

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: 4110021950
Product name: RIMS PAINT
UFI : R5HV-92KG-800R-SD50

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

Intended use: Special paint for car rims

1.3. Details of the supplier of the safety data sheet

Name: Meccanocar Italia S.r.l.
Full address: Via San Francesco, 22
District and Country: 56033 Capannoli (PI)
Italy
Tel. +39 0587 609433
Fax +39 0587 607145

e-mail address of the competent person
responsible for the Safety Data Sheet
Supplier: moreno.meini@meccanocar.it

1.4. Emergency telephone number

For urgent inquiries refer to: National Poisons Information Service: +44 121 507 4123

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 H229	Extremely flammable aerosol. Pressurised container: may burst if heated.
Eye irritation, category 2	H319	Causes serious eye 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.
H336 May cause drowsiness or dizziness.
EUH066 Repeated exposure may cause skin dryness or cracking.

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.
P211 Do not spray on an open flame or other ignition source.
P280 Wear eye protection / face protection.
P304+P340 IF INHALED: remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C / 122°F.
P501 Dispose of contents / container in accordance with local regulations.

Contains: ACETONE
N-BUTYL ACETATE

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%.

The product does not contain substances with endocrine disrupting properties in concentration $\geq$ 0.1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
ACETONE		
CAS 67-64-1	$40 \leq x < 42,5$	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
EC 200-662-2		
INDEX 606-001-00-8		
REACH Reg. 01-2119471330-49-XXXX		

4110021950 - RIMS PAINT

**2-METHOXY-1-METHYLETHYL
ACETATE**

CAS 108-65-6 10,5 ≤ x < 12 Flam. Liq. 3 H226, STOT SE 3 H336

EC 203-603-9

INDEX 607-195-00-7

REACH Reg. 01-2119475791-29-XXXX

N-BUTYL ACETATE

CAS 123-86-4 10,5 ≤ x < 12 Flam. Liq. 3 H226, STOT SE 3 H336, EUH066

EC 204-658-1

INDEX 607-025-00-1

REACH Reg. 01-2119485493-29-XXXX

ISOBUTANE

CAS 75-28-5 10,5 ≤ x < 12 Flam. Gas 1A H220, Press. Gas H280

EC 200-857-2

INDEX 601-004-00-0

REACH Reg. 01-2119485395-27-XXXX

BUTANE

CAS 106-97-8 10,5 ≤ x < 12 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

REACH Reg. 01-2119474691-32-XXXX

PROPANE

CAS 74-98-6 10,5 ≤ x < 12 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

REACH Reg. 01-2119486944-21-XXXX

XYLENE (MIXTURE OF ISOMERS)CAS 1330-20-7 2,5 ≤ x < 3 Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Skin Irrit. 2 H315, Classification note according to Annex VI to the CLP Regulation: C
STA Dermal: 1100 mg/kg, STA Inhalation mists/powders: 1,5 mg/l

EC 215-535-7

INDEX 601-022-00-9

REACH Reg. 01-2119488216-32-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: 34,50 %

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. Wash immediately with plenty of water. If irritation persists, get medical advice/attention. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. In the event of breathing difficulties, get medical advice/attention immediately.

INGESTION: Get medical advice/attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person, unless 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:

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
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
LTU	Lietuva	Jsakymas dėl lietuvos higienos normos hn 23:2011 „cheminių medžiagų profesinio poveikio ribiniai dydžiai. Matavimo ir poveikio vertinimo bendrieji reikalavimai“ patvirtinimo
NOR	Norge	Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. august 2018 nr. 1255
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
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Fourth Edition 2020)
EU	TLV-ACGIH RCP TLV	ACGIH 2021 ACGIH TLVs and BEIs – Appendix H

ACETONE					
Threshold Limit Value					
Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
VLEP	FRA	1210	500	2420	1000
VLEP	ITA	1210	500		
RD	LTU	1210	500	2420	1000
TLV	NOR	295	125		
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 of STP microorganisms				100	mg/l			
Normal value for the terrestrial compartment				29,5	mg/kg			
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				62 mg/kg bw/d				
Inhalation				200 mg/m3			2420 mg/m3	1210 mg/m3
Skin				62 mg/kg bw/d				186 mg/kg bw/d
PROPANE								
Threshold Limit Value								
Type	Country	TWA/8h		STEL/15min		Remarks / Observations		
		mg/m3	ppm	mg/m3	ppm			
VLA	ESP		1000					
TLV	NOR	900	500					
NDS/NDSCh	POL	1800						
TLV-ACGIH			1000					
BUTANE								
Threshold Limit Value								
Type	Country	TWA/8h		STEL/15min		Remarks / Observations		
		mg/m3	ppm	mg/m3	ppm			
VLA	ESP		1000			Gases		
VLEP	FRA	1900	800					
TLV	NOR	600	250					
NDS/NDSCh	POL	1900		3000				
WEL	GBR	1450	600	1810	750			
TLV-ACGIH					1000			
ISOBUTANE								
Threshold Limit Value								
Type	Country	TWA/8h		STEL/15min		Remarks / Observations		
		mg/m3	ppm	mg/m3	ppm			
RCP TLV			1000			RESP		

N-BUTYL ACETATE								
Threshold Limit Value								
Type	Country	TWA/8h		STEL/15min		Remarks / Observations		
		mg/m3	ppm	mg/m3	ppm			
VLA	ESP	241	50	724	150			
VLEP	FRA	710	150	940	200			
VLEP	ITA	241	50	723	150			
RD	LTU	241	50	723	150			
TLV	NOR	75						
VLE	PRT	241	50	723	150			
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				0,18	mg/l			
Normal value in marine water				0,018	mg/l			
Normal value for fresh water sediment				0,981	mg/kg			
Normal value for marine water sediment				0,098	mg/kg			
Normal value of STP microorganisms				35,6	mg/l			
Normal value for the terrestrial compartment				0,09	mg/kg			
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					
Inhalation	300 mg/m3	300 mg/m3	35,7 mg/m3	35,7 mg/m3	600 mg/m3	600 mg/m3	300 mg/m3	300 mg/m3
Skin	6 mg/kg bw/d		6 mg/kg bw/d		11 mg/kg bw/d		11 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			
VLA	ESP	275	50	550	100	SKIN		
VLEP	FRA	275	50	550	100	SKIN		
VLEP	ITA	275	50	550	100	SKIN		
RD	LTU	250	50	400	75	SKIN		
TLV	NOR	270	50			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				0,635	mg/l			
Normal value in marine water				0,064	mg/l			

Normal value for fresh water sediment				3,29	mg/kg			
Normal value for marine water sediment				0,329	mg/kg			
Normal value of STP microorganisms				100	mg/l			
Normal value for the terrestrial compartment				0,29	mg/kg			
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	500 mg/kg bw/d			36 mg/kg bw/d				
Inhalation			33 mg/m3	33 mg/m3			550 mg/m3	275 mg/m3
Skin				320 mg/kg bw/d				796 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			
VLA	ESP	221	50	442	100	SKIN		
VLEP	FRA	221	50	442	100	SKIN		
VLEP	ITA	221	50	442	100	SKIN		
RD	LTU	221	50	442	100	SKIN		
TLV	NOR	108	25			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				0,327	mg/l			
Normal value in marine water				0,327	mg/l			
Normal value for fresh water sediment				12,46	mg/kg			
Normal value for marine water sediment				12,46	mg/kg			
Normal value of STP microorganisms				6,58	mg/l			
Normal value for the terrestrial compartment				2,31	mg/kg			
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				12,5 mg/kg bw/d				
Inhalation	260 mg/m3	260 mg/m3	65,3 mg/m3	65,3 mg/m3	442 mg/m3	442 mg/m3	221 mg/m3	221 mg/m3
Skin				125 mg/kg bw/d				212 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 I 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.

ACETONE

Protective gloves according to EN 374.

Glove material: Butyl rubber (butyl rubber) - Layer thickness >= 0.5 mm.

Breakthrough time: > 480 min.

Observe the glove manufacturer's instructions regarding penetrability and breakthrough time.

ISOBUTANE

Suitable glove material Protective gloves, eg. nitrile butadiene rubber gloves (NBR), leather gloves, heat insulating

Selection of protective gloves to meet specific workplace requirements.

Suitability for specific workplaces should be clarified with the manufacturers of protective gloves.

The information is based on our tests, references from literature and information from glove manufacturers or derived by analogy with similar materials.

Remember that the useful time per day of a chemical protective glove can be much shorter than the breakthrough time determined according to EN 374 due to the many influencing factors involved.

N-BUTYL ACETATE

Wear protective gloves. The recommendations are listed below. Other protective material can be used, depending on the situation, if adequate data on degradation and permeation are available. If other chemicals are used together with this chemical, the selection of materials should be based on the protection of all chemicals present.

2-METHOXY-1-METHYLETHYL ACETATE

Use gloves chemically resistant to this material in case of prolonged or frequent repeated contact. Use chemical resistant gloves classified according to EN374: protective gloves against chemicals and microorganisms. Examples of preferred barrier material for gloves include: Butyl rubber. Polyethylene. Chlorinated polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable barrier materials for gloves include: Natural rubber ("latex"). Polyvinyl chloride ("PVC" or "vinyl"). Nitrile / butadiene rubber ("nitrile" or "NBR"). In the event of prolonged or frequently repeated contact, a glove with a protection class of 5 or higher is recommended (breakthrough time greater than 240 minutes according to EN 374). When only brief contact is expected, a glove with a protection class of 1 or more is recommended (breakthrough time greater than 10 minutes according to EN 374)

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	aerosol	
Colour	silver grey	
Odour	characteristic of solvent	
Melting point / freezing point	Not available	
Initial boiling point	-42 °C	
Flammability	Not available	
Lower explosive limit	Not available	
Upper explosive limit	Not available	
Flash point	Not available	
Auto-ignition temperature	333 °C	
pH	Not available	
Kinematic viscosity	Not available	
Solubility	Not available	
Partition coefficient: n-octanol/water	Not available	
Vapour pressure	300000 Pa	Temperature: 50 °C
Density and/or relative density	735 g/l	
Relative vapour density	Not available	
Particle characteristics	Not applicable	

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

Information not available

SECTION 10. Stability and reactivity

10.1. Reactivity

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

ACETONE

Decomposes under the effect of heat.

Acetone reacts in the presence of bases. The vapor forms potentially explosive mixtures with the air. Heavier than air, they proceed at floor level and can flash at a great distance when turned on. It can electrostatically charge.

N-BUTYL ACETATE

Decomposes on contact with: water.

2-METHOXY-1-METHYLETHYL ACETATE

Stable in normal conditions of use and storage.

With the air it may slowly develop peroxides that explode with an increase in temperature.

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, peroxy monosulphuric acid, phosphoryl oxychloride, chromosulphuric acid, fluorine, strong oxidising agents, strong reducing agents. Develops flammable gas on contact with: nitrosyl perchlorate.

BUTANE

Vapors can form an explosive mixture with air.

ISOBUTANE

Vapors can form an explosive mixture with air.

N-BUTYL ACETATE

Risk of explosion on contact with: strong oxidising agents. May react dangerously with: alkaline hydroxides, potassium tert-butoxide. Forms explosive mixtures with: air.

Vapors can form an explosive mixture with air.

2-METHOXY-1-METHYLETHYL ACETATE

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

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.

10.4. Conditions to avoid

Avoid overheating.

ACETONE

Avoid exposure to: sources of heat, naked flames.

Highly flammable. Concentrated vapors are heavier than air. Forms explosive mixtures with air, even in empty and uncleaned containers. It can produce, if mixed with chlorinated hydrocarbons and exposed to light, highly irritating chlorine acetone.

BUTANE

Avoid heat and sources of ignition.

ISOBUTANE

Keep away from heat and other causes of fire.

N-BUTYL ACETATE

Avoid exposure to: moisture, sources of heat, naked flames.

Avoid contact with heat, sparks, open flames and static discharge. Avoid any source of ignition.

2-METHOXY-1-METHYLETHYL ACETATE

The product can oxidize at high temperatures. Avoid static discharge. Flammable vapors can be released at high temperatures

10.5. Incompatible materials

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

ACETONE

Incompatible with: acids, oxidising substances.

Attacks many plastics and rubbers. Condensation may form on contact with barium hydroxide, sodium hydroxide and many other alkaline materials. Avoid contact with strong oxidizing agents, alkalis and amines.

BUTANE

Strong oxidizing agents, chlorine, oxygen.

ISOBUTANE

Strong oxidizing agents, chlorine, oxygen.

N-BUTYL ACETATE

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

Strong acids and strong bases, strong oxidizing agents.

2-METHOXY-1-METHYLETHYL ACETATE

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

Avoid contact with oxidizing materials. Avoid contact with: strong acids. Strong oxidants.

10.6. Hazardous decomposition products**ACETONE**

May develop: ketenes,irritant substances.

In case of fire the following can be released: carbon monoxide and carbon dioxide.

BUTANE

In case of fire or production of thermal decomposition, for example, carbon monoxide, carbon dioxide (CO₂).

ISOBUTANE

In case of fire or production of thermal decomposition, for example, carbon monoxide, carbon dioxide (CO₂).

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**N-BUTYL ACETATE**

WORKERS: inhalation; contact with the skin.

2-METHOXY-1-METHYLETHYL 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.

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.

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).

XYLENE (MIXTURE OF ISOMERS)

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

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 - mists / powders) of the mixture: > 5 mg/l
ATE (Oral) of the mixture: Not classified (no significant component)
ATE (Dermal) of the mixture: >2000 mg/kg

2-METHOXY-1-METHYLETHYL ACETATE

LD50 (Dermal): > 5000 mg/kg Rat
LD50 (Oral): 8530 mg/kg Rat

XYLENE (MIXTURE OF ISOMERS)

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)
STA (Inhalation mists/powders): 1,5 mg/l estimate from table 3.1.2 of Annex I of the CLP
(figure used for calculation of the acute toxicity estimate of the mixture)

ACETONE

Method: Not indicated

Reliability: 2

Species: Rat (Sprague-Dawley)

Route of exposure: Oral

Results: LD50 = 5800 mg / kg bw

Bibliographic reference: Acetone potentiation of acute acetonitrile toxicity, Freeman JJ, Hayes EP (1985)

PROPANE

Method: To study the concentrations at which the effects of the CNS occur following exposure by inhalation to propane by measuring LC50 (15 min) and EC50 (CNS) (10 min) in rats.

Reliability: 2

Species: Rat (Alderley Park (SPF); male / female)

Route of exposure: Inhalation

Results: LC50> 800 000 ppm

BUTANE

Method: Not indicated

Reliability: 2

Species: Rat (Alderley Park (SPF); male / female)

Route of exposure: Inhalation

Results: LC50: 1 443 mg / L air

N-BUTYL ACETATE

Method: Equivalent or similar to OECD 423

Reliability: 2

Species: Rat (Sprague-Dawley; male / female)

Route of exposure: Oral

Results: LD50 = 12.2 mL / kg bw

Method: Equivalent or similar to OECD 402

Reliability: 2

Species: Rabbit (New Zealand White; male / female)

Route of exposure: Dermal

Results: LD50> 16 mL / kg bw

XYLENE (MIXTURE OF ISOMERS)

Method: Equivalent or similar to EU Method B.1

Reliability: 1

Species: Rat (F344 / N; male / female)

Route of exposure: Oral

Results: LD50 = 3523 mg / kg bw

Method: Equivalent or similar to EU Method B.2

Reliability: 2

Species: Rat (male)

Route of exposure: Inhalation (vapors)

Results: LD50 = 6700 ppm

SKIN CORROSION / IRRITATION

Repeated exposure may cause skin dryness or cracking.

N-BUTYL ACETATE

Method: Equivalent or similar to OECD 404

Reliability: 2

Species: Rabbit (New Zealand White)

Route of exposure: Dermal

Results: Not irritating

2-METHOXY-1-METHYLETHYL ACETATE

Method: Equivalent or similar from OECD 404

Reliability: 2

Species: Rabbit (New Zealand White)

Route of exposure: Dermal

Results: Not irritating

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

N-BUTYL ACETATE

Method: OECD 405

Reliability: 2

Species: Rabbit (New Zealand White)

Route of exposure: Ocular

Results: Not irritating

2-METHOXY-1-METHYLETHYL ACETATE

Method: Equivalent or similar from OECD 405

Reliability: 2

Species: Rabbit (New Zealand White)

Route of exposure: Ocular

Results: Not irritating

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

ACETONE

Method: Not indicated

Reliability: 2

Species: guinea pig (Hartley; female)

Route of exposure: Dermal

Results: Not sensitizing

Bibliographic reference: A new protocol and criteria for quantitative determination of sensitization potencies of chemicals by guinea pig maximization test, Nakamura A, Momma J, Sekiguchi H, Noda T, Yamano T, Kaniwa MA, Kojima S, Tsuda M, Kurokawa Y (1994)

Respiratory sensitization

Information not available

Skin sensitization**2-METHOXY-1-METHYLETHYL ACETATE**

Method: Equivalent or similar from OECD 406

Reliability: 2

Species: guinea pig (Dunkin-Hartley; male / female)

Route of exposure: Dermal

Results: Not sensitizing

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

PROPANE

Method: OECD 471 in vitro test

Reliability: 1

Species: Histidine Salmonella

Results: Negative with or without metabolic activation

Method: OECD 474-test in vivo

Reliability: 1

Species: Rat (Sprague-Dawley CD; male / female)

Route of exposure: Inhalation (gas)

Results: Negative

BUTANE

Method: OECD 471 in vitro test

Reliability: 1

Species: Salmonella strains, S. typhimurium

Results: Negative without metabolic activation

Method: OECD 474-test in vivo

Reliability: 1
Species: Rat (Sprague-Dawley CD; male / female)
Route of exposure: Inhalation (gas)
Results: Negative

N-BUTYL ACETATE

Method: Equivalent or similar to OECD 471 in vitro test

Reliability: 2

Species: S. typhimurium, E. Coli

Results: Negative with and without metabolic activation

Method: OECD 474-test in vivo

Reliability: 2

Species: Mouse (NMRI; male / female)

Route of exposure: Oral

Results: Negative

2-METHOXY-1-METHYLETHYL ACETATE

Method: Equivalent or similar from OECD 471-in vitro test

Reliability: 1

Species: Salmonella typhimurium

Results: Negative

XYLENE (MIXTURE OF ISOMERS)

Method: Equivalent or similar to EU Method B.10-in vitro test

Reliability: 2

Species: Chinese hamster

Results: Negative with and without metabolic activation

Method: Equivalent or similar to OECD 478

Reliability: 2

Species: Mouse (Swiss Webster; male / female)

Route of exposure: Dermal

Results: Negative

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

ACETONE

Method: Not indicated

Reliability: 2

Species: Mouse (ICR; female)

Route of exposure: Dermal

Results: Negative

Bibliographic reference: Mouse skin carcinogenicity tests of the flame retardants tris (2,3-dibromopropyl) phosphate, tetrakis (hydroxymethyl) phosphonium chloride, and polyvinyl bromide, Van Duuren BL, Loewengart G, Seldman I, Smith AC, Melchionne S (1974)

2-METHOXY-1-METHYLETHYL ACETATE

Method: OECD Guideline 453

Reliability: 1

Species: Rat (Fischer 344; male / female)

Route of exposure: Inhalation (vapors)

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Results: NOEL 300 ppm

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".

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

BUTANE

Method: OECD 413

Reliability: 1

Species: Rat (Sprague-Dawley CD; male / female)

Route of exposure: Inhalation

Results: NOAEC 10000 ppm

Adverse effects on sexual function and fertility

PROPANE

Method: OECD 413

Reliability: 1

Species: Rat (Sprague-Dawley CD; male / female)

Route of exposure: Inhalation

Results: NOAEC (fertility) 10 000 ppm

N-BUTYL ACETATE

Method: OECD 416

Reliability: 1

Species: Rat (Sprague-Dawley; male / female)

Route of exposure: Inhalation (vapors)

Results: Negative, NOAEC (fertility) = 750 ppm

2-METHOXY-1-METHYLETHYL ACETATE

Method: OECD Guideline 416

Reliability: 1

Species: Rat (Sprague-Dawley; male / female)

Route of exposure: Inhalation (vapors)

Results: NOAEL 300 ppm

XYLENE (MIXTURE OF ISOMERS)

Method: Not indicated

Reliability: 2

Species: Rat (CrI-CD® (SC) BR; male / female)

Route of exposure: Inhalation (vapors)

Results: Negative, NOAEC (fertility) = 500 ppm

Adverse effects on development of the offspring

ACETONE

Method: Equivalent or similar to OECD 414

Reliability: 1

Species: Rat (Sprague-Dawley)

Route of exposure: Inhalation (vapors)

Results: Negative, NOAEC (development) = 2200 ppm

PROPANE

Method: EPA OPPTS 870.3700

Reliability: 1

Species: Rat (VAF / Plus®, Sprague-Dawley Derived (CD®) Crl: CD® IGS BR)

Route of exposure: Inhalation (gas)

Results: NOAEC (development) 10 426 ppm

N-BUTYL ACETATE

Method: Equivalent or similar to OECD 414

Reliability: 1

Species: Rat (Sprague-Dawley)

Route of exposure: Inhalation (vapors)

Results: Positive, NOAEC (development) = 1500 ppm

2-METHOXY-1-METHYLETHYL ACETATE

Method: Equivalent or similar from OECD 414

Reliability: 1

Species: Rat (Sprague-Dawley)

Route of exposure: Inhalation

Results: NOAEL 500 ppm

XYLENE (MIXTURE OF ISOMERS)

Method: Equivalent or similar to OECD 414

Reliability: 2

Species: Rat (Sprague-Dawley)

Route of exposure: Inhalation (vapors)

Results: Negative (development)

Effects on or via lactation

Information not available

STOT - SINGLE EXPOSURE

May cause drowsiness or dizziness

ACETONE

Based on available data and through expert judgment, the substance is classified in the target organ toxicity class for single exposure.

PROPANE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

BUTANE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

ISOBUTANE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

N-BUTYL ACETATE

Based on available data and through expert judgment, the substance is classified in the target organ toxicity class for single exposure.

2-METHOXY-1-METHYLETHYL ACETATE

Based on available data and through expert judgment, the substance is classified in the target organ toxicity class for single exposure.

XYLENE (MIXTURE OF ISOMERS)

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

Target organs**ACETONE**

Narcotic effects

N-BUTYL ACETATE

Central nervous system.

2-METHOXY-1-METHYLETHYL ACETATE

Central nervous system

Route of exposure**ACETONE**

Inhalation

2-METHOXY-1-METHYLETHYL ACETATE

Oral

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ACETONE

Method: Equivalent or similar to OECD 408

Reliability: 1

Species: Rat (Fischer 344; male / female)

Route of exposure: Oral

Results: Negative, NOAEL = 10000 ppm

Method: Not indicated

Reliability: 2

Species: Rat (Sprague-Dawley; male)

Route of exposure: Inhalation

Results: Negative, NOAEC = 19000 ppm

Bibliographic reference: Evaluation of toluene and acetone inhalant abuse. II. Model development and toxicology, Bruckner JV, Peterson RG (1981)

Method: Not indicated

Reliability: 2

Species: Not indicated

Route of exposure: Dermal

Results: Negative

Bibliographic reference: Pathology of aging female SENCAR mice used as controls in skin two-stage carcinogenesis studies, Ward J, Quander RD, Wenk M, Spangler E (1986)

PROPANE

Method: OECD 422

Reliability: 1

Species: Rat (Sprague-Dawley; male / female)

Route of exposure: Inhalation (gas)

Results: NOAEC 16 000 ppm

BUTANE

Method: OECD 413

Reliability: 1

Species: Rat (Sprague-Dawley; male / female)

Route of exposure: Inhalation (gas)

Results: NOAEC = 10000 ppm

ISOBUTANE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for prolonged or repeated exposure.

N-BUTYL ACETATE

Method: EPA OTS 798.2650

Reliability: 2

Species: Rat (Sprague-Dawley; male / female)

Route of exposure: Oral

Results: NOAEL = 125 mg / kg bw / day

Method: EPA OTS 798.2450

Reliability: 1

Species: Rat (Sprague-Dawley; male / female)

Route of exposure: Inhalation (vapors)

Results: Negative, NOAEC = 500 ppm

2-METHOXY-1-METHYLETHYL ACETATE

Method: OECD Guideline 422

Reliability: 2

Species: Rat (Crj: CD (SD); male / female)

Route of exposure: Oral

Results: NOAEL 1000 mg / kg / day

Method: OECD Guideline 453

Reliability: 1

Species: Rat (Fischer 344; male / female)

Route of exposure: Inhalation (vapors)

Results: NOEL 300 ppm

Method: Equivalent or similar from OECD 410

Reliability: 1

Species: Rabbit (New Zealand White; male / female)

Route of exposure: Dermal

Results: NOAEL > 1 000 mg / kg bw / day

XYLENE (MIXTURE OF ISOMERS)

Method: Equivalent or similar to OECD 408

Reliability: 2

Species: Rat (Sprague-Dawley; male / female)

Route of exposure: Oral

Results: Negative

Target organs

Information not available

Route of exposure

Information not available

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

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**12.1. Toxicity**

N-BUTYL ACETATE

LC50 - for Fish	18 mg/l/96h
EC50 - for Crustacea	44 mg/l/48h
EC50 - for Algae / Aquatic Plants	397 mg/l/72h
EC10 for Algae / Aquatic Plants	196 mg/l/72h
Chronic NOEC for Algae / Aquatic Plants	196 mg/l

12.2. Persistence and degradability

ACETONE

Easily degradable in water, 90.9% in 28 days.

BUTANE

Quickly degradable in water.

N-BUTYL ACETATE

Easily degradable in water, 83% in 28 days.

2-METHOXY-1-METHYLETHYL ACETATE

Rapidly biodegradable, from 70.5% to 93.4% in 45 days.

XYLENE (MIXTURE OF ISOMERS)

Rapidly degradable in water, 98% in 28 days

BUTANE

Solubility in water 0,1 - 100 mg/l

Rapidly degradable

ACETONE

Rapidly degradable

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

PROPANE

Solubility in water 0,1 - 100 mg/l

Rapidly degradable

N-BUTYL ACETATE

Solubility in water 1000 - 10000 mg/l

12.3. Bioaccumulative potential

BUTANE

Partition coefficient: n-octanol/water 1,09

ACETONE

Partition coefficient: n-octanol/water -0,23

BCF 3

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

PROPANE

Partition coefficient: n-octanol/water 1,09

N-BUTYL 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

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. 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.

ACETONE

Incinerate as hazardous waste according to applicable local, state and federal regulations. Do not throw in household waste.

BUTANE

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No waste key number according to the European list of waste types can be assigned to this product, since this classification is based on the use (not yet determined) for which the product is intended for the consumer.
The key number for the waste must be determined according to the European waste type list (decision on the EU waste type list 2000/532 / EC) in collaboration with the disposal company / producer / authority Official.

ISOBUTANE
Compliance with local regulations, e.g. incineration through flaring system.
This product, when disposed of in its unused and uncontaminated state, must be treated as hazardous waste according to EC Directive 91/689 / EEC. (not yet determined) for which the product is intended for the consumer.
The key number for the waste must be determined according to the European waste type list (decision on the EU waste type list 2000/532 / EC) in collaboration with the disposal company / producer / authority Official.

2-METHOXY-1-METHYLETHYL ACETATE
This product, when disposed of in its unused and uncontaminated state, must be treated as hazardous waste according to EC Directive 91/689 / EEC. Disposal practices must comply with all national and provincial laws and local or local laws governing hazardous waste. Further evaluation may be required for used, contaminated and residual materials. Do not discharge into sewers, onto the ground or into any body of water.

SECTION 14. Transport information

14.1. UN number or ID 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

ADR / RID:	HIN - Kemler: --	Limited Quantities: 1 L	Tunnel restriction code: (D)
IMDG:	Special provision: 190, 327, 344, 625 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

<u>Product</u>	
Point	40

<u>Contained substance</u>	
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 $\geq$ 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.

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
Press. Gas	Pressurised gas
Press. Gas (Liq.)	Liquefied gas
Acute Tox. 4	Acute toxicity, category 4
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
H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H229	Pressurised container: may burst if heated.
H225	Highly flammable liquid and vapour.
H280	Contains gas under pressure; may burst if heated.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
EUH066	Repeated exposure may cause skin dryness or cracking.

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
 7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
 8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
 9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
 10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
 11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
 12. Regulation (EU) 2016/1179 (IX Atp. CLP)
 13. Regulation (EU) 2017/776 (X Atp. CLP)
 14. Regulation (EU) 2018/669 (XI Atp. CLP)
 15. Regulation (EU) 2019/521 (XII Atp. CLP)
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 17. Regulation (EU) 2019/1148
 18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
 19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
 20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
 21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
- 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

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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.