Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 29.11.2021 Version number 9 (replaces version 8) Revision: 29.11.2021

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

· **1.1 Product identifier**
· Trade name: **Zinc Spray**

· Article number: 90213
· UFI: KHSG-1Y58-HC87-KR5R
· **1.2 Relevant identified uses of the substance or mixture and uses advised against** No further relevant information available.
· Application of the substance / the mixture Spray varnish

· **1.3 Details of the supplier of the safety data sheet**
· Manufacturer/Supplier: AKEMI chemisch technische Spezialfabrik GmbH
Lechstrasse 28
D 90451 Nürnberg
Tel. +49(0)911-642960
Fax. +49(0)911-644456
e-mail info@akemi.de

· Further information obtainable from: Laboratory
· **1.4 Emergency telephone number:** Product Safety Department AKEMI chemisch technische Spezialfabrik GmbH
Tel. +49(0)911-64296-59
Reachable during the following office hours:
Monday – Thursday from 07:30 a.m. to 16:30 p.m.
Friday from 07:30 a.m. to 13:30 p.m.

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SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· Classification according to Regulation (EC) No 1272/2008

Aerosol 1	H222-H229	Extremely flammable aerosol. Pressurised container: May burst if heated.
Eye Irrit. 2	H319	Causes serious eye irritation.
STOT SE 3	H336	May cause drowsiness or dizziness.
Asp. Tox. 1	H304	May be fatal if swallowed and enters airways.
Aquatic Acute 1	H400	Very toxic to aquatic life.
Aquatic Chronic 1	H410	Very toxic to aquatic life with long lasting effects.

· Response: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF exposed or concerned: Get medical advice/attention.
· Storage: Store in a well-ventilated place. Keep cool.
Store in a well-ventilated place. Keep container tightly closed.
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

· **2.2 Label elements**
· Labelling according to Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation.
· Hazard pictograms

GHS02 GHS07 GHS09

· Signal word Danger

· Hazard-determining components of labelling: acetone
reaction mass of ethylbenzole and xylole
Hydrocarbons, C9, aromatics
propan-2-ol

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· Hazard statements
H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H410 Very toxic to aquatic life with long lasting effects.

· Precautionary statements
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read carefully and follow all instructions.
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.
P251 Do not pierce or burn, even after use.
P260 Do not breathe spray.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves / eye protection.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Additional information:
Contains 2-butanone oxime. May produce an allergic reaction.
Product contains: Reportable explosives precursors. Making available, introduction, possession and use according to Regulation (EU) 2019/1148, Article 9.

· **2.3 Other hazards**
· Results of PBT and vPvB assessment
· PBT: Not applicable.
· vPvB: Not applicable.

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SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**
· Description: Mixture of substances listed below with nonhazardous additions.

· Dangerous components:

CAS: 7440-66-6 EINECS: 231-175-3 Index number: 030-001-01-9 Reg.nr.: 01-2119467174-37	zinc powder -zinc dust (stabilized) Aquatic Acute 1, H400; Aquatic Chronic 1, H410	25-50%
CAS: 67-64-1 EINECS: 200-662-2 Index number: 606-001-00-8 Reg.nr.: 01-2119471330-49	acetone Flam. Liq. 2, H225 Eye Irrit. 2, H319; STOT SE 3, H336 EUH066	12.5-25%
CAS: 74-98-6 EINECS: 200-827-9 Index number: 601-003-00-5 Reg.nr.: 01-2119486944-21	propane Flam. Gas 1A, H220 Acute Tox. 1, H330 Press. Gas (Comp.), H280	12.5-25%
EC number: 905-588-0 Index number: 601-022-00-9 Reg.nr.: 01-2119488216-32 01-2119486136-34	reaction mass of ethylbenzole and xylole Flam. Liq. 3, H226 STOT RE 2, H373; Asp. Tox. 1, H304 Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	1-5%

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EC number: 918-668-5 Index number: 649-356-00-4 Reg.nr.: 01-2119455851-35	Hydrocarbons, C9, aromatics Flam. Liq. 3, H226 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 STOT SE 3, H335-H336	1-5%
CAS: 1314-13-2 EINECS: 215-222-5 Index number: 030-013-00-7 Reg.nr.: 01-2119463881-32	zinc oxide Aquatic Acute 1, H400; Aquatic Chronic 1, H410	1-5%
CAS: 67-63-0 EINECS: 200-661-7 Index number: 603-117-00-0 Reg.nr.: 01-2119457558-25-xxxx	propan-2-ol Flam. Liq. 2, H225 Eye Irrit. 2, H319; STOT SE 3, H336	1-5%
CAS: 106-97-8 EINECS: 203-448-7 Index number: 601-004-00-0 Reg.nr.: 01-2119474691-32	butane, pure Flam. Gas 1A, H220; Flam. Liq. 1, H224 Press. Gas (Comp.), H280	1-5%

· Additional information: For the wording of the listed hazard phrases refer to section 16.

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SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· General information: Immediately remove any clothing soiled by the product.

· After inhalation: Supply fresh air; consult doctor in case of complaints.

· After skin contact: Immediately wash with water and soap and rinse thoroughly.

· After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· After swallowing: Do not induce vomiting; call for medical help immediately.

· Information for doctor: Therapy in hydrocarbons intoxication: In case of inhalation provision of fresh air; in case of peroral intake administration of Carbo medicinalis; only after intubation conduct of gastrolavage in application of Carbo medicinalis; in case of cramps administration of Diazepam 20 mg intravenously.

· **4.2 Most important symptoms and effects, both acute and delayed**

Headache
Dizziness
Dizziness

· **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· Suitable extinguishing agents: CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· For safety reasons unsuitable extinguishing agents: Water with full jet

· **5.2 Special hazards arising from the substance or mixture**

In case of fire, the following can be released:
Carbon monoxide (CO)
Formation of toxic gases is possible during heating or in case of fire.

· **5.3 Advice for firefighters**

· Protective equipment: Mount respiratory protective device.

· Additional information Cool endangered receptacles with water spray.

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Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures** Wear protective equipment. Keep unprotected persons away.

· **6.2 Environmental precautions:** Inform respective authorities in case of seepage into water course or sewage system.
Do not allow product to reach sewage system or any water course.
Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
Dispose contaminated material as waste according to item 13.

· **6.4 Reference to other sections** See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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SECTION 7: Handling and storage

· **7.1 Precautions for safe handling** Keep away from heat and direct sunlight.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.

· Information about fire - and explosion protection: Fumes can combine with air to form an explosive mixture.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.
Do not spray onto a naked flame or any incandescent material.

· **7.2 Conditions for safe storage, including any incompatibilities**

· Storage:

· Requirements to be met by storerooms and receptacles: Store in a cool location.
Observe official regulations on storing packagings with pressurised containers.

· Information about storage in one common storage facility: Store away from foodstuffs.

· Further information about storage conditions: Keep container tightly sealed.
Do not seal receptacle gas tight.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.

· Storage class: 2 B

· **7.3 Specific end use(s)** No further relevant information available.

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* **SECTION 8: Exposure controls/personal protection**

· **8.1 Control parameters**

· Ingredients with limit values that require monitoring at the workplace:

67-64-1 acetone	
WEL	Short-term value: 3620 mg/m³, 1500 ppm Long-term value: 1210 mg/m³, 500 ppm
67-63-0 propan-2-ol	
WEL	Short-term value: 1250 mg/m³, 500 ppm Long-term value: 999 mg/m³, 400 ppm
106-97-8 butane, pure	
WEL	Short-term value: 1810 mg/m³, 750 ppm Long-term value: 1450 mg/m³, 600 ppm Carc (if more than 0.1% of buta-1.3-diene)

· DNELs

7440-66-6 zinc powder -zinc dust (stabilized)		
Oral	DNEL (Langzeit-wiederholt)	50 mg/kg bw/day (ARB)
Dermal	DNEL (Langzeit-wiederholt)	5,000 mg/kg bw/day (ARB)
		5,000 mg/kg bw/day (BEV)
Inhalative	DNEL (Langzeit-wiederholt)	5 mg/m³ Air (ARB)
		2.5 mg/m³ Air (BEV)
67-64-1 acetone		
Oral	DNEL (Langzeit-wiederholt)	62 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	186 mg/kg bw/day (ARB)
		62 mg/kg bw/day (BEV)
Inhalative	DNEL (Kurzzeit-akut)	2,420 mg/m³ Air (ARB)
	DNEL (Langzeit-wiederholt)	1,210 mg/m³ Air (ARB)
		200 mg/m³ Air (BEV)
reaction mass of ethylbenzole and xylole		
Oral	DNEL (Langzeit-wiederholt)	1.6 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	212 mg/kg bw/day (ARB)
		108 mg/kg bw/day (BEV)
Inhalative	DNEL (Kurzzeit-akut)	289-442 mg/m³ Air (ARB)
		260 mg/m³ Air (BEV)
	DNEL (Langzeit-wiederholt)	77 mg/m³ Air (ARB)
		14.8-65.3 mg/m³ Air (BEV)
Hydrocarbons, C9, aromatics		
Oral	DNEL (Langzeit-wiederholt)	11 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	25 mg/kg bw/day (ARB)
		11 mg/kg bw/day (BEV)
Inhalative	DNEL (Langzeit-wiederholt)	150 mg/m³ Air (ARB)
		32 mg/m³ Air (BEV)
1314-13-2 zinc oxide		
Oral	DNEL (Langzeit-wiederholt)	0.83 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	83 mg/kg bw/day (ARB)
		83 mg/kg bw/day (BEV)
Inhalative	DNEL (Langzeit-wiederholt)	5 mg/m³ Air (ARB)

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		2.5 mg/m³ Air (BEV)
67-63-0 propan-2-ol		
Oral	DNEL (Langzeit-wiederholt)	26 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	888 mg/kg bw/day (ARB)
		319 mg/kg bw/day (BEV)
Inhalative	DNEL (Langzeit-wiederholt)	500 mg/m³ Air (ARB)
		89 mg/m³ Air (BEV)

· PNECs

7440-66-6 zinc powder -zinc dust (stabilized)	
PNEC (wässrig)	52 mg/l (KA)
	6.1 mg/l (MW)
	20.6 mg/l (SW)
PNEC (fest)	56.6 mg/kg Trockengew (BO)
	56.5 mg/kg Trockengew (MWS)
	118 mg/kg Trockengew (SWS)
67-64-1 acetone	
PNEC (wässrig)	100 mg/l (KA)
	1.06 mg/l (MW)
	10.6 mg/l (SW)
	21 mg/l (WAS)
PNEC (fest)	29.5 mg/kg Trockengew (BO)
	3.04 mg/kg Trockengew (MWS)
	30.4 mg/kg Trockengew (SWS)
reaction mass of ethylbenzole and xylole	
PNEC (wässrig)	6.58 mg/l (KA)
	0.327 mg/l (MW)
	0.327 mg/l (SW)
PNEC (fest)	2.31 mg/kg Trockengew (BO)
	12.46 mg/kg Trockengew (MWS)
	12.46 mg/kg Trockengew (SWS)
1314-13-2 zinc oxide	
PNEC (wässrig)	52 mg/l (KA)
	6.1 mg/l (MW)
	20.6 mg/l (SW)
PNEC (fest)	35.6 mg/kg Trockengew (BO)
	56.5 mg/kg Trockengew (MWS)
	117 mg/kg Trockengew (SWS)
67-63-0 propan-2-ol	
PNEC (wässrig)	2,251 mg/l (KA)
	140.9 mg/l (MW)
	140.9 mg/l (SW)
	140.9 mg/l (WAS)
PNEC (fest)	28 mg/kg Trockengew (BO)
	552 mg/kg Trockengew (MWS)
	552 mg/kg Trockengew (SWS)

· Additional information: The lists valid during the making were used as basis.

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· **8.2 Exposure controls**

· Appropriate engineering controls: No further data; see item 7.

· Individual protection measures, such as personal protective equipment

· General protective and hygienic measures:
The usual precautionary measures are to be adhered to when handling chemicals.
Do not inhale gases / fumes / aerosols.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Do not eat, drink, smoke or sniff while working.
Use skin protection cream for skin protection.
Clean skin thoroughly immediately after handling the product.

· Respiratory protection: In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Use suitable respiratory protective device in case of insufficient ventilation.
Filter AX

· Hand protection

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Preventive skin protection by use of skin-protecting agents is recommended.
After use of gloves apply skin-cleaning agents and skin cosmetics.
The protection gloves to be used have to comply with the specifications of the directive 89/686/EC and the directive derived decree EN374, respectively, e.g. the above listed protection glove type.
The mentioned permeation times´ data were generated and verified with material samples of the recommended protection glove type in the scope of laboratory anylyses of the company KCL GmbH in compliance with EN374.
This recommendation refers exclusively to the material safety data sheet referenced product delivered by Akemi and the indicated field of application. In case of product dilution or in case of mixture with different substances or chemicals, and in condition of EN374 deviation the producer of CE-approved protection gloves must be contacted for detailed information (e.g., KCL GmbH, Germany, 36124 Eichenzell, internet: http://www.kcl.de).

· Material of gloves
Butyl rubber, BR
Nitrile rubber, NBR
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· Penetration time of glove material
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
Value for the permeation: Level ≤ 6, 480 min

· As protection from splashes gloves made of the following materials are suitable:
Butyl rubber, BR
Butoject (KCL, Art_No. 897, 898)
Nitrile rubber, NBR

· Not suitable are gloves made of the following materials:
Leather gloves
Strong material gloves

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· Eye/face protection

Tightly sealed goggles

· Body protection: Use protective suit.

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SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· General Information	
· Colour:	Grey
· Odour:	Specific type
· Melting point/freezing point:	Undetermined.
· Boiling point or initial boiling point and boiling range	-44 °C
· Lower and upper explosion limit	
· Lower:	0.7 Vol %
· Upper:	13 Vol %
· Flash point:	-97 °C
· Auto-ignition temperature:	Product is not selfigniting.
· pH	Not determined. Not applicable
· Viscosity:	
· Kinematic viscosity	Not determined. Not applicable
· Dynamic:	Not determined. Not applicable
· Solubility	
· water:	Not miscible or difficult to mix.
· Vapour pressure at 20 °C:	5,100 hPa
· Density and/or relative density	
· Density at 20 °C:	1.28 g/cm³

· **9.2 Other information**	
· Appearance:	
· Form:	Aerosol
· Important information on protection of health and environment, and on safety.	
· Ignition temperature:	465 °C
· Explosive properties:	Product is not explosive. However, formation of explosive air/ vapour mixtures are possible.
· Solvent content:	
· Organic solvents:	40.3 %
· Solids content:	8.4 %

· Information with regard to physical hazard classes

· Explosives

Void

· Flammable gases

Void

· Aerosols

Extremely flammable aerosol. Pressurised container: May burst if heated.

· Oxidising gases

Void

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· Gases under pressure

Void

· Flammable liquids

Void

· Flammable solids

Void

· Self-reactive substances and mixtures

Void

· Pyrophoric liquids

Void

· Pyrophoric solids

Void

· Self-heating substances and mixtures

Void

· Substances and mixtures, which emit flammable gases in contact with water

Void

· Oxidising liquids

Void

· Oxidising solids

Void

· Organic peroxides

Void

· Corrosive to metals

Void

· Desensitised explosives

Void

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability**
· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
· **10.3 Possibility of hazardous reactions** No dangerous reactions known.
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:** No further relevant information available.
· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

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* **SECTION 11: Toxicological information**

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
· Acute toxicity Based on available data, the classification criteria are not met.

· LD/LC50 values relevant for classification:

ATE (Acute Toxicity Estimates)		
Dermal	LD50	47,429 mg/kg
Inhalative	LC50/4 h	151-159 mg/l (rat)

7440-66-6 zinc powder -zinc dust (stabilized)		
Oral	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	>5.4 mg/l (rat)
67-64-1 acetone		
Oral	LD50	5,800 mg/kg (rat) (OECD 401)
	NOEL	900 mg/kg (rat)
Dermal	LD50	15,688 mg/kg (rat)
		7,426-15,800 mg/kg (rbt)
Inhalative	LC50/4 h	76 mg/l (rat)
	NOAEL	22,500 mg/m³ (rat)
	LC50/48h	8,450 mg/l (cru)
		2,262 mg/l (daphnia magna)
74-98-6 propane		
Inhalative	LC50/4 h	>20 mg/l (rat)
reaction mass of ethylbenzole and xylole		
Oral	LD50	3,523 mg/kg (rat)
	NOAEL-Werte	250 mg/kg (rat)
Dermal	LD50	2,000 mg/kg (rabbit)
Inhalative	LC50/4h	29,000 mg/m3 (rat)
	LC50/4 h	6.35-6.7 mg/l (rat)
Hydrocarbons, C9, aromatics		
Oral	LD50	3,295 mg/kg (rat) (OECD 401)
Dermal	LD50	>3,160 mg/kg (rabbit) (OECD 402)
Inhalative	LC50/4 h	>6,193 mg/l (rat)
1314-13-2 zinc oxide		
Oral	LD50	7,950 mg/kg (mouse)
		>5,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)
Inhalative	LC50/4 h	>5,700 mg/l (rat)
67-63-0 propan-2-ol		
Oral	LD50	>2,000 mg/kg (rabbit)
		5,840 mg/kg (rat) (OECD 401)
	NOAEL-Werte	400 mg/kg (rat)
Dermal	LD50	13,900 mg/kg (rabbit) (OECD 402)
Inhalative	LC50/8h	47.5 ppm (rat)
	LC50/4 h	>25 mg/l (rat)
	LC50	25,000 mg/m3 (rat)
	LC50/48h	>100 mg/l (Leuciscus idus)

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106-97-8 butane, pure		
Inhalative	LC50/4 h	658 mg/l (rat)

· Skin corrosion/irritation — Based on available data, the classification criteria are not met.
· Serious eye damage/irritation — Causes serious eye irritation.
· Respiratory or skin sensitisation — Based on available data, the classification criteria are not met.
· Germ cell mutagenicity — Based on available data, the classification criteria are not met.
· Carcinogenicity — Based on available data, the classification criteria are not met.
· Reproductive toxicity — Based on available data, the classification criteria are not met.
· STOT-single exposure — May cause drowsiness or dizziness.
· STOT-repeated exposure — Based on available data, the classification criteria are not met.
· Aspiration hazard — May be fatal if swallowed and enters airways.

· **11.2 Information on other hazards**

· Endocrine disrupting properties

None of the ingredients is listed.

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SECTION 12: Ecological information

· **12.1 Toxicity**

· Aquatic toxicity:

7440-66-6 zinc powder -zinc dust (stabilized)	
EC50/96h	0.527 mg/l (green alge)
EC50/48h	0.353 mg/l (daphnia magna)
NOEC	0.017 mg/kg (Pseudokirchneriella subcapitata)
NOELR/72h	0.0729 mg/l (Pseudokirchneriella subcapitata)
NOEC/21d	178 mg/l (KA)
NOELR/28d	0.0083 mg/l (Cyprinus carpio)
EC10	0.0273 mg/l (green alge)
	0.0592 mg/l (daphnia magna)
EC50/48h	1 mg/l (daphnia magna)
EC50/72h	0.17 mg/l (Selenastrum capricornutum)
LC50/96h	0.41 mg/l (Oncorhynchus mykiss)
	0.238-0.269 mg/l (Pimephales promelas)

67-64-1 acetone	
EC50/96h	7,200 mg/l (green alge)
	8,300 mg/l (piscis)
	8,300 mg/l (lepomis macrochirus)
	7,500 mg/l (selenastrum capricornutum)
EC50	1,700 mg/l (bacteria)
LC50	6,368 mg/l (piscis)
EC5/16h	1,700 mg/l (pseudomonas putida)
EC5/72h	28 mg/l (Entosiphon sulcatum)
EC5/8d	530 mg/l (Microcystis aeruginosa)
IC5/8d	7,500 mg/l (Scenedesmus quadricauda)
EC50/48h	3,400 mg/l (green alge)
	8,800 mg/l (daphnia magna)
NOEC	1,700 mg/kg (pseudomonas putida)
	4,740 mg/kg (selenastrum capricornutum)
NOELR/28d	2,212 mg/l (daphnia magna)
EC50/48h	12,600 mg/l (Danio rerio.)

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	8,800 mg/l (daphnia magna)
LC50/96h	8,300 mg/l (lem)
	8,300 mg/l (lepomis macrochirus)
	7,500 mg/l (Leuciscus idus)
	5,540 mg/l (Oncorhynchus mykiss)
	8,120 mg/l (Pimephales promelas)
reaction mass of ethylbenzole and xylole	
LC50/24h	1 mg/l (daphnia magna)
EC50/48h	3.2-9.5 mg/l (daphnia magna)
NOEC	16 mg/l (BES)
	1.3 mg/l (Oncorhynchus mykiss)
NOELR/72h	0.44 mg/l (green alge)
NOELR/28d	16 mg/l (bacteria)
EC50/72h	2.2 mg/l (selenastrum capricornutum)
LC50/96h	2.6 mg/l (Oncorhynchus mykiss)
	8.9-16.4 mg/l (pimephales promelas)
Hydrocarbons, C9, aromatics	
EC50/96h	9.2 mg/l (Oncorhynchus mykiss)
LC50	1-10 mg/l (daphnia magna)
ErC50/72h	0.42 mg/l (Pseudokirchneriella subcapitata) (OECD 201)
EL50/48h	3.2 mg/l (daphnia magna) (OECD 202)
EL50/72h	2.6-2.9 mg/l (Pseudokirchneriella subcapitata)
	2.9 mg/l (selenastrum capricornutum)
LL50/96h	9.2 mg/l (Oncorhynchus mykiss) (OECD 203)
NOELR/72h	1 mg/l (Pseudokirchneriella subcapitata)
EC50/48h	7.4 mg/l (daphnia magna)
EC50/72h	0.29 mg/l (Pseudokirchneriella subcapitata) (OECD 201)
1314-13-2 zinc oxide	
EC50/48h	>1,000 mg/l (daphnia magna)
NOELR/72h	0.017 mg/l (Pseudokirchneriella subcapitata)
EC50/48h	1 mg/l (daphnia magna)
EC50/72h	0.17 mg/l (selenastrum capricornutum)
LC50/96h	>320 mg/l (lem)
	1.1 mg/l (Oncorhynchus mykiss)
	2,246 mg/l (pimephales promelas)
LC50/72h	0.17 mg/l (Selenastrum capricornutum)
67-63-0 propan-2-ol	
EC50/24h	9,714 mg/l (daphnia magna)
EC50	>1,000 mg/l (BES)
LC50/24h	9,714 mg/l (daphnia magna)
EC50/15min	22,000 mg/l (Photobac. phosphoreum)
IC50/72h	>1,000 mg/l (Desmodesmus subspicatus)
EC10/18h	5,175 mg/l (pseudomonas putida) (DIN 38412)
EC50/48h	13,299 mg/l (daphnia magna)
EC50/72h	>1,000 mg/l (green alge)
	>100 mg/l (Scenedesmus subspicatus)

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LC50/96h	6,550 mg/l (piscis) 9,640 mg/l (Pimephales promelas)

· **12.2 Persistence and degradability** Easily biodegradable
· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· **12.5 Results of PBT and vPvB assessment**
· PBT: Not applicable.
· vPvB: Not applicable.
· **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
· **12.7 Other adverse effects**
· Remark: Very toxic for fish
· Additional ecological information:
· General notes: Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

*
SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· Recommendation Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packaging:
· Recommendation: Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

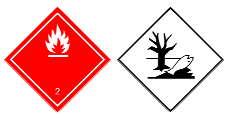
*
SECTION 14: Transport information

· **14.1 UN number or ID number**
· ADR, IMDG, IATA UN1950

· **14.2 UN proper shipping name**
· ADR 1950 AEROSOLS, ENVIRONMENTALLY HAZARDOUS
· IMDG AEROSOLS (zinc powder -zinc dust (stabilized), Hydrocarbons, C9, aromatics), MARINE POLLUTANT
· IATA AEROSOLS, flammable

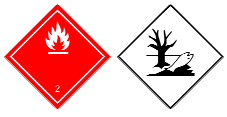
· **14.3 Transport hazard class(es)**

· ADR



· Class 2 5F Gases.
· Label 2.1

· IMDG



· Class 2.1 Gases.

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· Label	2.1
· IATA	
	
· Class	2.1 Gases.
· Label	2.1
· **14.4 Packing group**	
· ADR, IMDG, IATA	Void
· **14.5 Environmental hazards:**	Product contains environmentally hazardous substances:
· Marine pollutant:	Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· **14.6 Special precautions for user**	Warning: Gases.
· Hazard identification number (Kemler code):	-
· EMS Number:	F-D,S-U
· Stowage Code	SW1 Protected from sources of heat. SW22 For AEROSOLS with a maximum capacity of 1 litre: Category A. For AEROSOLS with a capacity above 1 litre: Category B. For WASTE AEROSOLS: Category C, Clear of living quarters.
· Segregation Code	SG69 For AEROSOLS with a maximum capacity of 1 litre: Segregation as for class 9. Stow "separated from" class 1 except for division 1.4. For AEROSOLS with a capacity above 1 litre: Segregation as for the appropriate subdivision of class 2. For WASTE AEROSOLS: Segregation as for the appropriate subdivision of class 2.
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· Transport/Additional information:	
· ADR	
· Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity
· UN "Model Regulation":	UN 1950 AEROSOLS, 2.1, ENVIRONMENTALLY HAZARDOUS

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SECTION 15: Regulatory information

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

· Directive 2012/18/EU	
· Named dangerous substances - ANNEX I	None of the ingredients is listed.
· Seveso category	E1 Hazardous to the Aquatic Environment P3a FLAMMABLE AEROSOLS

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· Qualifying quantity (tonnes) for the application of lower-tier requirements	100 t
· Qualifying quantity (tonnes) for the application of upper-tier requirements	200 t
· National regulations:	
· Waterhazard class:	Water hazard class 2 (Self-assessment): hazardous for water.

· Substances of very high concern (SVHC) according to REACH, Article 57

None of the ingredients is listed.

· VOC EU	567.5 g/l
· **15.2 Chemical safety assessment:**	A Chemical Safety Assessment has not been carried out.

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SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

H220 Extremely flammable gas.
H224 Extremely flammable liquid and vapour.
H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H280 Contains gas under pressure; may explode if heated.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
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.
H411 Toxic to aquatic life with long lasting effects.
EUH066 Repeated exposure may cause skin dryness or cracking.

· Recommended restriction of use: refer to Technical Data Sheet (TDS)

· Department issuing SDS: Laboratory

· Contact: Dieter Zimmermann

· Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Flam. Gas 1A: Flammable gases – Category 1A
Aerosol 1: Aerosols – Category 1
Press. Gas (Comp.): Gases under pressure – Compressed gas

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Flam. Liq. 1: Flammable liquids – Category 1
Flam. Liq. 2: Flammable liquids – Category 2
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 1: Acute toxicity – Category 1
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Asp. Tox. 1: Aspiration hazard – Category 1
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

· Sources REACH directive 1907/2006/EC

· * Data compared to the previous version altered. Adaptation in accordance with REACH directive 1907/2006/EC