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: **411 00 15275-2883**

Product name **BRILLIANT ZINC SPRAY**

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

Intended use **Protective zinc-based**

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 **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 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	Extremely flammable aerosol.
	H229	Pressurised container: may burst if heated.
Specific target organ toxicity - repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
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.
Hazardous to the aquatic environment, chronic toxicity, category 3	H412	Harmful to aquatic life with long lasting effects.

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.
H373	May cause damage to organs through prolonged or repeated exposure.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P251	Do not pierce or burn, even after use.
P410+P412	Protect from sunlight. Do no expose to temperatures exceeding 50°C / 122°F.
P211	Do not spray on an open flame or other ignition source.
P301+P310	IF SWALLOWED: immediately call a POISON CENTER / doctor.

Contains: REACTION MASS OF ETHYLBENZENE AND M-XYLENE AND P-XYLENE

2.3. Other hazards

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

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	**x = Conc. %**	**Classification 1272/2008 (CLP)**
HYDROCARBONS C3-4		
CAS 68476-40-4 EC 270-681-9 INDEX - Reg. no. 01-2119486557-22-XXXX	47,5 ≤ x < 50	Flam. Gas 1A H220, Press. Gas (Liq.) H280, Classification note according to Annex VI to the CLP Regulation: H K U
HYDROCARBONS, C6-C7, ISOALKANES, CYCLIC, <5% N-HEXANE CAS -	18 ≤ x < 19,5	Flam. Liq. 2 H225, Asp. Tox. 1 H304, STOT SE 3 H336, Aquatic Chronic 2

		H411, EUH066
EC 926-605-8		
INDEX -		
Reg. no. 01-2119486291-36-XXXX		
BARIUM SULFATE		
CAS 7727-43-7	9 ≤ x < 10,5	Substance with a community workplace exposure limit.
EC 231-784-4		
INDEX -		
Reg. no. 01-2119491274-35-XXXX		
REACTION MASS OF ETHYLBENZENE AND M-XYLENE AND P-XYLENE		
CAS -	8,5 ≤ x < 10	Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Skin Irrit. 2 H315
EC 905-562-9		
INDEX -		
Reg. no. 01-2119488216-32-XXXX		
ETHYL ACETATE		
CAS 141-78-6	4,5 ≤ x < 5	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
EC 205-500-4		
INDEX 607-022-00-5		
Reg. no. 01-2119475103-46-XXXX		
N-BUTYL ACETATE		
CAS 123-86-4	4,5 ≤ x < 5	Flam. Liq. 3 H226, STOT SE 3 H336, EUH066
EC 204-658-1		
INDEX 607-025-00-1		
Reg. no. 01-2119485493-29-XXXX		
HYDROCARBONS, C9, AROMATIC		
CAS 128601-23-0	4,5 ≤ x < 5	Flam. Liq. 3 H226, Asp. Tox. 1 H304, STOT SE 3 H335, STOT SE 3 H336, Aquatic Chronic 2 H411
EC 918-668-5		
INDEX 649-356-00-4		
Reg. no. 01-2119455851-35-XXXX		
ZINC OXIDE		
CAS 1314-13-2	0,5 ≤ x < 0,6	Aquatic Chronic 1 H410 M=1
EC 215-222-5		
INDEX 030-013-00-7		
Reg. no. 01-2119463881-32-XXXX		
2-BUTOXYETHANOL		
CAS 111-76-2	0,5 ≤ x < 0,6	Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315
EC 203-905-0		
INDEX 603-014-00-0		
Reg. no. 01-2119475108-36-XXXX		
TRIZINC BIS (ORTHOPHOSPHATE)		
CAS 7779-90-0	0,5 ≤ x < 0,6	Aquatic Chronic 1 H410 M=1
EC 231-944-3		
INDEX 030-011-00-6		

Reg. no. 01-2119485044-40-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: 49,00 %

SECTION 4. First aid measures

4.1. Description of first aid measures

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

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

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

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

Information not available

SECTION 5. Firefighting measures

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

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

5.3. Advice for firefighters

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

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. Environmental precautions

Do not disperse in the environment.

6.3. Methods and material for containment and cleaning up

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

6.4. Reference to other sections

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

SECTION 7. Handling and storage

7.1. Precautions for safe handling

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

7.2. Conditions for safe storage, including any incompatibilities

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

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

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
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition,published 2018)
ITA	Italia	DIRETTIVA (UE) 2017/164 DELLA COMMISSIONE del 31 gennaio 2017
NOR	Norge	Fastsatt av Arbeids- og sosialdepartementet 21. august 2018 med hjemmel i lov 17. juni 2005 nr. 62 om arbeidsmiljø, arbeidstid, stillingsvern mv. (arbeidsmiljøloven) § 1-3, § 1-4 og § 4-5
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
EU	OEL EU	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 91/322/EEC.
	TLV-ACGIH	ACGIH 2019

HYDROCARBONS C3-4

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH			1000			

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
Skin								23,4 mg/kg bw/d

HYDROCARBONS, C6-C7, ISOALKANES, CYCLIC, <5% N-HEXANE

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				1301 mg/kg bw/d				
Inhalation				1131 mg/m3				5306 mg/m3
Skin				1377 mg/kg bw/d				13964 mg/kg bw/d

REACTION MASS OF ETHYLBENZENE AND M-XYLENE AND P-XYLENE

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,327	mg/l
Normal value in marine water	0,327	mg/l
Normal value for fresh water sediment	12,46	mg/kg
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

BARIUM SULFATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	10				
WEL	GBR	10				INHAL
WEL	GBR	4				RESP
VLEP	ITA	0,5				
OEL	EU	0,5				
TLV-ACGIH		5				

Predicted no-effect concentration - PNEC		
Normal value in fresh water	11,5	mg/l

Normal value for fresh water sediment	600,4	mg/kg
Normal value of STP microorganisms	62,2	mg/l
Normal value for the terrestrial compartment	207,7	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				13000 mg/kg bw/d				
Inhalation				10 mg/m3			10 mg/m3	10 mg/m3

HYDROCARBONS, C9, AROMATIC

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				11 mg/kg bw/d				
Inhalation				32 mg/m3				150 mg/m3
Skin				11 mg/kg bw/d				25 mg/kg bw/d

N-BUTYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	724	150	965	200	
VLEP	FRA	710	150	940	200	
WEL	GBR	724	150	966	200	
TLV	NOR		75			
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

ETHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	

VLA	ESP	734	200	1468	400
VLEP	FRA	1400	400		
WEL	GBR	734	200	1468	400
VLEP	ITA	734	200	1468	400
TLV	NOR	734	200		
VLE	PRT	734	200	1468	400
OEL	EU	734	200	1468	400
TLV-ACGIH		1441	400		

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,24	mg/l
Normal value in marine water	0,024	mg/l
Normal value for fresh water sediment	1,15	mg/kg
Normal value for marine water sediment	0,115	mg/kg
Normal value of STP microorganisms	650	mg/l
Normal value for the food chain (secondary poisoning)	0,2	mg/kg
Normal value for the terrestrial compartment	0,148	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				4,5 mg/kg bw/d				
Inhalation	734 mg/m3	734 mg/m3	367 mg/m3	367 mg/m3	1468 mg/m3	1468 mg/m3	734 mg/m3	734 mg/m3
Skin				37 mg/kg bw/d				63 mg/kg bw/d

TRIZINC BIS (ORTHOPHOSPHATE)

Predicted no-effect concentration - PNEC		
Normal value in fresh water	2,06	mg/l
Normal value in marine water	0,61	mg/l
Normal value for fresh water sediment	117,8	mg/kg
Normal value for marine water sediment	56,5	mg/kg
Normal value of STP microorganisms	10	mg/l
Normal value for the terrestrial compartment	35,6	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				0,83 mg/kg bw/d				
Inhalation				2,5 mg/m3				5 mg/m3
Skin				83 mg/kg bw/d				83 mg/kg bw/d

2-BUTOXYETHANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	98	20	245	50	SKIN

VLEP	FRA	49	10	246	50	SKIN
WEL	GBR	123	25	246	50	SKIN
VLEP	ITA	98	20	246	50	SKIN
TLV	NOR	50	10			SKIN
VLE	PRT	98	20	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	0,88	mg/l
Normal value for fresh water sediment	34,6	mg/kg
Normal value for marine water sediment	3,46	mg/kg
Normal value of STP microorganisms	463	mg/l
Normal value for the food chain (secondary poisoning)	0,02	mg/kg
Normal value for the terrestrial compartment	2,33	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		26,7 mg/kg bw/d		6,3 mg/kg bw/d				
Inhalation	147 mg/m3	426 mg/m3		59 mg/m3	246 mg/m3			98 mg/m3
Skin		89 mg/kg/d		75 mg/kg bw/d		89 mg/kg bw/d		125 mg/kg bw/d

ZINC OXIDE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	2		10		
VLEP	FRA	5				
TLV	NOR	5				
TLV-ACGIH		2		10		

Predicted no-effect concentration - PNEC		
Normal value in fresh water	2,6	mg/l
Normal value in marine water	0,61	mg/l
Normal value for fresh water sediment	117,8	mg/kg
Normal value for marine water sediment	56,5	mg/kg
Normal value of STP microorganisms	10	mg/l
Normal value for the terrestrial compartment	35,6	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				0,83 mg/kg bw/d				
Inhalation				2,5 mg/m3			0,5 mg/m3	5 mg/m3
Skin				83 mg/kg bw/d				83 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.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

HYDROCARBONS, C6-C7, ISOALKANES, CYCLIC, <5% N-HEXANE

Any specific glove information provided is based on published literature and glove manufacturer data. The suitability of the gloves and breakthrough time will differ according to the specific conditions of use. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for conditions of use. Inspect and replace worn or damaged gloves. The types of gloves to consider for this material include:
If prolonged or repeated contact is likely, the use of chemical resistant gloves is recommended. If contact with forearms is likely, wear glove-style gloves. Nitrile, standards CEN EN 420 and EN 374 provide general requirements and lists of types of gloves.

BARIUM SULFATE

Protective gloves (PVC, neoprene, natural rubber)

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.

ETHYL ACETATE

Butyl rubber gloves (opening times> 480 minutes), Neoprene ™ rubber, nitrile rubber (opening times up to 480 minutes).

TRIZINC BIS (ORTHOPHOSPHATE)

Chemical protective gloves (EN 374) e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinyl chloride (0.7 mm), among others. Due to a large variety of types, it is necessary to follow the manufacturer's instructions.

ZINC OXIDE

Protective gloves (EN 374)

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	aerosol
Colour	grey
Odour	characteristic
Odour threshold	Not available
pH	Not available
Melting point / freezing point	< -100 °C
Initial boiling point	> -42 °C
Boiling range	Not available
Flash point	< -80 °C
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Lower inflammability limit	1,8 % (V/V)
Upper inflammability limit	9,5 % (V/V)
Lower explosive limit	Not available
Upper explosive limit	Not available
Vapour pressure	5,5 bar
Vapour density	>2
Relative density	0,73
Solubility	partially soluble
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	> 400 °C
Decomposition temperature	Not available
Viscosity	Not available

Explosive properties	Not available
Oxidising properties	Not available

9.2. Other information

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.

N-BUTYL ACETATE

Decomposes on contact with: water.

ETHYL ACETATE

It slowly decomposes to acetic acid and ethanol due to the action of light, air and water. Stable under normal conditions. Upon storage, it is slowly decomposed by water.

2-BUTOXYETHANOL

Decomposes under the effect of heat.

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.

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.

ETHYL ACETATE

Risk of explosion on contact with: alkaline metals,hydrides,oleum.May react violently with: fluorine,strong oxidising agents,chlorosulphuric acid,potassium tert-butoxide.Forms explosive mixtures with: air.

2-BUTOXYETHANOL

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

10.4. Conditions to avoid

Avoid overheating.

HYDROCARBONS, C6-C7, ISOALKANES, CYCLIC, <5% N-HEXANE

Avoid heat, sparks, open flames and other sources of ignition.

BARIUM SULFATE

Strong heat

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.

ETHYL ACETATE

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

Ignition sources.

2-BUTOXYETHANOL

Avoid exposure to: sources of heat,naked flames.

High temperatures and sources of ignition. Prolonged exposure with air / oxygen and light.

10.5. Incompatible materials

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

HYDROCARBONS, C6-C7, ISOALKANES, CYCLIC, <5% N-HEXANE

Strong oxidants.

N-BUTYL ACETATE

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

Strong acids and strong bases, strong oxidizing agents.

ETHYL ACETATE

Incompatible with: acids,bases,strong oxidants,aluminium,nitrates,chlorosulphuric acid.Incompatible materials: plastic materials.

Oxidizing agents, acids, alkalis.

2-BUTOXYETHANOL

Oxidizing agents.

ZINC OXIDE

Acids and basics.

10.6. Hazardous decomposition products

ETHYL ACETATE

Carbon oxides on combustion.

2-BUTOXYETHANOL

May develop: hydrogen.

Carbon oxides.

ZINC OXIDE

ZnO fumes can be generated during heat treatment.

SECTION 11. Toxicological information

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

N-BUTYL ACETATE

WORKERS: inhalation; contact with the skin.

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.

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).

ACUTE TOXICITY

LC50 (Inhalation) of the mixture:
> 20 mg/l
LD50 (Oral) of the mixture:
Not classified (no significant component)
LD50 (Dermal) of the mixture:
>2000 mg/kg

2-BUTOXYETHANOL

LD50 (Oral) 615 mg/kg Rat

LD50 (Dermal) 405 mg/kg Rabbit

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

TRIZINC BIS (ORTHOPHOSPHATE)

LD50 (Oral) > 5000 mg/kg Rat - Wistar

LC50 (Inhalation) > 5,7 mg/l Rat

HYDROCARBONS C3-4

Method: Not indicated-Read Across
Reliability: 2
Species: Rat (Alderley Park (SPF); male / female)
Route of exposure: Inhalation
Results: LC50 1 443 mg / L air

HYDROCARBONS, C6-C7, ISOALKANES, CYCLIC, <5% N-HEXANE

Method: Equivalent or similar to OECD 401
Reliability: 2
Species: Rat (Long-Evans; male)
Route of exposure: Oral
Results: LD50> 25 mL / kg bw
Method: Equivalent or similar to OECD 403
Reliability: 2

Species: Rat (Long-Evans; male)
Route of exposure: Inhalation (vapors)
Results: LD50 = 73860 ppm
Method: Equivalent or similar to OECD 402
Reliability: 2
Species: Rabbit (New Zealand White; male)
Route of exposure: Dermal
Results: LD50> 5 mL / kg bw

REACTION MASS OF ETHYLBENZENE AND M-XYLENE AND P-XYLENE

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 (Long-Evans; male)
Route of exposure: Inhalation (vapors)
Results: LC50 = 6350 ppm

BARIUM SULFATE

Method: Equivalent or similar to OECD 401
Reliability: 2
Species: Rat (Wistar; male)
Route of exposure: Oral
Results: LD50 = 307 g / kg

HYDROCARBONS, C9, AROMATIC

Method: Not indicated
Reliability: 2
Species: Rat (Charles River CD; male / female)
Route of exposure: Oral
Results: LD50 = 4mL / kg bw
Method: Equivalent or similar to OECD 403
Reliability: 1
Species: Rat (Crl: CDBR; male / female)
Route of exposure: Inhalation (vapors)
Results: LC50> 6193 mg / m3 air
Method: Equivalent or similar to OECD 402
Reliability: 2
Species: Rabbit (New Zealand White; male / female)
Route of exposure: Dermal
Results: LD50 = 3160 mg / kg bw

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

ETHYL ACETATE

Method: Multi-Substance Rule for the Testing of Neurotoxicity 40 CFR Part 799 (58 FR 40262)
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative
Method: Not indicated
Reliability: 2
Species: Rabbit (New Zealand White; male)
Route of exposure: Dermal
Results: LD50> 20 000 mg / kg bw

2-BUTOXYETHANOL

Method: OECD 401
Reliability: 1
Species: guinea pig (Hartley; male / female)
Route of exposure: Oral
Results: LD50 = 1414 mg / kg bw
Method: CFR title 49, section 173.132
Reliability: 2
Species: Guinea pig (Dunkin-Hartley; male / female)
Route of exposure: Inhalation (vapor)
Results: Not classified
Method: OECD 402
Reliability: 1
Species: guinea pig (Hartley; male / female)
Route of exposure: Dermal
Results: Not classified

ZINC OXIDE

Method: Equivalent or similar to OECD 401
Reliability: 2
Species: Rat (Wistar; male / female)
Route of exposure: Oral
Results: LD50> 5 000 mg / kg bw
Method: Equivalent or similar to OECD 403
Reliability: 2
Species: Rat (male / female)
Route of exposure: Inhalation
Results: LC50> 5 700 mg / m³ air
Method: OECD 402
Reliability: 1
Species: Rat (Wistar; male / female)
Route of exposure: Dermal
Results: LD50> 2 000 mg / kg bw

SKIN CORROSION / IRRITATION

Causes skin irritation

HYDROCARBONS, C6-C7, ISOALKANES, CYCLIC, <5% N-HEXANE

Method: OECD 404
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Dermal
Results: Not irritating

BARIUM SULFATE

Method: OECD guidelines for testing chemicals, draft proposal for a new guideline: in vitro skin irritation: reconstructed human epidermis (RhE) test method
Reliability: 2
Human species
Route of exposure: Dermal
Results: Not indicated

HYDROCARBONS, C9, AROMATIC

Method: Directive 67/548 / EEC (OECD TG 404)
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Dermal
Results: Not classified

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-BUTOXYETHANOL

Method: EU Method B.4
Reliability: 2
Species: Rabbit (New Zealand white; male / female)
Route of exposure: Dermal
Results: Irritating
Bibliographic reference: Jacobs G, Martens M, Mosselmans G, Proposal of limit concentrations for skin irritation within the context of a new EEC directive on the classification and labeling of preparations. (1987)

ZINC OXIDE

Method: Not indicated
Reliability: 2
Species: Rabbit (New Zealand White)
Route of exposure: Dermal
Results: Not irritating

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

HYDROCARBONS, C6-C7, ISOALKANES, CYCLIC, <5% N-HEXANE

Method: Equivalent or similar to OECD 405
Reliability: 2
Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Not irritating

BARIUM SULFATE

Method: OECD 405
Reliability: 1
Species: Rabbit (Himalayan)
Route of exposure: Ocular
Results: Not irritating

HYDROCARBONS, C9, AROMATIC

Method: Equivalent or similar to OECD 405
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Not irritating

N-BUTYL ACETATE

Method: OECD 405
Reliability: 2
Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Not irritating

ETHYL ACETATE

Method: OECD 405
Reliability: 2
Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Not irritating

TRIZINC BIS (ORTHOPHOSPHATE)

Method: OECD 405
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Not irritating

2-BUTOXYETHANOL

Method: OECD 405
Reliability: 1
Species: Rabbit (New Zealand white; male / female)
Route of exposure: Ocular
Results: Irritating

ZINC OXIDE

Method: EU Method B.5
Reliability: 1
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

HYDROCARBONS, C6-C7, ISOALKANES, CYCLIC, <5% N-HEXANE

Method: Equivalent or similar to OECD 429
Reliability: 2
Species: Mouse
Route of exposure: Dermal

Results: Not sensitizing

BARIUM SULFATE

Method: OECD 429
Reliability: 1
Species: Mouse (CBA; female)
Route of exposure: Dermal
Results: Not sensitizing

HYDROCARBONS, C9, AROMATIC

Method: OECD 406
Reliability: 1
Species: guinea pig (Hartley; female)
Route of exposure: Dermal
Results: Not sensitizing

2-BUTOXYETHANOL

Method: OECD 406
Reliability: 1
Species: Guinea pig (Dunkin-Hartley; male / female)
Route of exposure: Dermal
Results: Not sensitizing
Method: Equivalent or similar to OECD 474-Test in vivo
Reliability: 1
Species: Mouse (B6C3F1)
Results: Negative

Skin sensitization
ETHYL ACETATE

Method: OECD 406
Reliability: 1
Species: guinea pig (Dunkin-Hartley; female)
Route of exposure: Dermal
Results: Not sensitizing

TRIZINC BIS (ORTHOPHOSPHATE)

Method: OECD 406
Reliability: 1
Species: guinea pig (Dunkin-Hartley; female)
Route of exposure: Dermal
Results: Not sensitizing

ZINC OXIDE

Method: OECD 406
Reliability: 1
Species: guinea pig (Dunkin-Hartley; females)
Route of exposure: Dermal
Results: Not sensitizing

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

HYDROCARBONS C3-4

Method: OECD 474-test in vivo
Reliability: 1
Species: Rat (Sprague-Dawley CD; male / female)
Route of exposure: Inhalation (gas)
Results: Negative
Method: OECD 471 in vitro test - Read Across
Reliability: 1
Species: S. typhimurium
Results: Negative with and without metabolic activation

HYDROCARBONS, C6-C7, ISOALKANES, CYCLIC, <5% N-HEXANE

Method: Equivalent or similar to OECD 475 in vivo test
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative

REACTION MASS OF ETHYLBENZENE AND M-XYLENE AND P-XYLENE

Method: Equivalent or similar to EU Method B.19-in vitro test
Reliability: 2
Species: Chinese hamster
Results: Negative with and without metabolic activation
Method: Equivalent or similar to OECD 478 in vivo test
Reliability: 2
Species: Rat (Long-Evans; male / female)
Route of exposure: Intraperitoneal
Results: Negative

BARIUM SULFATE

Method: Equivalent or similar to OECD 471 in vitro-Read across test
Reliability: 2
Species: S. typhimurium
Results: Negative with and without metabolic activation

HYDROCARBONS, C9, AROMATIC

Method: Equivalent or similar to OECD 471 in vitro test
Reliability: 1
Species: S. typhimurium
Results: Negative with and without metabolic activation
Method: Equivalent or similar to OECD 475 in vivo test
Reliability: 2
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Inhalation (vapors)
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

ETHYL ACETATE

Method: Equivalent or similar to OECD 471 in vitro test
Reliability: 2
Species: S. typhimurium
Results: Negative with and without metabolic activation
Method: Equivalent or similar to OECD 474 in vivo test
Reliability: 2
Species: Chinese hamster (male / female)
Route of exposure: Oral
Results: Negative

TRIZINC BIS (ORTHOPHOSPHATE)

Method: Not indicated - in vitro test
Reliability: 2
Species: Lymphoma mouse
Results: Negative
Bibliographic reference: Amacher DE & Paillet SC, Induction of trifluorothymidine-resistant mutants by metal ions in L5178y / TK +/- cells (1980)
Method: Not indicated - in vivo test
Reliability: 2
Species: Mouse (NMRI; male / female)
Route of exposure: Intraperitoneal
Results: Negative
Bibliographic reference: Gocke E, King M-T, Eckhardt K & Wild D, Mutagenicity of Cosmetics Ingredients Licensed by the European Communities (1981)

2-BUTOXYETHANOL

Method: Equivalent or similar to OECD 471 in vitro test
Reliability: 1
Species: S. typhimurium TA 1535
Results: negative
Bibliographic reference:
Method: Equivalent or similar to OECD 474-Test in vivo
Reliability: 1
Species: Mouse (B6C3F1)
Results: Negative

ZINC OXIDE

Method: Equivalent or similar to OECD 471 in vitro test
Reliability: 2
Species: S. typhimurium
Results: Negative with and without metabolic activation
Method: OECD 474-test in vivo
Reliability: 1
Species: Mouse (NMRI; male)
Route of exposure: intraperitoneal
Results: Negative

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

HYDROCARBONS C3-4

Method: Equivalent or similar to EPA OPP 83-5 -Read Across
Reliability: 1
Species: Rat (Fischer 344; male / female)

Route of exposure: Oral
Results: Carcinogen

HYDROCARBONS, C6-C7, ISOALKANES, CYCLIC, <5% N-HEXANE

Method: Equivalent or similar to OECD 451
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative, NOAEC = 9016 ppm

REACTION MASS OF ETHYLBENZENE AND M-XYLENE AND P-XYLENE

Method: Equivalent or similar to EU Method B.32
Reliability: 2
Species: Mouse (B6C3F1; male / female)
Route of exposure: Oral
Results: Negative

BARIUM SULFATE

Method: Not indicated
Reliability: 2
Species: Rat (Fischer 344; male / female)
Route of exposure: Oral
Results: Negative

TRIZINC BIS (ORTHOPHOSPHATE)

Method: Not indicated
Reliability: 2
Species: Mouse (Chester Beatty stock; male / female)
Route of exposure: Oral
Results: NOAEL> 22 000 mg / L
Bibliographic reference: Walters M & Roe FJC, A Study of the Effects of Zinc and Tin Administered Orally to Mice Over a Prolonged Period (1965)

ZINC OXIDE

Method: Not indicated
Reliability: 2
Species: Mouse (Chester Beatty stock; male / female)
Route of exposure: Oral
Results: NOAEL> 22 000 mg / L
Bibliographic reference: Walters M & Roe FJC, A Study of the Effects of Zinc and Tin Administered Orally to Mice Over a Prolonged Period (1965)

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

ETHYL ACETATE

Method: Equivalent or similar to OECD 416
Reliability: 1
Species: Mouse (CD-1; male / female)
Route of exposure: Oral
Results: Negative
Method: Equivalent or similar to OECD 414
Reliability: 2
Species: Rat (Sprague-Dawley)
Route of exposure: Inhalation

Results: Negative

2-BUTOXYETHANOL

Method: Not indicated
Reliability: 1
Species: Mouse (CD-1; male / female)
Route of exposure: Oral
Results: NOAEL = 720 mg / kg bw / day
Bibliographic reference: Heindel JJ, Gulati DK, Russel VS, Reel JR, Lawton AD and Lamb JC, Assessment of Ethylene Glycol Monobutyl and monophenol Ether reproductive toxicity using a continuous breeding protocol in Swiss CD-1 mice (1990).

Adverse effects on sexual function and fertility
HYDROCARBONS C3-4

Method: OECD 413
Reliability: 1
Species: Rat (Sprague-Dawley CD; male / female)
Route of exposure: Inhalation (gas)
Results: NOAEC (fertility) 10 000 ppm

HYDROCARBONS, C6-C7, ISOALKANES, CYCLIC, <5% N-HEXANE

Method: Equivalent or similar to OECD 416
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative, NOAEC (fertility) = 3000 ppm

REACTION MASS OF ETHYLBENZENE AND M-XYLENE AND P-XYLENE

Method: Not indicated
Reliability: 2
Species: Rat (Crl-CD® (SC) BR; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative, NOAEC (fertility) = 500 ppm

BARIUM SULFATE

Method: Not indicated
Reliability: 2
Species: Rat (Fischer 344 / N; male / female)
Route of exposure: Oral
Results: Negative (fertility) = 4000 ppm
Bibliographic reference: Subchronic toxicity of barium chloride dihydrate administered to rats and mice in the drinking water, Dietz, D.D .; et al. (1992)

HYDROCARBONS, C9, AROMATIC

Method: Not indicated
Reliability: 2
Species: Rat (Crj: CD (SD); male / female)
Route of exposure: Inhalation (vapors)
Results: Negative, NOAEC (fertility) = 1500 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

TRIZINC BIS (ORTHOPHOSPHATE)

Method: Equivalent or similar to OECD 416
Reliability: 2
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: NOAEL 15 mg / kg bw / day

ZINC OXIDE

Method: Equivalent or similar to OECD 416
Reliability: 2
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: LOAEL (fertility) 7.5 mg / kg bw / day

Adverse effects on development of the offspring
HYDROCARBONS C3-4

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

REACTION MASS OF ETHYLBENZENE AND M-XYLENE AND P-XYLENE

Method: Equivalent or similar to OECD 414
Reliability: 2
Species: Rat (Sprague-Dawley)
Route of exposure: Inhalation (vapors)
Results: Positive (development)

BARIUM SULFATE

Method: OECD 414
Reliability: 1
Species: Rat (Wistar)
Route of exposure: Oral
Results: Positive, NOAEL (development) = 25.6 mg / kg bw / day

HYDROCARBONS, C9, AROMATIC

Method: Not indicated-read across
Reliability: 2
Species: Mouse (CD-1)
Route of exposure: Inhalation (vapors)
Results: NOEAC (development) = 500 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

TRIZINC BIS (ORTHOPHOSPHATE)

Method: Not indicated
Reliability: 2
Species: Hamster
Route of exposure: Oral
Results: NOAEL 88 mg / kg bw / day

ZINC OXIDE

Method: OECD 414
Reliability: 1
Species: Rat (Wistar)
Route of exposure: Inhalation (aerosol)
Results: NOAEC (development) 7.5 mg / m³ air

STOT - SINGLE EXPOSURE

May cause drowsiness or dizziness

HYDROCARBONS C3-4

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

HYDROCARBONS, C6-C7, ISOALKANES, CYCLIC, <5% N-HEXANE

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

REACTION MASS OF ETHYLBENZENE AND M-XYLENE AND P-XYLENE

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

BARIUM SULFATE

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

HYDROCARBONS, C9, AROMATIC

Based on available data and through expert judgment, the substance is 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.

ETHYL ACETATE

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

TRIZINC BIS (ORTHOPHOSPHATE)

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

2-BUTOXYETHANOL

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

ZINC OXIDE

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

Target organ
HYDROCARBONS, C6-C7, ISOALKANES, CYCLIC, <5% N-HEXANE

Narcosis

HYDROCARBONS, C9, AROMATIC

Nervous system, respiratory system

N-BUTYL ACETATE

Central nervous system.

ETHYL ACETATE

Central nervous system

Route of exposure
HYDROCARBONS, C9, AROMATIC

Inhalation

ETHYL ACETATE

Inhalation

STOT - REPEATED EXPOSURE

May cause damage to organs

HYDROCARBONS C3-4

Method: OECD 413
Reliability: 1
Species: Rat (Sprague-Dawley CD; male / female)
Route of exposure: Inhalation (gas)
Results: NOAEC 10 000 ppm

HYDROCARBONS, C6-C7, ISOALKANES, CYCLIC, <5% N-HEXANE

Method: Equivalent or similar to OECD 413-Read across
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative, NOAEC = 2984 ppm

REACTION MASS OF ETHYLBENZENE AND M-XYLENE AND P-XYLENE

Method: Equivalent or similar to OECD 408
Reliability: 2
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: Negative, NOAEL = 150 mg / kg bw / day

BARIUM SULFATE

Method: Not indicated
Reliability: 2
Species: Rat (Fischer 344; male / female)
Route of exposure: Oral
Results: NOAEL = 61.1 mg / kg bw / day
Bibliographic reference: Subchronic Toxicity of Barium Chloride Dihydrate Administered to Rats and Mice in the Drinking Water, Dietz, D.D. et al. (1992)

HYDROCARBONS, C9, AROMATIC

Method: Equivalent or similar to OECD 408
Reliability: 2
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: Negative, NOAEL = 600 mg / kg bw / day
Method: Equivalent or similar to OECD 452
Reliability: 1
Species: Rat (Wistar; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative, NOAEC = 900 mg / m3 air

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

ETHYL ACETATE

Method: Equivalent or similar to EPA OTS 795.2600
Reliability: 2
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: NOAEL 900 mg / kg bw / day
Method: EPA OTS 798.2450
Reliability: 1
Species: Rat (Crl: CD®BR; male / female)
Route of exposure: Inhalation
Results: LOEC 350 ppm

TRIZINC BIS (ORTHOPHOSPHATE)

Method: OECD 408
Reliability: 2
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: NOAEL 31.52 mg / kg bw / day

2-BUTOXYETHANOL

Method: Equivalent or similar to OECD 408
Reliability: 1

Species: Rat (Fischer 344; male / female)
Route of exposure: Oral
Results: Negative, NOAEL <69 mg / kg bw
Method: Equivalent or similar to OECD 453
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative, NOAEC <31 ppm
Method: Equivalent or similar to OECD 411
Reliability: 1
Species: Rabbit (New Zealand White; male / female)
Route of exposure: Dermal
Results: Negative; NOAEL> 150 mg / kg bw / day

ZINC OXIDE

Method: OECD 408
Reliability: 2
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: NOAEL 31.52 mg / kg bw
Method: OECD 413
Reliability: 1
Species: Rat (Wistar; male)
Route of exposure: Inhalation (aerosol)
Results: NOAEL 1.5 mg / m^3 air
Method: OECD 410
Reliability: 2
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Dermal
Results: LOAEL 75 mg / kg bw / day

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

SECTION 12. Ecological information

This product is dangerous for the environment and the aquatic organisms. In the long term, it have negative effects on aquatic environment.
12.1. Toxicity

ZINC OXIDE	
LC50 - for Fish	1,1 mg/l/96h Oncorhynchus mykiss
EC50 - for Crustacea	1,7 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	0,14 mg/l/72h Pseudokirchnerella subcapitata
Chronic NOEC for Fish	0,53 mg/l
Chronic NOEC for Algae / Aquatic Plants	0,024 mg/l
BARIUM SULFATE	
EC50 - for Crustacea	14,5 mg/l/48h
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

TRIZINC BIS (ORTHOPHOSPHATE)

LC50 - for Fish	0,78 mg/l/96h Pimephales promelas
EC50 - for Crustacea	0,86 mg/l/48h Daphnia magna

REACTION MASS OF ETHYLBENZENE AND M-XYLENE AND P-XYLENE

LC50 - for Fish	2,6 mg/l/96h
EC50 - for Crustacea	1 mg/l/48h
EC50 - for Algae / Aquatic Plants	1,3 mg/l/72h
LC10 for Fish	13 mg/l/28d
EC10 for Crustacea	0,96 mg/l/10d
EC10 for Algae / Aquatic Plants	0,44 mg/l/72h
Chronic NOEC for Fish	1,3 mg/l
Chronic NOEC for Crustacea	0,96 mg/l
Chronic NOEC for Algae / Aquatic Plants	0,44 mg/l

HYDROCARBONS C3-4

LC50 - for Fish	49,47 mg/l/96h

12.2. Persistence and degradability

HYDROCARBONS C3-4
Easily degradable in water.
HYDROCARBONS, C6-C7, ISOALKANES, CYCLIC, <5% N-HEXANE
Easily degradable in water, 98% in 28 days.
REACTION MASS OF ETHYLBENZENE AND M-XYLENE AND P-XYLENE
Easily degradable in water, 94% in 28 days.
HYDROCARBONS, C9, AROMATIC
Easily degradable in water, 60% in 28 days.
N-BUTYL ACETATE
Easily degradable in water, 83% in 28 days.
ETHYL ACETATE
Rapidly degradable, 60% in 10 days.
2-BUTOXYETHANOL
Easily degradable.

ZINC OXIDE

Solubility in water	2,9 mg/l

NOT rapidly degradable

ETHYL ACETATE

Solubility in water	> 10000 mg/l

Rapidly degradable

2-BUTOXYETHANOL

Solubility in water	1000 - 10000 mg/l

Rapidly degradable

BARIUM SULFATE

Solubility in water	0,1 - 100 mg/l

Degradability: information not available

N-BUTYL ACETATE

Solubility in water	1000 - 10000 mg/l

TRIZINC BIS (ORTHOPHOSPHATE)

Solubility in water	2,7 mg/l

Degradability: information not available

12.3. Bioaccumulative potential

ZINC OXIDE

BCF	> 175

ETHYL ACETATE

Partition coefficient: n-octanol/water	0,68
BCF	30

2-BUTOXYETHANOL

Partition coefficient: n-octanol/water	0,81

N-BUTYL ACETATE

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

12.4. Mobility in soil

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 greater 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 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.

HYDROCARBONS, C6-C7, ISOALKANES, CYCLIC, <5% N-HEXANE
The product is suitable for combustion in a closed controlled burner for the value or disposal of the fuel by supervised incineration at very high temperatures to prevent the formation of undesirable combustion products.

BARIUM SULFATE
In accordance with local and national regulations. It can be placed in a landfill if it complies with local regulations. Dispose according to the European Directive on waste and hazardous waste.

ETHYL ACETATE
Dispose of as hazardous waste. Recover or recycle if possible. Otherwise incineration. Dispose according to local regulations.
Disposal of the container: empty the container completely. Empty containers may contain highly flammable residues. Do not cut, grind, puncture, weld or dispose of containers unless adequate precautions have been taken against this hazard. Do not remove the container labels until they are cleaned. Send to drum recovery or metal recovery.

2-BUTOXYETHANOL
Dispose of as hazardous waste. Recover or recycle if possible. Otherwise incineration. Dispose according to local regulations.

ZINC OXIDE
The assignment of a waste code number, according to the European Waste Catalog, should be done
in agreement with the regional waste disposal company.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA:	1950

14.2. UN proper shipping name

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

14.3. Transport hazard class(es)

ADR / RID:	Class: 2	Label: 2.1
IMDG:	Class: 2	Label: 2.1
IATA:	Class: 2	Label: 2.1

14.4. Packing group

ADR / RID, IMDG, IATA: -

14.5. Environmental hazards

ADR / RID:	NO
IMDG:	NO
IATA:	NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: --	Limited Quantities: 1 L	Tunnel restriction code: (D)
	Special Provision: -		
IMDG:	EMS: F-D, S-U	Limited Quantities: 1 L	
IATA:	Cargo:	Maximum quantity: 150 Kg	Packaging instructions: 203
	Pass.:	Maximum quantity: 75 Kg	Packaging instructions: 203
	Special 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 greater 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

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
Flam. Liq. 3	Flammable liquid, category 3
Press. Gas (Liq.)	Liquefied gas
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 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
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.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.

H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
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
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2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
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4. Regulation (EU) 2015/830 of the European Parliament
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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.
Product`s classification is based on the calculation methods set out in Annex I of the CLP Regulation, unless otherwise indicated in sections 11 and 12.
The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:
The following sections were modified:
02 / 03 / 04 / 08 / 09 / 10 / 11 / 12 / 13 / 15 / 16.