Safety data sheet
according to Regulation (EC) No 1907/2006, Annex II

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

1.1 Product identifier

Zink Spray 400 mL
Art.: 1540

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

Relevant identified uses of the substance or mixture:
Corrosion protection

Uses advised against:
No information available at present.

1.3 Details of the supplier of the safety data sheet

GB

LIQUI MOLY GmbH, Jerg-Wieland-Str. 4, 89081 Ulm-Lehr, Germany
Phone:(+49) 0731-1420-0, Fax:(+49) 0731-1420-88

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

1.4 Emergency telephone number

Emergency information services / official advisory body:

Telephone number of the company in case of emergencies:
+49 (0) 700 / 24 112 112 (LMR)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) 1272/2008 (CLP)

Hazard class	Hazard category	Hazard statement
STOT RE	2	H373-May cause damage to organs through prolonged or repeated exposure.
Eye Irrit.	2	H319-Causes serious eye irritation.
STOT SE	3	H335-May cause respiratory irritation.
Skin Irrit.	2	H315-Causes skin irritation.
Asp. Tox.	1	H304-May be fatal if swallowed and enters airways.
STOT SE	3	H336-May cause drowsiness or dizziness.
Aquatic Chronic	2	H411-Toxic to aquatic life with long lasting effects.
Aerosol	1	H222-Extremely flammable aerosol.
Aerosol	1	H229-Pressurised container: May burst if heated.

2.2 Label elements

Labeling according to Regulation (EC) 1272/2008 (CLP)

Danger

H373-May cause damage to organs through prolonged or repeated exposure. H319-Causes serious eye irritation. H335-May cause respiratory irritation. H315-Causes skin irritation. H336-May cause drowsiness or dizziness. H411-Toxic to aquatic life with long lasting effects. H222-Extremely flammable aerosol. H229-Pressurised container: May burst if heated.

P101-If medical advice is needed, have product container or label at hand. P102-Keep out of reach of children.
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 vapours or spray. P273-Avoid release to the environment. P280-Wear protective gloves / eye protection / face protection.
P312-Call a POISON CENTRE / doctor if you feel unwell.
P405-Store locked up. P410+P412-Protect from sunlight. Do not expose to temperatures exceeding 50 °C.
P501-Dispose of contents / container to an approved waste disposal facility.

Without adequate ventilation, formation of explosive mixtures may be possible.
Acetone
Hydrocarbons, C9, aromatics
Xylene

2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).
The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

SECTION 3: Composition/information on ingredients

3.1 Substance

n.a.

3.2 Mixture

Acetone	**Substance for which an EU exposure limit value applies.**
Registration number (REACH)	01-2119471330-49-XXXX
Index	606-001-00-8
EINECS, ELINCS, NLP	200-662-2
CAS	67-64-1
content %	10-20
Classification according to Regulation (EC) 1272/2008 (CLP)	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336

Xylene	**Substance for which an EU exposure limit value applies.**
Registration number (REACH)	---
Index	601-022-00-9
EINECS, ELINCS, NLP	215-535-7
CAS	1330-20-7
content %	10-20

Classification according to Regulation (EC) 1272/2008 (CLP)	Flam. Liq. 3, H226 Asp. Tox. 1, H304 Acute Tox. 4, H312 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Acute Tox. 4, H332 STOT SE 3, H335 STOT RE 2, H373 Aquatic Chronic 3, H412

Zinc powder - zinc dust (stabilized)	
Registration number (REACH)	---
Index	030-001-01-9
EINECS, ELINCS, NLP	231-175-3
CAS	7440-66-6
content %	5-15
Classification according to Regulation (EC) 1272/2008 (CLP)	Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)

Hydrocarbons, C9, aromatics	
Registration number (REACH)	01-2119455851-35-XXXX
Index	---
EINECS, ELINCS, NLP	918-668-5 (REACH-IT List-No.)
CAS	(64742-95-6)
content %	5-<10
Classification according to Regulation (EC) 1272/2008 (CLP)	Flam. Liq. 3, H226 Asp. Tox. 1, H304 STOT SE 3, H335 STOT SE 3, H336 Aquatic Chronic 2, H411

Impurities, test data and additional information may have been taken into account in classifying and labelling the product.
For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.
The substances named in this section are given with their actual, appropriate classification!
For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

SECTION 4: First aid measures

4.1 Description of first aid measures

First-aiders should ensure they are protected!
Never pour anything into the mouth of an unconscious person!

Inhalation

Remove person from danger area.
Supply person with fresh air and consult doctor according to symptoms.
If the person is unconscious, place in a stable side position and consult a doctor.

Skin contact

Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

Eye contact

Remove contact lenses.
Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

Ingestion

Rinse the mouth thoroughly with water.
Do not induce vomiting. Consult doctor immediately.
Danger of aspiration
In case of vomiting, keep head low so that the stomach content does not reach the lungs.

4.2 Most important symptoms and effects, both acute and delayed

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.
In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

4.3 Indication of any immediate medical attention and special treatment needed
Gastric lavage (stomach washing) only under endotracheal intubation.
Subsequent observation for pneumonia and pulmonary oedema.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
Water jet spray/foam/CO2/dry extinguisher
Unsuitable extinguishing media
None known
5.2 Special hazards arising from the substance or mixture
In case of fire the following can develop:
Oxides of carbon
Toxic gases
Danger of bursting (explosion) when heated
Explosive vapour/air or gas/air mixtures.
5.3 Advice for firefighters
In case of fire and/or explosion do not breathe fumes.
Protective respirator with independent air supply.
Cool container at risk with water.
Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Remove possible causes of ignition - do not smoke.
Ensure sufficient supply of air.
Avoid inhalation, and contact with eyes or skin.
6.2 Environmental precautions
Prevent from entering drainage system.
Prevent surface and ground-water infiltration, as well as ground penetration.
6.3 Methods and material for containment and cleaning up
If spray or gas escapes, ensure ample fresh air is available.
Active substance:
Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth) and dispose of according to Section 13.
6.4 Reference to other sections
For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.
7.1 Precautions for safe handling
7.1.1 General recommendations
Ensure good ventilation.
Avoid inhalation of the vapours.
Keep away from sources of ignition - Do not smoke.
Take measures against electrostatic charging, if appropriate.
Do not use on hot surfaces.
Avoid contact with eyes or skin.
Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.
Observe directions on label and instructions for use.
Use working methods according to operating instructions.
7.1.2 Notes on general hygiene measures at the workplace
General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities

Keep out of access to unauthorised individuals.
Not to be stored in gangways or stair wells.
Store product closed and only in original packing.
Observe special regulations for aerosols!
Observe special storage conditions.
Do not store with flammable or self-igniting materials.
Keep protected from direct sunlight and temperatures over 50°C.
Store in a well ventilated place.
Store cool.

7.3 Specific end use(s)

No information available at present.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Workplace exposure limit (WEL) of the total hydrocarbon solvent content of the mixture (RCP method according to EH40):
500 mg/m3

GB **Chemical Name**	Acetone		Content %:10-20
WEL-TWA: 500 ppm (1210 mg/m3) (WEL, EU)	WEL-STEL: 1500 ppm (3620 mg/m3) (WEL)	---	
Monitoring procedures:	- Compur - KITA-102 SA (548 534) - Compur - KITA-102 SC (548 550) - Compur - KITA-102 SD (551 109) - Draeger - Acetone 40/a (5) (81 03 381) - Draeger - Acetone 100/b (CH 22 901) MTA/MA-031/A96 (Determination of ketones (acetone, methyl ethyl ketone, methyl isobutyl ketone) in air - Charcoal tube method / Gas chromatography) - 1996 - EU - project BC/CEN/ENTR/000/2002-16 card 67-1 (2004) MDHS 72 (Volatile organic compounds in air – Laboratory method using pumped solid - sorbent tubes, thermal desorption and gas chromatography) - 1993		
BMGV: ---		Other information: ---	

GB **Chemical Name**	Xylene		Content %:10-20
WEL-TWA: 50 ppm (220 mg/m3) (WEL), 50 ppm (221 mg/m3) (EU)	WEL-STEL: 100 ppm (441 mg/m3 (WEL), 100 ppm (442 mg/m3) (EU)	---	
Monitoring procedures:	- Compur - KITA-143 SA (550 325) - Compur - KITA-143 SB (505 998) - Draeger - Xylene 10/a (67 33 161) MTA/MA-030/A92 (Determination of aromatic hydrocarbons (benzene, toluene, ethylbenzene, p-xylene, 1,2,4-trimethylbenzene) in air - Charcoal tube method / Gas - chromatography) - 1992 - EU project BC/CEN/ENTR/000/2002-16 card 47-1 (2004)		
BMGV: 650 mmol methyl hippuric acid/mol creatinine in urine, post shift (Xylene, o-, m-, p- or mixed isomers) (BMGV)		Other information: Sk (WEL)	

GB **Chemical Name**	Hydrocarbons, C9, aromatics		Content %:5-<10
WEL-TWA: 500 mg/m3 (Aromatics)	WEL-STEL: ---	---	
Monitoring procedures:	- Draeger - Hydrocarbons 2/a (81 03 581) - Draeger - Hydrocarbons 0,1%/c (81 03 571) - Compur - KITA-187 S (551 174)		
BMGV: ---		Other information: ---	

GB **Chemical Name**	Butane		Content %:
WEL-TWA: 600 ppm (1450 mg/m3)	WEL-STEL: 750 ppm (1810 mg/m3)	---	
Monitoring procedures:	- Compur - KITA-221 SA (549 459)		
BMGV: ---		Other information: ---	

GB **Chemical Name**	Propane		Content %:
WEL-TWA: 1000 ppm (ACGIH)	WEL-STEL: ---	---	
Monitoring procedures:	- Compur - KITA-125 SA (549 954)		

BMGV: ---	Other information: ---

Chemical Name	Barium sulphate	Content %:
WEL-TWA: 4 mg/m3 (respirable dust), 10 mg/m3 (total inhalable dust)	WEL-STEL: ---	---
Monitoring procedures:	---	
BMGV: ---	Other information: ---	

Chemical Name	Isobutane	Content %:
WEL-TWA: 1000 ppm (EX) (ACGIH)	WEL-STEL: ---	---
Monitoring procedures:	- Compur - KITA-113 SB(C) (549 368)	
BMGV: ---	Other information: ---	

Acetone

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - marine		PNEC	1,06	mg/l	Assesment factor 500
	Environment - freshwater		PNEC	10,6	mg/l	Assesment factor 50
	Environment - sediment, freshwater		PNEC	30,4	mg/l	
	Environment - sediment, marine		PNEC	3,04	mg/l	
	Environment - soil		PNEC	29,5	mg/kg dw	
	Environment - sewage treatment plant		PNEC	19,5	mg/l	
	Environment - sporadic (intermittent) release		PNEC	21	mg/l	Assesment factor 100
	Environment - sewage treatment plant		PNEC	100	mg/l	
Consumer	Human - oral	Long term, systemic effects	DNEL	62	mg/kg bw/day	Overall assesment factor 2
Consumer	Human - dermal	Long term, systemic effects	DNEL	62	mg/kg bw/day	Overall assesment factor 20
Consumer	Human - inhalation	Long term, systemic effects	DNEL	200	mg/m3	Overall assesment factor 5
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	186	mg/kg bw/day	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	2420	mg/m3	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	1210	mg/m3	

Xylene

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - periodic release		PNEC	0,327	mg/l	
	Environment - sewage treatment plant		PNEC	6,58	mg/l	
	Environment - freshwater		PNEC	0,327	mg/l	
	Environment - marine		PNEC	0,327	mg/l	
	Environment - sediment, freshwater		PNEC	12,46	mg/kg dw	
	Environment - sediment, marine		PNEC	12,46	mg/kg dw	

	Environment - soil		PNEC	2,31	mg/kg dw	
Consumer	Human - inhalation	Short term, local effects	DNEL	174	mg/m3	
Consumer	Human - inhalation	Short term, systemic effects	DNEL	174	mg/m3	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	14,8	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	108	mg/kg bw/day	
Consumer	Human - oral	Long term, systemic effects	DNEL	1,6	mg/kg bw/day	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	289	mg/m3	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	289	mg/m3	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	77	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	180	mg/kg bw/day	

Zinc powder - zinc dust (stabilized)

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	20,6	µg/l	
	Environment - marine		PNEC	6,1	µg/l	
	Environment - sewage treatment plant		PNEC	52	µg/l	
	Environment - sediment, freshwater		PNEC	118	mg/kg	
	Environment - sediment, marine		PNEC	56,5	mg/kg	
	Environment - soil		PNEC	35,6	mg/kg	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,83	mg/kg bw/d	
Consumer	Human - dermal	Long term, systemic effects	DNEL	83	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	2,5	mg/m3	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	5	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	83	mg/kg	

Hydrocarbons, C9, aromatics

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
Consumer	Human - inhalation	Long term, systemic effects	DNEL	32	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	11	mg/kg bw/day	
Consumer	Human - oral	Long term, systemic effects	DNEL	11	mg/kg bw/day	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	25	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	150	mg/m3	

Barium sulphate

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,115	mg/l	
	Environment - sediment, freshwater		PNEC	600,4	mg/kg dw	
	Environment - sewage treatment plant		PNEC	62,2	mg/l	
	Environment - soil		PNEC	207,7	mg/kg dw	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	10	mg/m3	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	10	mg/m3	

GB WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany).
(8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/EU). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period).
(8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.
** = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

8.2 Exposure controls
8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.
If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.
Applies only if maximum permissible exposure values are listed here.
Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.
These are specified by e.g. BS EN 14042.
BS EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:
Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:
Protective gloves in butyl rubber (EN 374).
Minimum layer thickness in mm:
>= 0,7 mm
Permeation time (penetration time) in minutes:
>= 60
Protective hand cream recommended.
The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions.
The recommended maximum wearing time is 50% of breakthrough time.

Skin protection - Other:
Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection:
If OES or MEL is exceeded.
Gas mask filter A (EN 14387), code colour brown
Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:
Not applicable

Additional information on hand protection - No tests have been performed.
In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.
Selection of materials derived from glove manufacturer's indications.
Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.
Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.
In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.
The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls
No information available at present.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	Aerosol. Active substance: liquid.
Colour:	Grey
Odour:	Characteristic
Odour threshold:	Not determined
pH-value:	n.a.
Melting point/freezing point:	Not determined
Initial boiling point and boiling range:	<0 °C
Flash point:	Not determined
Evaporation rate:	Not determined
Flammability (solid, gas):	Not determined
Lower explosive limit:	Not determined
Upper explosive limit:	Not determined
Vapour pressure:	Not determined
Vapour density (air = 1):	Not determined
Density:	0,92671 g/cm3 (20°C)
Bulk density:	n.a.
Solubility(ies):	Not determined
Water solubility:	Not miscible
Partition coefficient (n-octanol/water):	Not determined
Auto-ignition temperature:	>200 °C (Ignition temperature)
Decomposition temperature:	Not determined
Viscosity:	Not determined
Explosive properties:	Possible build up of explosive/highly flammable vapour/air mixture.
Oxidising properties:	Not determined

9.2 Other information

Miscibility:	Not determined
Fat solubility / solvent:	Not determined
Conductivity:	Not determined
Surface tension:	Not determined
Solvents content:	Not determined

SECTION 10: Stability and reactivity

10.1 Reactivity
The product has not been tested.

10.2 Chemical stability
Stable with proper storage and handling.

10.3 Possibility of hazardous reactions
Possible build up of explosive/highly flammable vapour/air mixture.

10.4 Conditions to avoid
See also section 7.
Pressure increase will result in danger of bursting.

Heating, open flame, ignition sources
Electrostatic charge

10.5 Incompatible materials

See also section 7.
Avoid contact with oxidizing agents.

10.6 Hazardous decomposition products

See also section 5.2
No decomposition when used as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Possibly more information on health effects, see Section 2.1 (classification).

Zink Spray 400 mL
Art.: 1540

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:						n.d.a.
Acute toxicity, by dermal route:	ATE	>2000	mg/kg			calculated value
Acute toxicity, by inhalation:	ATE	>20	mg/l/4h			calculated value, Vapours
Acute toxicity, by inhalation:	ATE	>5	mg/l/4h			calculated value, Aerosol
Skin corrosion/irritation:						n.d.a.
Serious eye damage/irritation:						n.d.a.
Respiratory or skin sensitisation:						No indications of such an effect.
Germ cell mutagenicity:						n.d.a.
Carcinogenicity:						n.d.a.
Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity - repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Symptoms:						n.d.a.

Acetone

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	5800	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>15800	mg/kg	Rat		
Acute toxicity, by inhalation:	LC50	~76	mg/l/4h	Rat		
Skin corrosion/irritation:				Guinea pig		Slightly irritant, Repeated exposure may cause skin dryness or cracking.
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Not sensitizising
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Germ cell mutagenicity:					OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative

Symptoms:						unconsciousness, vomiting, headaches, gastrointestinal disturbances, fatigue, mucous membrane irritation, dizziness, nausea, drowsiness

Xylene

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	3523	mg/kg	Rat		Does not conform with EU classification.
Acute toxicity, by dermal route:	LD50	12126	mg/kg	Rabbit		Does not conform with EU classification.
Acute toxicity, by inhalation:	LC50	27	mg/l/4h	Rat		Vapours, Does not conform with EU classification.
Skin corrosion/irritation:				Rabbit	(Draize-Test)	Irritant
Serious eye damage/irritation:				Rabbit		Irritant
Respiratory or skin sensitisation:					(Patch-Test)	Negative
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Aspiration hazard:						Yes
Symptoms:						breathing difficulties, drying of the skin., drowsiness, unconsciousness, burning of the membranes of the nose and throat, vomiting, skin afflictions, heart/circulatory disorders, coughing, headaches, drowsiness, dizziness, nausea
Specific target organ toxicity - single exposure (STOT-SE), inhalative:						Irritation of the respiratory tract

Zinc powder - zinc dust (stabilized)

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat		
Acute toxicity, by inhalation:	LC50	>5410	mg/m3/4h	Rat		

Symptoms:						respiratory distress, chest pain (thorax pain), fever, joint pain, heart/circulatory disorders, coughing, metal fume fever, muscle pains, mucous membrane irritation, chills, nausea and vomiting.

Hydrocarbons, C9, aromatics

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	3492	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>3160	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	>5,693	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact)
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:					OECD 475 (Mammalian Bone Marrow Chromosome Aberration Test)	Negative
Germ cell mutagenicity:					OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative
Germ cell mutagenicity:					OECD 479 (Genetic Toxicology - In Vitro Sister Chromatid Exchange assay in Mammalian Cells)	Negative
Carcinogenicity:						Negative
Reproductive toxicity:					OECD 414 (Prenatal Developmental Toxicity Study)	Negative
Reproductive toxicity:					OECD 416 (Two-generation Reproduction Toxicity Study)	Negative
Specific target organ toxicity - single exposure (STOT-SE):						STOT SE 3, H335, STOT SE 3, H336
Specific target organ toxicity - repeated exposure (STOT-RE):					OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)	Negative
Specific target organ toxicity - repeated exposure (STOT-RE):					OECD 452 (Chronic Toxicity Studies)	Negative
Aspiration hazard:						Yes

Symptoms:						respiratory distress, coughing, burning of the membranes of the nose and throat, drowsiness, dizziness, headaches, nausea, unconsciousness, fever, ear noises, drying of the skin.

Butane						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by inhalation:	LC50	658	mg/l/4h	Rat		
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Aspiration hazard:						No
Symptoms:						ataxia, breathing difficulties, drowsiness, unconsciousness, frostbite, disturbed heart rhythm, headaches, cramps, intoxication, dizziness, nausea and vomiting.

Propane						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by inhalation:	LC50	658	mg/l/4h	Rat		
Skin corrosion/irritation:						Not irritant
Serious eye damage/irritation:						Not irritant
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Reproductive toxicity (Developmental toxicity):	NOAEC	21,641	mg/l		OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test)	
Aspiration hazard:						No
Symptoms:						breathing difficulties, unconsciousness, frostbite, headaches, cramps, mucous membrane irritation, dizziness, nausea and vomiting.

Barium sulphate						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**

Acute toxicity, by oral route:	LD50	>15000	mg/kg	Rat	IUCLID Chem. Data Sheet (ESIS)	
Skin corrosion/irritation:						Not irritant
Skin corrosion/irritation:					OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:						Not irritant
Serious eye damage/irritation:					OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:						Not sensitizising
Respiratory or skin sensitisation:						No indications of such an effect.
Germ cell mutagenicity:						Negative
Carcinogenicity:						Negative

Isobutane

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by inhalation:	LC50	658	mg/l/4h	Rat		
Serious eye damage/irritation:				Rabbit		Not irritant
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Aspiration hazard:						No
Symptoms:						unconsciousness, frostbite, headaches, cramps, dizziness, nausea and vomiting.

SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

Zink Spray 400 mL
Art.: 1540

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:							n.d.a.
12.1. Toxicity to daphnia:							n.d.a.
12.1. Toxicity to algae:							n.d.a.
12.2. Persistence and degradability:							n.d.a.
12.3. Bioaccumulative potential:							n.d.a.
12.4. Mobility in soil:							n.d.a.
12.5. Results of PBT and vPvB assessment							n.d.a.
12.6. Other adverse effects:							n.d.a.

Acetone

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to daphnia:	NOEC/NOEL	28d	2212	mg/l	Daphnia pulex		
Toxicity to bacteria:	EC10	30min	1000	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	

12.2. Persistence and degradability:		28d	91	%		OECD 301 A (Ready Biodegradability - DOC Die-Away Test)	Readily biodegradable
12.1. Toxicity to fish:	LC50	96h	5540	mg/l	Oncorhynchus mykiss		
12.1. Toxicity to fish:	LC50	96h	7500	mg/l	Leuciscus idus		
12.1. Toxicity to daphnia:	EC50	48h	6100-12700	mg/l	Daphnia magna		
12.1. Toxicity to algae:	EC50	48h	4740	mg/l	Pseudokirchneriella subcapitata		
12.1. Toxicity to algae:	NOEC/NOEL	48h	3400	mg/l	Pseudokirchneriella subcapitata		
12.3. Bioaccumulative potential:	Log Pow		-0,24				
12.3. Bioaccumulative potential:	BCF		0,19				
12.4. Mobility in soil:							No adsorption in soil.
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	BOD/COD	16h	1700	mg/l	Pseudomonas putida		
Other information:	BOD5		1760-1900	mg/g			
Other information:	COD		2100	mg/g			
Other information:	AOX		0	%			

Xylene

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.2. Persistence and degradability:			>60	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		3				A notable biological accumulation potential is not to be expected (LogPow 1-3).
12.3. Bioaccumulative potential:	BCF		25,9				
12.1. Toxicity to fish:	LC50	96h	2,6	mg/l	Oncorhynchus mykiss		
12.1. Toxicity to daphnia:	EC50	48h	1	mg/l	Daphnia magna		
12.1. Toxicity to algae:	EC50	72h	2,2	mg/l			
12.1. Toxicity to algae:	NOEC/NOEL		0,44	mg/l			

Zinc powder - zinc dust (stabilized)

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	0,238-0,56	mg/l	Oncorhynchus mykiss		
12.1. Toxicity to daphnia:	EC50	48h	2,8	mg/l	Daphnia magna		

Hydrocarbons, C9, aromatics

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	9,2	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	

12.1. Toxicity to daphnia:	EC50	48h	3,2	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	ErL50	72h	2,9	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	54-56	%		OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	
12.2. Persistence and degradability:		28d	78	%		OECD 301 E (Ready Biodegradability - Modified OECD Screening Test)	Readily biodegradable
12.2. Persistence and degradability:		28d	78	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	
12.3. Bioaccumulative potential:	Log Pow		3,7 - 4,5				
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

Butane

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	24,11	mg/l		QSAR	
12.1. Toxicity to daphnia:	LC50	48h	14,22	mg/l		QSAR	
12.3. Bioaccumulative potential:	Log Pow		2,98				A notable biological accumulation potential is not to be expected (LogPow 1-3).
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

Propane

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.3. Bioaccumulative potential:	Log Pow		2,28				A notable biological accumulation potential is not to be expected (LogPow 1-3).
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

Barium sulphate

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.2. Persistence and degradability:							Not biodegradable
12.5. Results of PBT and vPvB assessment							n.a.

Isobutane

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.3. Bioaccumulative potential:							A notable biological accumulation potential is not to be expected (LogPow 1-3).
12.1. Toxicity to fish:	LC50	96h	27,98	mg/l			
12.1. Toxicity to algae:	EC50	96h	7,71	mg/l			
12.2. Persistence and degradability:							Readily biodegradable
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

SECTION 13: Disposal considerations

13.1 Waste treatment methods

For the substance / mixture / residual amounts

EC disposal code no.:
The waste codes are recommendations based on the scheduled use of this product.
Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)
16 05 04 gases in pressure containers (including halons) containing hazardous substances
Recommendation:
Sewage disposal shall be discouraged.
Pay attention to local and national official regulations.
Take full aerosol cans to problem waste collection.
Take emptied aerosol cans to valuable material collection.

For contaminated packing material

Pay attention to local and national official regulations.
15 01 04 metallic packaging
Do not perforate, cut up or weld uncleaned container.

SECTION 14: Transport information

General statements

14.1. UN number: 1950

Transport by road/by rail (ADR/RID)

14.2. UN proper shipping name:
UN 1950 AEROSOLS
14.3. Transport hazard class(es): 2.1
14.4. Packing group: -
Classification code: 5F
LQ: 1 L
14.5. Environmental hazards: environmentally hazardous
Tunnel restriction code: D


Transport by sea (IMDG-code)

14.2. UN proper shipping name:
AEROSOLS (ZINC POWDER)
14.3. Transport hazard class(es): 2.1
14.4. Packing group: -
EmS: F-D, S-U
Marine Pollutant: Yes
14.5. Environmental hazards: environmentally hazardous


Transport by air (IATA)

14.2. UN proper shipping name:
Aerosols, flammable
14.3. Transport hazard class(es): 2.1

14.4. Packing group: -
14.5. Environmental hazards: Not applicable

14.6. Special precautions for user

Persons employed in transporting dangerous goods must be trained.
All persons involved in transporting must observe safety regulations.
Precautions must be taken to prevent damage.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Freighted as packaged goods rather than in bulk, therefore not applicable.
Minimum amount regulations have not been taken into account.
Danger code and packing code on request.
Comply with special provisions.

SECTION 15: Regulatory information

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

Observe restrictions:
Comply with national regulations/laws governing the protection of young people at work (national implementation of the Directive 94/33/EC)!
Comply with national regulations/laws governing maternity protection (national implementation of the Directive 92/85/EEC)!
Comply with trade association/occupational health regulations.

Directive 2012/18/EU ("Seveso III"), Annex I, Part 1 - The following categories apply to this product (others may also need to be considered according to storage, handling etc.):

Hazard categories	Notes to Annex I	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Lower-tier requirements	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Upper-tier requirements
E2		200	500
P3a	11.1	150 (netto)	500 (netto)

The Notes to Annex 1 of Directive 2012/18/EU, in particular those named in the tables here and notes 1-6, must be taken into account when assigning categories and qualifying quantities.

Directive 2012/18/EU ("Seveso III"), Annex I, Part 2 - This product contains the substances listed below:

Entry Nr	Dangerous substances	Notes to Annex I	Qualifying quantity (tonnes) for the application of - Lower-tier requirements	Qualifying quantity (tonnes) for the application of - Upper-tier requirements
18	Liquefied flammable gases, Category 1 or 2 (including LPG) and natural gas	19	50	200

The Notes to Annex 1 of Directive 2012/18/EU, in particular those named in the tables here and notes 1-6, must be taken into account when assigning categories and qualifying quantities.

Directive 2010/75/EU (VOC): 69,22 %

Observe incident regulations.

15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information

Revised sections: 2, 3, 8, 11, 12, 16
Employee training in handling dangerous goods is required.
These details refer to the product as it is delivered.
Employee instruction/training in handling hazardous materials is required.

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used
STOT RE 2, H373	Classification according to calculation procedure.
Eye Irrit. 2, H319	Classification according to calculation procedure.
STOT SE 3, H335	Classification according to calculation procedure.
Skin Irrit. 2, H315	Classification according to calculation procedure.
Asp. Tox. 1, H304	Classification according to calculation procedure.
STOT SE 3, H336	Classification according to calculation procedure.
Aquatic Chronic 2, H411	Classification according to calculation procedure.
Aerosol 1, H222	Classification according to calculation procedure.
Aerosol 1, H229	Classification based on the form or physical state.

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).
H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
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.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

STOT RE — Specific target organ toxicity - repeated exposure
Eye Irrit. — Eye irritation
STOT SE — Specific target organ toxicity - single exposure - respiratory tract irritation
Skin Irrit. — Skin irritation
Asp. Tox. — Aspiration hazard
STOT SE — Specific target organ toxicity - single exposure - narcotic effects
Aquatic Chronic — Hazardous to the aquatic environment - chronic
Aerosol — Aerosols
Flam. Liq. — Flammable liquid
Acute Tox. — Acute toxicity - dermal
Acute Tox. — Acute toxicity - inhalation
Aquatic Acute — Hazardous to the aquatic environment - acute

Any abbreviations and acronyms used in this document:

AC Article Categories
acc., acc. to according, according to
ACGIH American Conference of Governmental Industrial Hygienists
ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
AOEL Acceptable Operator Exposure Level
AOX Adsorbable organic halogen compounds
approx. approximately

Art., Art. no.	Article number
ATE	Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)
BAM	Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)
BAuA	Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)
BCF	Bioconcentration factor
BGV	Berufsgenossenschaftliche Vorschrift (= Accident Prevention Regulation)
BHT	Butylhydroxytoluol (= 2,6-Di-t-butyl-4-methyl-phenol)
BMGV	Biological monitoring guidance value (EH40, UK)
BOD	Biochemical oxygen demand
BSEF	Bromine Science and Environmental Forum
bw	body weight
CAS	Chemical Abstracts Service
CEC	Coordinating European Council for the Development of Performance Tests for Fuels, Lubricants and Other Fluids
CESIO	Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques
CIPAC	Collaborative International Pesticides Analytical Council
CLP	Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)
CMR	carcinogenic, mutagenic, reproductive toxic
COD	Chemical oxygen demand
CTFA	Cosmetic, Toiletry, and Fragrance Association
DMEL	Derived Minimum Effect Level
DNEL	Derived No Effect Level
DOC	Dissolved organic carbon
DT50	Dwell Time - 50% reduction of start concentration
DVS	Deutscher Verband für Schweißen und verwandte Verfahren e.V. (= German Association for Welding and Allied Processes)
dw	dry weight
e.g.	for example (abbreviation of Latin 'exempli gratia'), for instance
EC	European Community
ECHA	European Chemicals Agency
EEA	European Economic Area
EEC	European Economic Community
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EN	European Norms
EPA	United States Environmental Protection Agency (United States of America)
ERC	Environmental Release Categories
ES	Exposure scenario
etc.	et cetera
EU	European Union
EWC	European Waste Catalogue
Fax.	Fax number
gen.	general
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
GWP	Global warming potential
HET-CAM	Hen's Egg Test - Chorionallantoic Membrane
HGWP	Halocarbon Global Warming Potential
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
IBC (Code)	International Bulk Chemical (Code)
IC	Inhibitory concentration
IMDG-code	International Maritime Code for Dangerous Goods
incl.	including, inclusive
IUCLID	International Uniform ChemicaL Information Database
LC	lethal concentration
LC50	lethal concentration 50 percent kill
LCLo	lowest published lethal concentration
LD	Lethal Dose of a chemical
LD50	Lethal Dose, 50% kill
LDLo	Lethal Dose Low
LOAEL	Lowest Observed Adverse Effect Level
LOEC	Lowest Observed Effect Concentration
LOEL	Lowest Observed Effect Level

LQ Limited Quantities
MARPOL International Convention for the Prevention of Marine Pollution from Ships
n.a. not applicable
n.av. not available
n.c. not checked
n.d.a. no data available
NIOSH National Institute of Occupational Safety and Health (United States of America)
NOAEC No Observed Adverse Effective Concentration
NOAEL No Observed Adverse Effect Level
NOEC No Observed Effect Concentration
NOEL No Observed Effect Level
ODP Ozone Depletion Potential
OECD Organisation for Economic Co-operation and Development
org. organic
PAH polycyclic aromatic hydrocarbon
PBT persistent, bioaccumulative and toxic
PC Chemical product category
PE Polyethylene
PNEC Predicted No Effect Concentration
POCP Photochemical ozone creation potential
ppm parts per million
PROC Process category
PTFE Polytetrafluorethylene
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)
REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.
RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)
SADT Self-Accelerating Decomposition Temperature
SAR Structure Activity Relationship
SU Sector of use
SVHC Substances of Very High Concern
Tel. Telephone
ThOD Theoretical oxygen demand
TOC Total organic carbon
TRGS Technische Regeln für Gefahrstoffe (=Technical Regulations for Hazardous Substances)
UN RTDG United Nations Recommendations on the Transport of Dangerous Goods
VbF Verordnung über brennbare Flüssigkeiten (= Regulation for flammable liquids (Austria))
VOC Volatile organic compounds
vPvB very persistent and very bioaccumulative
WEL-TWA, WEL-STEL WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period), WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period) (EH40, UK).
WHO World Health Organization
wwt wet weight

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.
No responsibility.
These statements were made by:

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