

SAFETY DATA SHEET



RIEGLER Zinc spray bright grade

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

1.1 Product identifier

Product name : RIEGLER Zinc spray bright grade
UFI : W6S2-A0RN-S00S-YY1K
Product code : R3220/400 / ID-Nr. 114576
Color : Silver.

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

Identified uses
Aerosol product

1.3 Details of the supplier of the safety data sheet

RIEGLER & Co. KG
Schützenstr. 27, D-72574 Bad Urach
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E-Mail : zedok@riegler.de
Internet : www.riegler.de

e-mail address of person responsible for this SDS : Abteilung eDocumentation
Phone : +49 (0) 7125/9497-0
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zedok@riegler.de

1.4 Emergency telephone number

Telephone number : Giftnotrufzentrale Bonn
Phone : +49(0)228-19 240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Aerosol 1, H222, H229
Eye Irrit. 2, H319
STOT SE 3, H336
Aquatic Chronic 2, H411

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :



Signal word : Danger

SECTION 2: Hazards identification

Hazard statements	: H222, H229 - Extremely flammable aerosol. Pressurized container: may burst if heated. H319 - Causes serious eye irritation. H336 - May cause drowsiness or dizziness. H411 - Toxic to aquatic life with long lasting effects.
Precautionary statements	
General	: P103 - Read label before use. P102 - Keep out of reach of children. P101 - If medical advice is needed, have product container or label at hand.
Prevention	: P280 - Wear eye or face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P211 - Do not spray on an open flame or other ignition source. P271 - Use only outdoors or in a well-ventilated area. P273 - Avoid release to the environment. P261 - Avoid breathing dust or mist. P264 - Wash thoroughly after handling. P251 - Do not pierce or burn, even after use.
Response	: P391 - Collect spillage. P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention.
Storage	: P405 - Store locked up. P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
Disposal	: P501 - Dispose of waste according to applicable legislation.
Hazardous ingredients	: n-butyl acetate acetone ethyl acetate butan-1-ol
Supplemental label elements	: Not applicable.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	: Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII	: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Other hazards which do not result in classification	: Aspiration hazard - Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Mixtures	: Mixture
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RIEGLER Zinc spray bright grade

SECTION 3: Composition/information on ingredients

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
dimethyl ether	REACH #: 01-2119472128-37 EC: 204-065-8 CAS: 115-10-6 Index: 603-019-00-8	≥50 - ≤75	Flam. Gas 1A, H220 Press. Gas (Comp.), H280	[2]
n-butyl acetate	REACH #: 01-2119485493-29 EC: 204-658-1 CAS: 123-86-4 Index: 607-025-00-1	≤8.4	Flam. Liq. 3, H226 STOT SE 3, H336 EUH066	[1] [2]
zinc powder zinc dust (stabilised)	REACH #: 01-2119467174-37 EC: 231-175-3 CAS: 7440-66-6 Index: 030-001-01-9	≤10	Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)	[1] [2]
acetone	REACH #: 01-2119471330-49 EC: 200-662-2 CAS: 67-64-1 Index: 606-001-00-8	≤5.7	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066	[1] [2]
ethylbenzene	REACH #: 01-2119489370-35 EC: 202-849-4 CAS: 100-41-4 Index: 601-023-00-4	<10	Flam. Liq. 2, H225 Acute Tox. 4, H332 STOT RE 2, H373 (hearing organs) Asp. Tox. 1, H304	[1] [2]
aluminium powder (stabilised)	REACH #: 01-2119529243-45 EC: 231-072-3 CAS: 7429-90-5 Index: 013-002-00-1	≤10	Flam. Sol. 1, H228 Water-react. 2, H261	[2]
ethyl acetate	REACH #: 01-2119475103-46 EC: 205-500-4 CAS: 141-78-6 Index: 607-022-00-5	≤5.7	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066	[1] [2]
xylene	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9	≤7.3	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Chronic 3, H412	[1] [2]
butan-1-ol	REACH #: 01-2119484630-38 EC: 200-751-6 CAS: 71-36-3 Index: 603-004-00-6	≤2.6	Flam. Liq. 3, H226 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336	[1] [2]
Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates	REACH #: pre-registered EC: 269-662-8 CAS: 68308-64-5	≤0.3	Acute Tox. 4, H302 Acute Tox. 3, H311 Skin Corr. 1C, H314 Eye Dam. 1, H318	[1]

SECTION 3: Composition/information on ingredients

			Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1) See Section 16 for the full text of the H statements declared above.
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There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern
- [6] Additional disclosure due to company policy

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
 pain or irritation
 watering
 redness

SECTION 4: First aid measures

- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : No specific data.
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : Extremely flammable aerosol. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous combustion products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

SECTION 6: Accidental release measures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- 6.2 Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.
- 6.3 Methods and materials for containment and cleaning up** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- 6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance.

7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Avoid breathing vapor or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Seveso Directive - Reporting thresholds

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P3a	150 tonne	500 tonne
E2	200 tonne	500 tonne

SECTION 7: Handling and storage

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
dimethyl ether	<p>TRGS 900 OEL (Germany, 10/2020). TWA: 1900 mg/m³ 8 hours. PEAK: 15200 mg/m³ 15 minutes. TWA: 1000 ppm 8 hours. PEAK: 8000 ppm 15 minutes.</p> <p>DFG MAC-values list (Germany, 8/2020). TWA: 1000 ppm 8 hours. PEAK: 8000 ppm, 4 times per shift, 15 minutes. TWA: 1900 mg/m³ 8 hours. PEAK: 15200 mg/m³, 4 times per shift, 15 minutes.</p>
n-butyl acetate	<p>DFG MAC-values list (Germany, 8/2020). TWA: 100 ppm 8 hours. PEAK: 200 ppm, 4 times per shift, 15 minutes. TWA: 480 mg/m³ 8 hours. PEAK: 960 mg/m³, 4 times per shift, 15 minutes.</p> <p>TRGS 900 OEL (Germany, 10/2020). TWA: 300 mg/m³ 8 hours. TWA: 62 ppm 8 hours. PEAK: 600 mg/m³ 15 minutes. PEAK: 124 ppm 15 minutes.</p>
zinc powder zinc dust (stabilised)	<p>DFG MAC-values list (Germany, 7/2019). TWA: 2 mg/m³ 8 hours. Form: inhalable fraction PEAK: 4 mg/m³, 4 times per shift, 15 minutes. Form: inhalable fraction PEAK: 0.4 mg/m³, 4 times per shift, 15 minutes. Form: respirable fraction TWA: 0.1 mg/m³ 8 hours. Form: respirable fraction</p>
acetone	<p>TRGS 900 OEL (Germany, 10/2020). TWA: 1200 mg/m³ 8 hours. PEAK: 2400 mg/m³ 15 minutes. TWA: 500 ppm 8 hours. PEAK: 1000 ppm 15 minutes.</p> <p>DFG MAC-values list (Germany, 8/2020). TWA: 500 ppm 8 hours. PEAK: 1000 ppm, 4 times per shift, 15 minutes. TWA: 1200 mg/m³ 8 hours. PEAK: 2400 mg/m³, 4 times per shift, 15 minutes.</p>
ethylbenzene	<p>TRGS 900 OEL (Germany, 10/2020). Absorbed through skin. TWA: 88 mg/m³ 8 hours. PEAK: 176 mg/m³ 15 minutes. TWA: 20 ppm 8 hours. PEAK: 40 ppm 15 minutes.</p>

SECTION 8: Exposure controls/personal protection

	<p>DFG MAC-values list (Germany, 8/2020). Absorbed through skin. PEAK: 40 ppm, 4 times per shift, 15 minutes. PEAK: 176 mg/m³, 4 times per shift, 15 minutes. TWA: 88 mg/m³ 8 hours. TWA: 20 ppm 8 hours.</p>
aluminium powder (stabilised)	<p>TRGS 900 OEL (Germany, 3/2020). TWA: 1.25 mg/m³ 8 hours. Form: alveolar fraction PEAK: 2.5 mg/m³ 15 minutes. Form: alveolar fraction PEAK: 20 mg/m³ 15 minutes. Form: inhalable fraction TWA: 10 mg/m³ 8 hours. Form: inhalable fraction DFG MAC-values list (Germany, 7/2019). TWA: 4 mg/m³ 8 hours. Form: inhalable dust TWA: 1.5 mg/m³ 8 hours. Form: respirable dust</p>
ethyl acetate	<p>TRGS 900 OEL (Germany, 10/2020). TWA: 730 mg/m³ 8 hours. PEAK: 1460 mg/m³ 15 minutes. TWA: 200 ppm 8 hours. PEAK: 400 ppm 15 minutes. DFG MAC-values list (Germany, 8/2020). TWA: 200 ppm 8 hours. PEAK: 400 ppm, 4 times per shift, 15 minutes. TWA: 750 mg/m³ 8 hours. PEAK: 1500 mg/m³, 4 times per shift, 15 minutes.</p>
xylene	<p>TRGS 900 OEL (Germany, 10/2020). Absorbed through skin. TWA: 220 mg/m³ 8 hours. PEAK: 440 mg/m³ 15 minutes. TWA: 50 ppm 8 hours. PEAK: 100 ppm 15 minutes. DFG MAC-values list (Germany, 8/2020). Absorbed through skin. TWA: 50 ppm 8 hours. PEAK: 100 ppm, 4 times per shift, 15 minutes. TWA: 220 mg/m³ 8 hours. PEAK: 440 mg/m³, 4 times per shift, 15 minutes.</p>
butan-1-ol	<p>TRGS 900 OEL (Germany, 10/2020). TWA: 310 mg/m³ 8 hours. PEAK: 310 mg/m³ 15 minutes. TWA: 100 ppm 8 hours. PEAK: 100 ppm 15 minutes. DFG MAC-values list (Germany, 8/2020). TWA: 100 ppm 8 hours. PEAK: 100 ppm, 4 times per shift, 15 minutes. TWA: 310 mg/m³ 8 hours. PEAK: 310 mg/m³, 4 times per shift, 15 minutes.</p>

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance

SECTION 8: Exposure controls/personal protection

documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects	
dimethyl ether	DNEL	Long term Inhalation	471 mg/m ³	General population	Systemic	
	DNEL	Long term Inhalation	1894 mg/m ³	Workers	Systemic	
n-butyl acetate	DNEL	Long term Oral	3.4 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	3.4 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	7 mg/kg bw/day	Workers	Systemic	
	DNEL	Long term Inhalation	12 mg/m ³	General population	Systemic	
	DNEL	Long term Inhalation	48 mg/m ³	Workers	Systemic	
	DNEL	Long term Inhalation	102.34 mg/m ³	General population	Local	
	DNEL	Long term Inhalation	480 mg/m ³	Workers	Local	
	DNEL	Short term Inhalation	859.7 mg/m ³	General population	Local	
	DNEL	Short term Inhalation	859.7 mg/m ³	General population	Systemic	
	DNEL	Short term Inhalation	960 mg/m ³	Workers	Local	
	DNEL	Short term Inhalation	960 mg/m ³	Workers	Systemic	
	zinc powder zinc dust (stabilised)	DNEL	Long term Oral	0.83 mg/kg bw/day	General population	Systemic
		DNEL	Long term Inhalation	2.5 mg/m ³	General population	Systemic
		DNEL	Long term Inhalation	5 mg/m ³	Workers	Systemic
DNEL		Long term Dermal	83 mg/kg bw/day	General population	Systemic	
DNEL		Long term Dermal	83 mg/kg bw/day	Workers	Systemic	
acetone	DNEL	Long term Oral	62 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	62 mg/kg bw/day	General population	Systemic	

SECTION 8: Exposure controls/personal protection

ethylbenzene	DNEL	Long term Dermal	186 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	200 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	1210 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	2420 mg/m ³	Workers	Local
	DNEL	Long term Oral	1.6 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	15 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	77 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	180 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	293 mg/m ³	Workers	Local
	ethyl acetate	DMEL	Long term Inhalation	442 mg/m ³	Workers
DMEL		Short term Inhalation	884 mg/m ³	Workers	Systemic
DNEL		Long term Oral	4.5 mg/kg bw/day	General population	Systemic
DNEL		Long term Dermal	37 mg/kg bw/day	General population	Systemic
DNEL		Long term Dermal	63 mg/kg bw/day	Workers	Systemic
DNEL		Long term Inhalation	367 mg/m ³	General population	Local
DNEL		Long term Inhalation	367 mg/m ³	General population	Systemic
DNEL		Short term Inhalation	734 mg/m ³	General population	Local
DNEL		Short term Inhalation	734 mg/m ³	General population	Systemic
DNEL		Long term Inhalation	734 mg/m ³	Workers	Local
DNEL	Long term Inhalation	734 mg/m ³	Workers	Systemic	
DNEL	Short term Inhalation	1468 mg/m ³	Workers	Local	
DNEL	Short term Inhalation	1468 mg/m ³	Workers	Systemic	

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xylene	DNEL	Long term Oral	1.6 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	14.8 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	77 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	108 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	180 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	289 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	289 mg/m ³	Workers	Systemic
butan-1-ol	DNEL	Long term Oral	3.125 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	55 mg/m ³	General population	Local
	DNEL	Long term Inhalation	310 mg/m ³	Workers	Local

PNECs

No PNECs available.

8.2 Exposure controls

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. Recommended : 1 - 4 hours (breakthrough time): nitrile rubber 4 - 8 hours (breakthrough time): Viton®/butyl rubber

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- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended : organic vapor (Type AX) and particulate filter
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : Aerosol.
- Color** : Silver.
- Odor** : Benzene-like.
- Odor threshold** : Not available.
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : Not available.
- Flammability (solid, gas)** : Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
- Upper/lower flammability or explosive limits** : Lower: 3%
Upper: 18.6%
- Flash point** : Closed cup: Not applicable.
- Auto-ignition temperature** : Not applicable.
- Decomposition temperature** : Not available.
- pH** : Not applicable.
- Viscosity** : Not available.
- Solubility(ies)** : Insoluble in the following materials: cold water and hot water.
- Solubility in water** : Not available.
- Miscible with water** : No.
- Partition coefficient: n-octanol/ water** : Not applicable.

Vapor pressure

Ingredient name	Vapor Pressure at 20 °C			Vapor pressure at 50 °C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
dimethyl ether	3850	513.3				
acetone	180.01	24				
ethyl acetate	81.59	10.9				
n-butyl acetate	11.25	1.5	DIN EN 13016-2			
ethylbenzene	9.3	1.2				

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butan-1-ol	<7.5	<1	DIN EN 13016-2			
xylene	6.7	0.89				

Evaporation rate	: Not available.
Relative density	: Not available.
Density	: 0.81 g/cm ³ [20°C (68°F)]
Vapor density	: Not available.
Explosive properties	: Not available.
Oxidizing properties	: Not available.
<u>Particle characteristics</u>	
Median particle size	: Not applicable.
Fire point	: >200°C
SADT	: Not available.
SAPT	: Not available.
Heat of combustion	: 33.79 kJ/g
<u>Aerosol product</u>	
Type of aerosol	: Spray

SECTION 10: Stability and reactivity

10.1 Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: The product is stable.
10.3 Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: Avoid all possible sources of ignition (spark or flame).
10.5 Incompatible materials	: No specific data.
10.6 Hazardous decomposition products	: Forms explosive mixtures with air.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
dimethyl ether	LC50 Inhalation Gas.	Rat	164000 ppm	4 hours
	LC50 Inhalation Vapor	Rat	309 g/m ³	4 hours
n-butyl acetate	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Oral	Rat	10768 mg/kg	-
acetone	LD50 Oral	Rat	5800 mg/kg	-
ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
ethyl acetate	LD50 Oral	Rat	5620 mg/kg	-

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SECTION 11: Toxicological information

xylene	LD50 Oral	Rat	4300 mg/kg	-
butan-1-ol	LC50 Inhalation Vapor	Rat	24000 mg/m ³	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-

Conclusion/Summary : Not available.

Acute toxicity estimates

Route	ATE value
Oral	46777.88 mg/kg
Dermal	21210.45 mg/kg
Inhalation (vapors)	118.42 mg/l

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
n-butyl acetate	Eyes - Moderate irritant	Rabbit	-	100 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
zinc powder zinc dust (stabilised)	Skin - Mild irritant	Human	-	72 hours 300 ug l	-
acetone	Eyes - Mild irritant	Human	-	186300 ppm	-
	Eyes - Mild irritant	Rabbit	-	10 uL	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Severe irritant	Rabbit	-	20 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
ethylbenzene	Skin - Mild irritant	Rabbit	-	395 mg	-
	Eyes - Severe irritant	Rabbit	-	500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 mg	-
xylene	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Mild irritant	Rat	-	8 hours 60 uL	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Moderate irritant	Rabbit	-	100 %	-
butan-1-ol	Eyes - Severe irritant	Rabbit	-	24 hours 2 mg	-
	Eyes - Severe irritant	Rabbit	-	0.005 MI	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-

SECTION 11: Toxicological information

Conclusion/Summary : Not available.

Sensitization

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
n-butyl acetate	Category 3	-	Narcotic effects
acetone	Category 3	-	Narcotic effects
ethyl acetate	Category 3	-	Narcotic effects
xylene	Category 3	-	Respiratory tract irritation
butan-1-ol	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
ethylbenzene	Category 2	-	hearing organs

Aspiration hazard

Product/ingredient name	Result
ethylbenzene	ASPIRATION HAZARD - Category 1
xylene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact : No known significant effects or critical hazards.

Ingestion : Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

SECTION 11: Toxicological information

Inhalation	: Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness
Skin contact	: No specific data.
Ingestion	: No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects	: Not available.
Potential delayed effects	: Not available.

Long term exposure

Potential immediate effects	: Not available.
Potential delayed effects	: Not available.

Potential chronic health effects

Not available.

Conclusion/Summary	: Not available.
General	: No known significant effects or critical hazards.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
n-butyl acetate	Acute LC50 32 mg/l Marine water	Crustaceans - Artemia salina	48 hours
	Acute LC50 18000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
zinc powder zinc dust (stabilised)	Acute EC50 0.005 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 10000 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
	Acute IC50 65 µg/l Marine water	Algae - Nitzschia closterium - Exponential growth phase	4 days
	Acute LC50 65 µg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 68 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 12.21 µg/l Marine water	Fish - Periophthalmus waltoni - Adult	96 hours

SECTION 12: Ecological information

acetone	Chronic EC10 27.3 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Chronic EC10 59.2 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 9 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum	3 days
	Chronic NOEC 178 µg/l Marine water	Crustaceans - Palaemon elegans	21 days
	Chronic NOEC 2.6 µg/l Fresh water	Fish - Cyprinus carpio	4 weeks
	Acute EC50 20.565 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute LC50 4.42589 ml/L Marine water	Crustaceans - Acartia tonsa - Copepodid	48 hours
	Acute LC50 10000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
ethylbenzene	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 5 µg/l Marine water	Fish - Gasterosteus aculeatus - Larvae	42 days
	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
ethyl acetate	Acute EC50 6.53 mg/l Marine water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 2.93 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute EC50 2500000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 750000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 154000 µg/l Fresh water	Daphnia - Daphnia cucullata	48 hours
	Acute LC50 212500 µg/l Fresh water	Fish - Heteropneustes fossilis	96 hours
	Chronic NOEC 2400 µg/l Fresh water	Daphnia - Daphnia magna	21 days
xylene	Chronic NOEC 75.6 mg/l Fresh water	Fish - Pimephales promelas - Embryo	32 days
	Acute EC50 90 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
butan-1-ol	Acute EC50 1983 mg/l Fresh water	Daphnia - Daphnia magna	48 hours

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SECTION 12: Ecological information

	Acute LC50 1730000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
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Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
dimethyl ether	0.07	-	low
n-butyl acetate	2.3	-	low
acetone	-0.23	-	low
ethylbenzene	3.6	-	low
ethyl acetate	0.68	30	low
xylene	3.12	8.1 to 25.9	low
butan-1-ol	1	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

European waste catalogue (EWC)

Waste code	Waste designation
16 05 04*	gases in pressure containers (including halons) containing hazardous substances

Packaging

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.






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SECTION 13: Disposal considerations

Type of packaging	European waste catalogue (EWC)
15 01 04	metallic packaging

Special precautions : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number	UN1950	UN1950	UN1950
14.2 UN proper shipping name	AEROSOLS	AEROSOLS	Aerosols, flammable
14.3 Transport hazard class(es)	2  	2.1  	2.1 
14.4 Packing group	-	-	-
14.5 Environmental hazards	Yes. Zinc powder - zinc dust (stabilized)	Yes. Zinc powder - zinc dust (stabilized)	Yes. The environmentally hazardous substance mark is not required.

Additional information

- ADR/RID** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Limited quantity 1 L
Special provisions 190, 327, 625, 344
Tunnel code (D)
ADR Classification Code: 5F
- IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Emergency schedules F-D, S-U
Special provisions 63, 190, 277, 327, 344, 381, 959
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.
Quantity limitation Passenger and Cargo Aircraft: 75 kg. Packaging instructions: 203. Cargo Aircraft Only: 150 kg. Packaging instructions: 203. Limited Quantities - Passenger Aircraft: 30 kg. Packaging instructions: Y203.
Special provisions A145, A167, A802

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions : Not applicable.
**on the manufacture,
placing on the market
and use of certain
dangerous substances,
mixtures and articles**

Restrictions on Manufacture, Marketing and Use

Product name	CAS #	%	Restriction
ethylbenzene	100-41-4	1 - 10	3
xylene	1330-20-7	1 - 10	3

Other EU regulations

Industrial emissions : Listed
**(integrated pollution
prevention and control) -
Air**

Industrial emissions : Listed
**(integrated pollution
prevention and control) -
Water**

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

Aerosol dispensers :

3



Extremely flammable

VOC content : 82.2 %

VOC (g/L) : 669.5

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

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SECTION 15: Regulatory information

Category

P3a
E2

National regulations

Product/ingredient name	List name	Name on list	Classification	Notes
dimethyl ether	DFG MAC-values list	Dimethyl ether; Methyl ether	Listed	-
n-butyl acetate	DFG MAC-values list	n-Butyl acetate	Listed	-
zinc powder zinc dust (stabilised)	DFG MAC-values list	Zinc and its inorganic compounds (inhalable fraction) / (respirable fraction)	Listed	-
acetone	DFG MAC-values list	Acetone	RE2	-
ethylbenzene	DFG MAC-values list	Ethylbenzene	K3	-
aluminium powder (stabilised)	DFG MAC-values list	Aluminium, Aluminium oxide and Aluminium hydroxide, containing dusts (inhalable fraction) / (respirable fraction)	Listed	-
ethyl acetate	DFG MAC-values list	Ethyl acetate	Listed	-
xylene	DFG MAC-values list	Xylene (all isomers)	Listed	-
butan-1-ol	DFG MAC-values list	n-Butyl alcohol; n-Butanol	Listed	-

Storage class (TRGS 510) : 2B

Hazardous incident ordinance

This product is controlled under the Germany Hazardous Incident Ordinance.

Danger criteria

Category	Reference number
P3a	1.2.3.1
E2	1.3.2

Hazard class for water : 2

Technical instruction on air quality control : TA-Luft Number 5.2.5: 55-100%
TA-Luft Class III - Number 5.2.2: 2.5-10%
TA-Luft Class I - Number 5.2.5: 1-10%

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : All components are listed or exempted.

Canada : All components are listed or exempted.

China : All components are listed or exempted.

SECTION 15: Regulatory information

Europe	: All components are listed or exempted.
Japan	: All components are listed or exempted.
New Zealand	: All components are listed or exempted.
Philippines	: All components are listed or exempted.
Republic of Korea	: All components are listed or exempted.
Taiwan	: All components are listed or exempted.
Turkey	: All components are listed or exempted.
United States	: All components are active or exempted.
Viet Nam	: All components are listed or exempted.

15.2 Chemical Safety Assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

🔍 Indicates information that has changed from previously issued version.

Abbreviations and acronyms	: ATE = Acute Toxicity Estimate CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008] DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level EUH statement = CLP-specific Hazard statement N/A = Not available PBT = Persistent, Bioaccumulative and Toxic PNEC = Predicted No Effect Concentration RRN = REACH Registration Number SGG = Segregation Group vPvB = Very Persistent and Very Bioaccumulative
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Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Aerosol 1, H222, H229	On basis of test data
Eye Irrit. 2, H319	Calculation method
STOT SE 3, H336	Calculation method
Aquatic Chronic 2, H411	Calculation method

Full text of abbreviated H statements

H220	Extremely flammable gas.
H222, H229	Extremely flammable aerosol. Pressurized container: may burst if heated.
H225	Highly flammable liquid and vapor.
H226	Flammable liquid and vapor.
H228	Flammable solid.
H261	In contact with water releases flammable gas.
H280	Contains gas under pressure; may explode if heated.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

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SECTION 16: Other information

H411 H412 EUH066	Toxic to aquatic life with long lasting effects. Harmful to aquatic life with long lasting effects. Repeated exposure may cause skin dryness or cracking.
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Full text of classifications [CLP/GHS]

Acute Tox. 3 Acute Tox. 4 Aerosol 1 Aquatic Acute 1 Aquatic Chronic 1 Aquatic Chronic 2 Aquatic Chronic 3 Asp. Tox. 1 Eye Dam. 1 Eye Irrit. 2 Flam. Gas 1A Flam. Liq. 2 Flam. Liq. 3 Flam. Sol. 1 Press. Gas (Comp.) Skin Corr. 1C Skin Irrit. 2 STOT RE 2 STOT SE 3 Water-react. 2	ACUTE TOXICITY - Category 3 ACUTE TOXICITY - Category 4 AEROSOLS - Category 1 AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 2 AQUATIC HAZARD (LONG-TERM) - Category 3 ASPIRATION HAZARD - Category 1 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 FLAMMABLE GASES - Category 1A FLAMMABLE LIQUIDS - Category 2 FLAMMABLE LIQUIDS - Category 3 FLAMMABLE SOLIDS - Category 1 GASES UNDER PRESSURE - Compressed gas SKIN CORROSION/IRRITATION - Category 1C SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 3 SUBSTANCES AND MIXTURES, WHICH IN CONTACT WITH WATER, EMIT FLAMMABLE GASES - Category 2
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