Butane		
CAS 106-97-8	$7 \leq x < 9$	Flam. Gas 1A H220, Press. Gas (Liq.) H280, Classification note according to Annex VI to the CLP Regulation: C U
EC 203-448-7		
INDEX 601-004-00-0		
Reg. no. 01-2119474691-32-XXXX		
Reaction mass of ethylbenzene and xylene		
CAS -	$7 \leq x < 9$	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		
INDEX -		
Reg. no. 01-2119539452-40-XXXX		
N-butyl acetate		
CAS 123-86-4	$5 \leq x < 7$	Flam. Liq. 3 H226, STOT SE 3 H336, EUH066
EC 204-658-1		

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INDEX 607-025-00-1

Reg. no. 01-2119485493-29-XXXX

Xylene (mixture of isomers)

CAS 1330-20-7 $5 \leq x < 7$ 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

INDEX 601-022-00-9

Reg. no. 01-2119488216-32-XXXX

Petroleum Resins

CAS 64742-16-1 $3 \leq x < 5$ Aquatic Chronic 4 H413

EC 265-116-8

INDEX -

Isobutyl acetate

CAS 110-19-0 $3 \leq x < 5$ Flam. Liq. 2 H225, STOT SE 3 H336, EUH066, Classification note according to Annex VI to the CLP Regulation: C

EC 203-745-1

INDEX 607-026-00-7

Reg. no. 01-2119488971-22-XXXX

2-Butoxyethanol

CAS 111-76-2 $3 \leq x < 5$ Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Eye Irrit. 2 H319, Skin Irrit. 2 H315

EC 203-905-0

INDEX 603-014-00-0

Reg. no. 01-2119475108-36-XXXX

Isobutane

CAS 75-28-5 $1 \leq x < 3$ Flam. Gas 1A H220, Press. Gas H280

EC 200-857-2

INDEX 601-004-00-0

Reg. no. 01-2119485395-27-XXXX

Hydrocarbons, C9, aromatics

CAS 64742-95-6 $1 \leq x < 2,5$ 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

INDEX -

Reg. no. 01-2119455851-35-XXXX

4-methylpentan-2-one

CAS 108-10-1 $0,5 \leq x < 1$ Flam. Liq. 2 H225, Acute Tox. 4 H332, Eye Irrit. 2 H319, STOT SE 3 H335, EUH066

EC 203-550-1

INDEX 606-004-00-4

Reg. no. 01-2119473980-30-XXXX

Ethylbenzene

CAS 100-41-4 $0 \leq x < 0,5$ Flam. Liq. 2 H225, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373

EC 202-849-4

INDEX 601-023-00-4

Reg. no. 01-2119489370-35-XXXX

**V400TEMP/ISA - SPRAYS - ESMALTE ALTA TEMPERATURA 400 ml
ISAVAL****2-methoxy-1-methylethyl acetate**CAS 108-65-6 $0 \leq x < 0,5$ Flam. Liq. 3 H226

EC 203-603-9

INDEX 607-195-00-7

Reg. no. 01-2119475791-29-XXXX

1-methoxy-2-propanolCAS 107-98-2 $0 \leq x < 0,5$ Flam. Liq. 3 H226, STOT SE 3 H336

EC 203-539-1

INDEX 603-064-00-3

Reg. no. 01-2119457435-35-XXXX

MethanolCAS 67-56-1 $0 \leq x < 0,5$ Flam. Liq. 2 H225, Acute Tox. 3 H301, Acute Tox. 3 H311, Acute Tox. 3 H331, STOT SE 1 H370

EC 200-659-6

INDEX 603-001-00-X

Reg. no. 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

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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)

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Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

DEU	Deutschland	TRGS 900 - Seite 1 von 69 (Fassung 29.03.2019)- Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018
POL	Polska	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition, published 2018)
EU	OEL EU	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 2020

Acetone

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	1200	500	2400 (C)	1000 (C)	
MAK	DEU	1200	500	2400	1000	
VLEP	FRA	1210	500	2420	1000	
VLEP	ITA	1210	500			
VLE	PRT	1210	500			
NDS/NDSch	POL	600		1800		
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

Route of exposure	Effects on consumers			Effects on workers		
	Acute local	Acute systemic	Chronic local	Acute local	Acute systemic	Chronic local
Oral			VND		62 mg/kg	Chronic systemic

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Dated 10/10/2020

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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			
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			
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

Route of exposure	Effects on consumers				Effects on workers			
	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 /
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		Observations							
		mg/m3	ppm	mg/m3	ppm				
AGW	DEU	300	62	600 (C)	124 (C)				
VLA	ESP	724	150	965	200				
VLEP	FRA	710	150	940	200				
NDS/NDSch	POL	240		720					
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				
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			
VLEP	ITA	221	50	442	100	SKIN			
VLE	PRT	221	50	442	100	SKIN			
NDS/NDSch	POL	100		200		SKIN			
WEL	GBR	220	50	441	100	SKIN			
OEL	EU	221	50	442	100	SKIN			
TLV-ACGIH		434	100	651	150				
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				

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Normal value for the terrestrial compartment 2,31 mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	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	
AGW	DEU	300	62	600 (C)	124 (C)	
VLA	ESP	724	150			
VLEP	FRA	710	150	940	200	
NDS/NDSCh	POL	240		720		
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

Route of exposure	Effects on consumers				Effects on workers			
	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

Route of exposure	Effects on consumers				Effects on workers			
	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	

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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	
VLEP	ITA	98	20	246	50	SKIN	
VLE	PRT	98	20	246	50	SKIN	
NDS/NDSch	POL	98		200		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								
Route of exposure	Effects on consumers				Effects on workers			
	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								
Route of exposure	Effects on consumers				Effects on workers			
	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

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ISAVAL**

**4-methylpentan-2-one
Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
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	
VLEP	ITA	83	20	208	50	
VLE	PRT	83	20	208	50	
NDS/NDSch	POL	83		200		
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

Route of exposure	Effects on consumers			Effects on workers				
	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	
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
VLEP	ITA	442	100	884	200	SKIN
VLE	PRT	442	100	884	200	SKIN
NDS/NDSch	POL	200		400		SKIN
WEL	GBR	441	100	552	125	SKIN

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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								
Route of exposure	Effects on consumers			Effects on workers				
	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	
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
NDS/NDSch	POL	250		600		
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								
Route of exposure	Effects on consumers			Effects on workers				
	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	

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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
VLEP	ITA	275	50	550	100	SKIN
VLE	PRT	275	50	550	100	SKIN
NDS/NDSch	POL	260		520		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	
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
VLEP	ITA	375	100	568	150	SKIN
VLE	PRT	375	100	568	150	
NDS/NDSch	POL	180		360		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

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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								
Route of exposure	Effects on consumers				Effects on workers			
	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	
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								
Route of exposure	Effects on consumers				Effects on workers			
	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	
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
VLEP	ITA	260	200	SKIN
VLE	PRT	260	200	SKIN
NDS/NDSch	POL	100		300 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

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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.

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

Appearance	aerosol
Colour	Black - Aluminum - White - Transparent - Gray - Red

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Odour	characteristic of solvent
Odour threshold	Not available
pH	Not available
Melting point / freezing point	Not available
Initial boiling point	Not available
Boiling range	Not available
Flash point	< 0 °C
Evaporation Rate	Not available
Flammability of solids and gases	flammable gas
Lower inflammability limit	Not available
Upper inflammability limit	Not available
Lower explosive limit	Not available
Upper explosive limit	Not available
Vapour pressure	Not available
Vapour density	Not available
Relative density	0,72 ÷ 0,76 g/ml a 20°C
Solubility	insoluble in water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Da 10`` a 13`` Coppa Ford
Explosive properties	not applicable
Oxidising properties	not applicable

9.2. Other information

VOC (Directive 2004/42/EC) : 92,76 % - 686,41 g/litre

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.

4-methylpentan-2-one

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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 dissolves 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.

4-methylpentan-2-one

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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.

4-methylpentan-2-one

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.

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Isobutyl acetate

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

2-Butoxyethanol

Keep away from: strong oxidants.

4-methylpentan-2-one

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

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effectsMetabolism, 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

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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 effect on the central nervous system (encephalopathy); irritating for the skin, conjunctiva, cornea and respiratory apparatus.

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 (Ispešl). 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

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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)

Intake of alcohol interferes with the metabolism of the substance, inhibiting it. Ethanol consumption (0.8 g/kg) before a 4-hour exposure to xylene vapours (145 and 280 ppm) causes a 50% reduction in the excretion of methyl hippuric acid, whereas the concentration of xylenes in the blood increases approx. 1.5-2 times. At the same time there is an increase in the secondary side effects of the ethanol. The metabolism of the xylenes is increased by phenobarbital and 3-methyl-colantrene type enzyme inducers. Aspirin and xylenes mutually inhibit their conjugation with the glycine, which results in a decrease in urinary excretion of methyl hippuric acid. Other industrial products can interfere with the metabolism of xylenes.

ACUTE TOXICITY

ATE (Inhalation) of the mixture:

> 20 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 (mixture of isomers)

LD50 (Oral) > 3000 mg/kg rat

LD50 (Dermal) > 1700 mg/kg rabbit

LC50 (Inhalation) 5000 ppm/4h rat

2-methoxy-1-methylethyl acetate

LD50 (Oral) > 5000 mg/kg Rat

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LD50 (Dermal) > 5000 mg/kg Rat

LC50 (Inhalation) 1805,05 ppm LC0 (4 h) rat

Butane

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

Propane

LC50 (Inhalation) 800000 ppm 15 min

Ethylbenzene

LD50 (Oral) 3500 mg/kg Rat

LD50 (Dermal) 15354 mg/kg Rabbit

LC50 (Inhalation) 17,2 mg/l/4h Rat

Methanol

LD50 (Oral) 1978 mg/kg bw rat

LC50 (Inhalation) 123,3 mg/l/4h rat

2-Butoxyethanol

LD50 (Oral) > 1000 mg/kg bw guinea pig

LD50 (Dermal) > 400 mg/kg bw rabbit

LC50 (Inhalation) > 400 ppm/4h rat

1-methoxy-2-propanol

LD50 (Oral) > 3000 mg/kg bw rat

LD50 (Dermal) 2000 mg/kg bw rat

LC50 (Inhalation) > 6000 ppm/6h mouse

Acetone

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LD50 (Oral) 5800 mg/kg bw

LD50 (Dermal) 7426 mg/kg bw guinea pig

LC50 (Inhalation) > 20 mg/l/4h air

4-methylpentan-2-one

LD50 (Dermal) > 16000 mg/kg Rabbit

LC50 (Inhalation) > 11,6 mg/l/4h rat air

N-butyl acetate

LD50 (Oral) > 10000 mg/kg Rat

LD50 (Dermal) > 5000 mg/kg rabbit

LC50 (Inhalation) 0,74 mg/l/4h Rat

Isobutyl acetate

LD50 (Oral) 13413 mg/kg bw rat

LD50 (Dermal) 17400 mg/kg bw rabbit

LC50 (Inhalation) 30 mg/l/6h rat

Isobutane

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

Reaction mass of ethylbenzene and xylene

LD50 (Oral) 3761,5 mg/kg bw rat

LD50 (Dermal) 12126 mg/kg bw rabbit

LC50 (Inhalation) 6525 ppm/4h rat

Hydrocarbons, C9, aromatics

LD50 (Oral) > 4 ml/kg bw rat

LD50 (Dermal) > 3000 mg/kg bw rabbit

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ISAVAL**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) affirms that "the data is inadequate for an assessment of the 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

Toxic for aspiration

SECTION 12. Ecological information

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

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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

Xylene (mixture of isomers)

LC50 - for Fish 2,6 mg/l/96h

EC50 - for Algae / Aquatic Plants 4,6 mg/l/72h

EC10 for Crustacea 1,9 mg/l/21d

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

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

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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

4-methylpentan-2-one

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
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Reaction mass of ethylbenzene and xylene

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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 146 - 208 mg/L @ 25 °C and pH 7 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

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Acetone

Rapidly degradable

4-methylpentan-2-one

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

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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

4-methylpentan-2-one

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

4-methylpentan-2-one

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 \geq than 0,1%.

12.6. 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

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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 considered hazardous special waste. Do not dispose of in wastewater.

Empty cylinders, although completely emptied, should not be dispersed in the environment.

The overheated aerosol container at a temperature above 50 °C may burst even if it contains a small gas residue.

Waste transport may be subject to ADR.

Refer to applicable regulations.

European Waste Catalog (contaminated containers):

Aerosol as a household waste is excluded from the application of the above standard.

The exhausted commercial / industrial aerosol can be classified as: 15.01.10 *: packaging containing residues of dangerous or contaminated substances.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, 1950
IATA:

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

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ADR / RID:	HIN - Kemler: --	Limited Quantities: 1 L	Tunnel restriction code: (D)
IMDG:	Special Provision: - 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 Instructions:	A145, A167, A802	

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

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/EC: P3a

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

Product Point 40

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage \geq than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

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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 burst 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.

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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.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 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 NUMBER: 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: EC Regulation 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 STEL: Short-term exposure limit
- TWA: Time-weighted average 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) 790/2009 (I Atp. CLP) of the European Parliament
4. Regulation (EU) 2015/830 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) 2018/1480 (XIII Atp. CLP)

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- 16. Regulation (EU) 2019/521 (XII 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:

01 / 02 / 09.