

SAFETY DATA SHEET



Zinc Spray bright grade

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

1.1 Product identifier

Product name : Zinc Spray bright grade
UFI : Q580-80AR-W006-PVAU
Product code : 110010
Colour : 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

WEICON GmbH & Co. KG
Königsberger Str. 255
48157 Münster
Germany
Phone: +49 251 93220
Fax: +49(0)251 / 9322 - 244
Internet: www.weicon.de

e-mail address of person responsible for this SDS : msds@weicon.de

1.4 Emergency telephone number

Telephone number : EMERGENCY CONTACT – UK, UAE, South Africa (24h): Tel: ++44 1865 407333 (English)
TRANSPORT EMERGENCY CONTACT - UK, UAE, South Africa (24h): Tel: ++44 1865 407333 (English)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to UK CLP/GHS

Aerosol 1, H222, H229
Skin Irrit. 2, H315
Eye Irrit. 2, H319
Aquatic Acute 1, H400
Aquatic Chronic 1, H410

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 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

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SECTION 2: Hazards identification

Hazard statements : Extremely flammable aerosol. Pressurised container: may burst if heated.
Causes skin irritation.
Causes serious eye irritation.
Very toxic to aquatic life with long lasting effects.

Precautionary statements

General : Read carefully and follow all instructions. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Avoid release to the environment. Wash thoroughly after handling. Do not pierce or burn, even after use.

Response : Collect spillage. Take off contaminated clothing and wash it before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.

Storage : Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Disposal : Dispose of waste according to applicable legislation.

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 : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification	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]
xylene	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9	≤10	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315	[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=10) Aquatic Chronic 1, H410 (M=10)	[1]
n-butyl acetate	REACH #: 01-2119485493-29 EC: 204-658-1 CAS: 123-86-4 Index: 607-025-00-1	≤5.9	Flam. Liq. 3, H226 STOT SE 3, H336 EUH066	[1] [2]
ethyl acetate	REACH #:	≤5.9	Flam. Liq. 2, H225	[1] [2]

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SECTION 3: Composition/information on ingredients

acetone	01-2119475103-46 EC: 205-500-4 CAS: 141-78-6 Index: 607-022-00-5 REACH #: 01-2119471330-49 EC: 200-662-2 CAS: 67-64-1 Index: 606-001-00-8	≤5.9	Eye Irrit. 2, H319 STOT SE 3, H336 EUH066 Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 Aquatic Chronic 1, H410 (M=10) EUH066	[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]
Hydrocarbons, C10-13, n-alkanes, isoalkanes, cycloalkanes, <2% aromatics	REACH #: 01-2119457273-39 EC: 918-481-9 CAS: -	≤10	Asp. Tox. 1, H304	[1]
butan-1-ol	REACH #: 01-2119484630-38 EC: 200-751-6 CAS: 71-36-3 Index: 603-004-00-6	≤2.1	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	EC: 269-662-8 CAS: 68308-64-5	≤0.2	Acute Tox. 4, H302 Acute Tox. 3, H311 Skin Corr. 1C, H314 Eye Dam. 1, H318 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.	[1]

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

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 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 adverse health effects persist or are severe. 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. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

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SECTION 4: First aid measures

- 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 adverse health effects persist or are severe. 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. 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
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- 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 very 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

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SECTION 5: Firefighting measures

- 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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- 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 pressurised 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 spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised 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 spilt 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 material 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). Pressurised container: protect from sunlight and do not expose to temperature 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 vapour 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

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SECTION 7: Handling and storage

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. 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
E1	100 tonne	200 tonne

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
dimethyl ether	EH40/2005 WELs (United Kingdom (UK), 1/2020). STEL: 958 mg/m ³ 15 minutes. STEL: 500 ppm 15 minutes. TWA: 400 ppm 8 hours. TWA: 766 mg/m ³ 8 hours.
xylene	EH40/2005 WELs (United Kingdom (UK), 1/2020). [xylene, o-,m-,p- or mixed isomers] Absorbed through skin. STEL: 441 mg/m ³ 15 minutes. TWA: 50 ppm 8 hours. TWA: 220 mg/m ³ 8 hours. STEL: 100 ppm 15 minutes.
n-butyl acetate	EH40/2005 WELs (United Kingdom (UK), 1/2020). STEL: 966 mg/m ³ 15 minutes. STEL: 200 ppm 15 minutes. TWA: 724 mg/m ³ 8 hours. TWA: 150 ppm 8 hours.
ethyl acetate	EH40/2005 WELs (United Kingdom (UK), 1/2020). STEL: 400 ppm 15 minutes. TWA: 200 ppm 8 hours. STEL: 1468 mg/m ³ 15 minutes. TWA: 734 mg/m ³ 8 hours.
acetone	EH40/2005 WELs (United Kingdom (UK), 1/2020). STEL: 3620 mg/m ³ 15 minutes. STEL: 1500 ppm 15 minutes. TWA: 500 ppm 8 hours. TWA: 1210 mg/m ³ 8 hours.
aluminium powder (stabilised)	EH40/2005 WELs (United Kingdom (UK), 1/2020). TWA: 4 mg/m ³ 8 hours. Form: respirable dust TWA: 10 mg/m ³ 8 hours. Form: inhalable dust
butan-1-ol	EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin. STEL: 154 mg/m ³ 15 minutes. STEL: 50 ppm 15 minutes.

Recommended monitoring procedures : Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

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SECTION 8: Exposure controls/personal protection

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	
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	
	DNEL	Long term Inhalation	65.3 mg/m ³	General population	Local	
	DNEL	Short term Inhalation	260 mg/m ³	General population	Local	
	DNEL	Short term Inhalation	260 mg/m ³	General population	Systemic	
	DNEL	Long term Inhalation	221 mg/m ³	Workers	Local	
	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	
n-butyl acetate	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	Short term Oral	2 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Oral	2 mg/kg bw/day	General population	Systemic	
	DNEL	Short term Dermal	6 mg/kg bw/day	General population	Systemic	
	DNEL	Short term Dermal	11 mg/kg bw/day	Workers	Systemic	
	DNEL	Long term Inhalation	35.7 mg/m ³	General population	Local	
	DNEL	Short term Inhalation	300 mg/m ³	General population	Local	
	DNEL	Short term Inhalation	300 mg/m ³	General population	Systemic	
	DNEL	Long term Inhalation	300 mg/m ³	Workers	Local	

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SECTION 8: Exposure controls/personal protection

ethyl acetate	DNEL	Short term Inhalation	600 mg/m ³	Workers	Local	
	DNEL	Short term Inhalation	600 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	
	DNEL	Long term Oral	62 mg/kg bw/day	General population	Systemic	
	acetone	DNEL	Long term Dermal	62 mg/kg bw/day	General population	Systemic
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	
aluminium powder (stabilised)		DNEL	Long term Inhalation	3.72 mg/m ³	Workers	Local
		DNEL	Long term Inhalation	3.72 mg/m ³	Workers	Systemic
		DNEL	Long term Oral	3.95 mg/kg bw/day	General population	Systemic
butan-1-ol		DNEL	Long term Inhalation	55 mg/m ³	General population	Local
		DNEL	Long term Inhalation	310 mg/m ³	Workers	Local
		DNEL	Long term Oral	1.5625 mg/kg bw/day	General population	Systemic
		DNEL	Long term Dermal	3.125 mg/kg bw/day	General population	Systemic
		DNEL	Long term Inhalation	55.357 mg/m ³	General population	Systemic

PNECs

No PNECs available

8.2 Exposure controls

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SECTION 8: Exposure controls/personal protection

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, 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, vapour 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

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.

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 vapour (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.

Colour : Silver.

Odour : Benzene-like.

Odour threshold : Not available.

Melting point/freezing point : Not applicable.

Initial boiling point and boiling range : Not available.

Flammability : Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.

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SECTION 9: Physical and chemical properties

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 applicable.
Solubility(ies)	: Not available.
Solubility in water	: Not available.
Miscible with water	: No.
Partition coefficient: n-octanol/ water	: Not applicable.
Vapour pressure	: Not available.
Relative density	: Not applicable.
Density	: 0.81 g/cm ³ [20°C (68°F)]
Vapour density	: Not available.
Explosive properties	: Not available.
Oxidising 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	: 31.78 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	: Under normal conditions of storage and use, hazardous decomposition products should not be produced. Forms explosive mixtures with air.

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
-	LC50 Inhalation Gas.	Rat	164000 ppm	4 hours
-	LC50 Inhalation Vapour	Rat	309 g/m ³	4 hours
-	LD50 Oral	Mouse	2119 mg/kg	-
-	LD50 Oral	Rat	4300 mg/kg	-
-	LD50 Oral	Rat	4300 mg/kg	-
-	LDLo Oral	Human	50 mg/kg	-
-	LDLo Oral	Human	50 mg/kg	-
-	TDL ₀ Dermal	Mouse	727.3 uL/kg	-
-	TDL ₀ Dermal	Rabbit	4300 mg/kg	-
-	LC50 Inhalation Vapour	Rat - Male, Female	>21 mg/l	4 hours
-	LD50 Dermal	Rabbit	>17600 mg/kg	-
-	LD50 Oral	Rat	10768 mg/kg	-
-	LD50 Oral	Rat	5620 mg/kg	-
-	LD50 Oral	Rat	5800 mg/kg	-
-	LC50 Inhalation Vapour	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	9549.12 mg/kg
Dermal	2695.37 mg/kg
Inhalation (vapours)	131.55 mg/l

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
-	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	-	100 %	-
-	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
-	Skin - Mild irritant	Human	-	72 hours 300 ug l	-

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SECTION 11: Toxicological information

-	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	-	395 mg	-
-	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
-	Eyes - Severe irritant	Rabbit	-	0.005 MI	-
-	Eyes - Severe irritant	Rabbit	-	24 hours 2 mg	-
-	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-

Conclusion/Summary : Not available.

Sensitisation

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
ethyl acetate	Category 3	-	Narcotic effects
acetone	Category 3	-	Narcotic effects
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
Not available.			

Aspiration hazard

Product/ingredient name	Result
Hydrocarbons, C10-13, n-alkanes, isoalkanes, cycloalkanes, <2% aromatics	ASPIRATION HAZARD - Category 1

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SECTION 11: Toxicological information

Information on likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.
Inhalation : No known significant effects or critical hazards.
Skin contact : Causes skin irritation.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness
Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
Skin contact : Adverse symptoms may include the following:
irritation
redness
Ingestion : No specific data.

Delayed and immediate effects as well as 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

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SECTION 12: Ecological information

Product/ingredient name	Result	Species	Exposure
Crustaceans - <i>Cypris subglobosa</i>	Acute EC50 90 mg/l Fresh water	-	48 hours
Crustaceans - <i>Palaemonetes pugio</i> - Adult	Acute LC50 8.5 ppm Marine water		48 hours
Crustaceans - <i>Palaemonetes pugio</i>	Acute LC50 8500 µg/l Marine water		48 hours
Fish - <i>Carassius auratus</i>	Acute LC50 16940 µg/l Fresh water		96 hours
Fish - <i>Lepomis macrochirus</i> - Juvenile (Fledgling, Hatchling, Weanling)	Acute LC50 15700 µg/l Fresh water		96 hours
Fish - <i>Lepomis macrochirus</i>	Acute LC50 20870 µg/l Fresh water		96 hours
Fish - <i>Lepomis macrochirus</i>	Acute LC50 19000 µg/l Fresh water		96 hours
Fish - <i>Pimephales promelas</i>	Acute LC50 13400 µg/l Fresh water		96 hours
Aquatic plants - <i>Lemna minor</i>	Acute EC50 10000 µg/l Fresh water	-	4 days
Algae - <i>Nitzschia closterium</i> - Exponential growth phase	Acute IC50 65 µg/l Marine water		4 days
Crustaceans - <i>Ceriodaphnia dubia</i> - Neonate	Acute LC50 65 µg/l Fresh water		48 hours
Daphnia - <i>Daphnia magna</i>	Acute LC50 68 µg/l Fresh water		48 hours
Fish - <i>Periophthalmus waltoni</i> - Adult	Acute LC50 12.21 µg/l Marine water		96 hours
Daphnia - <i>Daphnia magna</i>	Chronic EC10 59.2 µg/l Fresh water		21 days
Algae - <i>Ulva pertusa</i>	Chronic NOEC 0.25 mg/l Marine water		96 hours
Aquatic plants - <i>Ceratophyllum demersum</i>	Chronic NOEC 9 mg/l Fresh water		3 days
Crustaceans - <i>Palaemon elegans</i>	Chronic NOEC 178 µg/l Marine water		21 days
Fish - <i>Cyprinus carpio</i>	Chronic NOEC 2.6 µg/l Fresh water		4 weeks
Crustaceans - <i>Artemia salina</i>	Acute LC50 32 mg/l Marine water	-	48 hours
Fish - <i>Danio rerio</i>	Acute LC50 62000 µg/l Fresh water		96 hours
Fish - <i>Lepomis macrochirus</i>	Acute LC50 100000 µg/l Fresh water		96 hours
Fish - <i>Menidia beryllina</i>	Acute LC50 185000 µg/l Marine water		96 hours
Fish - <i>Pimephales promelas</i>	Acute LC50 18000 µg/l Fresh water		96 hours
Algae - <i>Selenastrum sp.</i>	Acute EC50 2500000 µg/l Fresh water	-	96 hours
Crustaceans - <i>Gammarus pulex</i>	Acute LC50 750000 µg/l Fresh water		48 hours
Daphnia - <i>Daphnia cucullata</i>	Acute LC50 154000 µg/l Fresh water		48 hours

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SECTION 12: Ecological information

Fish - <i>Heteropneustes fossilis</i>	Acute LC50 212500 µg/l Fresh water	96 hours
Daphnia - <i>Daphnia magna</i>	Chronic NOEC 2400 µg/l Fresh water	21 days
Fish - <i>Pimephales promelas</i> - Embryo	Chronic NOEC 75.6 mg/l Fresh water	32 days
Algae - <i>Navicula seminulum</i>	Acute EC50 11493300 µg/l Fresh water	96 hours
Algae - <i>Navicula seminulum</i>	Acute EC50 11727900 µg/l Fresh water	96 hours
Algae - <i>Selenastrum sp.</i>	Acute EC50 7200000 µg/l Fresh water	96 hours
Algae - <i>Ulva pertusa</i>	Acute EC50 20.565 mg/l Marine water	96 hours
Crustaceans - <i>Acartia tonsa</i> - Copepodid	Acute LC50 4.42589 ml/L Marine water	48 hours
Crustaceans - <i>Asellus aquaticus</i>	Acute LC50 7550000 µg/l Fresh water	48 hours
Crustaceans - <i>Ceriodaphnia dubia</i> - Neonate	Acute LC50 8098000 µg/l Fresh water	48 hours
Crustaceans - <i>Gammarus pulex</i> - Juvenile (Fledgling, Hatchling, Weanling)	Acute LC50 11.26487 ml/L Fresh water	48 hours
Crustaceans - <i>Gammarus pulex</i>	Acute LC50 6000000 µg/l Fresh water	48 hours
Daphnia - <i>Daphnia cucullata</i>	Acute LC50 7460000 µg/l Fresh water	48 hours
Daphnia - <i>Daphnia cucullata</i>	Acute LC50 7810000 µg/l Fresh water	48 hours
Daphnia - <i>Daphnia magna</i>	Acute LC50 10000 µg/l Fresh water	48 hours
Daphnia - <i>Daphnia magna</i> - Neonate	Acute LC50 9218000 µg/l Fresh water	48 hours
Daphnia - <i>Daphnia pulex</i>	Acute LC50 8800000 µg/l Fresh water	48 hours
Fish - <i>Oncorhynchus mykiss</i>	Acute LC50 8000 ppm Fresh water	96 hours
Fish - <i>Pimephales promelas</i>	Acute LC50 7280000 µg/l Fresh water	96 hours
Fish - <i>Pimephales promelas</i>	Acute LC50 8120000 µg/l Fresh water	96 hours
Fish - <i>Pimephales promelas</i>	Acute LC50 6210000 µg/l Fresh water	96 hours
Fish - <i>Poecilia reticulata</i>	Acute LC50 5600 ppm Fresh water	96 hours
Algae - <i>Karenia brevis</i>	Chronic NOEC 0.5 ml/L Marine water	96 hours
Algae - <i>Skeletonema costatum</i>	Chronic NOEC 100 ul/L Marine water	72 hours
Algae - <i>Skeletonema costatum</i>	Chronic NOEC 100 ul/L Marine water	96 hours
Algae - <i>Ulva pertusa</i>	Chronic NOEC 4.95 mg/l Marine water	96 hours
Crustaceans - <i>Daphniidae</i>	Chronic NOEC 0.016 ml/L Fresh water	21 days
Daphnia - <i>Daphnia magna</i> -	Chronic NOEC 0.1 ml/L Fresh water	21 days

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SECTION 12: Ecological information

Neonate			
Fish - <i>Gasterosteus aculeatus</i> - Larvae	Chronic NOEC 5 µg/l Marine water		42 days
Aquatic plants - <i>Ceratophyllum demersum</i>	Chronic NOEC 9 mg/l Fresh water	-	3 days
Daphnia - <i>Daphnia magna</i>	Acute EC50 1983 mg/l Fresh water	-	48 hours
Fish - <i>Pimephales promelas</i>	Acute LC50 1730000 µg/l Fresh water		96 hours

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Not available.			

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 minimised 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.






Packaging

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

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.

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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

UK (GB)/REACH

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

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SECTION 15: Regulatory information

Ozone depleting substances

Not listed.

Prior Informed Consent (PIC)

Not listed.

Persistent Organic Pollutants

Not listed.

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

Aerosol dispensers :

**UK
CA**



Extremely flammable

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category
P3a
E1

EU regulations

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

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

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.

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SECTION 15: Regulatory information

Inventory list

Australia	: All components are listed or exempted.
Canada	: Not determined.
China	: All components are listed or exempted.
Eurasian Economic Union	: Russian Federation inventory : Not determined.
Japan	: Japan inventory (CSCL) : All components are listed or exempted. Japan inventory (ISHL) : Not determined.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: Not determined.
Thailand	: Not determined.
Turkey	: Not determined.
United States	: All components are active or exempted.
Viet Nam	: Not determined.
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 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Chronic 2, H411	On basis of test data Calculation method Calculation method Calculation method

Full text of abbreviated H statements

H220 H222, H229	Extremely flammable gas. Extremely flammable aerosol. Pressurised container: may burst if heated.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H261	In contact with water releases flammable gases.
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.

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SECTION 16: Other information

H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Full text of classifications [CLP/GHS]

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

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