SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of: Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

ZWALUW ZINC ALU SPRAY
Supercedes Date: 07-Feb-2023

Revision date 07-Feb-2023
Revision Number 1

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

1.1. Product identifier

Product Name ZWALUW ZINC ALU SPRAY

Other means of identification

Pure substance/mixture Mixture

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

Recommended use Paint, Aerosol

Uses advised against None known

1.3. Details of the supplier of the safety data sheet

Company Name
Bostik Aerosols GmbH
Giebelstadter Weg 16
D-97234 Reichenberg-Albertshausen
Germany
Tel: +49 9366 90710

E-mail address SDS.box-EU@bostik.com

1.4. Emergency telephone number

Ireland Bostik: +353 (1) 8624900 (Monday- Friday 9am-5pm)
United Kingdom Bostik: +44 (1785) 272650 (9am to 5pm Mon-Fri)
Europe 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Aspiration hazard	Category 1 - (H304)
Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2 - (H319)
Specific target organ toxicity — single exposure	Category 3 - (H336)
Category 3 Narcotic effects	
Specific target organ toxicity — repeated exposure	Category 2 - (H373)
Chronic aquatic toxicity	Category 2 - (H411)
Aerosols	Category 1 - (H222, H229)

2.2. Label elements

Contains Acetone, Xylene (reaction mass of ethylbenzene and xylene), Hydrocarbons, C9,aromatics, Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclic, <5% n-hexane

Signal word
Danger

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

Precautionary Statements - EU (§28, 1272/2008)
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/spray
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves and eye/face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a POISON CENTER or doctor/physician if you feel unwell
P391 - Collect spillage
P405 - Store locked up
P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F
P501 - Dispose of contents/ container to an approved waste disposal plant

Additional information
This product requires tactile warnings if supplied to the general public.

2.3. Other hazards

In case of insufficient ventilation and/or through use, the formation of a explosive/highly flammable mixture is possible. Toxic to aquatic life.

PBT & vPvB
This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	EC No (EU Index No).	CAS No.	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)	REACH registration number
Acetone 20 - 25 %	(606-001-00-8) 200-662-2	67-64-1	Eye Irrit. 2 (H319) (EUH066) STOT SE 3 (H336) Flam. Liq. 2 (H225)	-	-	-	01-2119471330-49-XXXX
Xylene (reaction mass of ethylbenzene and xylene) 10 - <20 %	905-588-0	RR-45541-4	STOT SE 3 (H335) STOT RE 2 (H373) Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Flam Liq. 3 (H226)	STOT RE 2 :: C>=10%	-	-	01-2119488216-32-xxxx
Dimethyl ether 10 - <20 %	(603-019-00-8) 204-065-8	115-10-6	Flam. Gas 1 (H220) Press. Gas (H280)	-	-	-	01-2119472128-37-XXXX
Propane 10 - <20 %	(601-003-00-5) 200-827-9	74-98-6	Flam. Gas 1 (H220) Press. Gas (H280)	-	-	-	01-2119486944-21-XXXX
Butane 5 - <10 %	(601-004-00-0) (601-004-01-8) 203-448-7	106-97-8	Flam. Gas 1 (H220) Press. Gas (H280)	-	-	-	01-2119474691-32-XXXX
Hydrocarbons, C9,aromatics 5 - <10 %	918-668-5	--	STOT SE 3 (H335) STOT SE 3 (H336) Asp. Tox. 1 (H304) Aquatic Chronic 2 (H411) (EUH066) Flam. Liq. 3 (H226)	-	-	-	01-2119455851-35-XXXX
Isobutane 5 - <10 %	(601-004-00-0) (601-004-01-8) 200-857-2	75-28-5	Flam. Gas 1 (H220) Press. Gas (H280)	-	-	-	01-2119485395-27-XXXX
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics 5 - <10 %	927-510-4	RR-100219-3	STOT SE 3 (H336) Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) Aquatic Chronic 2 (H411) Flam. Liq. 2 (H225)	-	-	-	01-2119475515-33-xxxx
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclic, <5% n-hexane 5 - <10 %	921-024-6	RR-100221-7	STOT SE 3 (H336) Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) Aquatic Chronic 2 (H411) Flam Liq. 2 (H225)	-	-	-	01-2119475514-35-XXXX
Aluminium Oxide 1 - <5 %	(013-002-00-1) (013-001-00-6) 231-072-3	7429-90-5	Flam. Sol. 1 (H228) Water-react. 2 (H261)	-	-	-	01-2119529243-45-xxxx
Zinc (Powder or dust, stabilised) 1 - <2.5 %	(030-001-01-9) (030-001-00-1) 231-175-3	7440-66-6	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	-	1	1	01-2119467174-37-xxxx
2-Pentanone oxime 0.1 - <0.3 %	484-470-6	623-40-5	Acute Tox. 4 (H302) Eye Irrit. 2 (H319) Aquatic Chronic 3 (H412)	-	-	-	01-2119980079-27-XXXX

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate
If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture based on its components

Chemical name	EC No (EU Index No)	CAS No	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapour - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Acetone	(606-001-00-8) 200-662-2	67-64-1	5800	-	-	-	-
Xylene (reaction mass of ethylbenzene and xylene)	905-588-0	RR-45541-4	3523	1999	-	19	-
Dimethyl ether	(603-019-00-8) 204-065-8	115-10-6	-	-	-	-	-
Propane	(601-003-00-5) 200-827-9	74-98-6	-	-	-	-	-
Butane	(601-004-00-0) (601-004-01-8) 203-448-7	106-97-8	-	-	-	-	-
Hydrocarbons, C9,aromatics	918-668-5	--	-	-	-	-	-
Isobutane	(601-004-00-0) (601-004-01-8) 200-857-2	75-28-5	-	-	-	-	-
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	RR-100219-3	-	-	-	-	-
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclic, <5% n-hexane	921-024-6	RR-100221-7	-	2921	-	-	-
Aluminium Oxide	(013-002-00-1) (013-001-00-6) 231-072-3	7429-90-5	-	-	0.8889	-	-
Zinc (Powder or dust, stabilised)	(030-001-01-9) (030-001-00-1) 231-175-3	7440-66-6	-	-	-	-	-
2-Pentanone oxime	484-470-6	623-40-5	1133	-	-	-	-

This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Chemical name	CAS No	SVHC candidates
Acetone	67-64-1	
Xylene (reaction mass of ethylbenzene and xylene)	RR-45541-4	
Dimethyl ether	115-10-6	
Propane	74-98-6	
Butane	106-97-8	
Hydrocarbons, C9,aromatics	--	
Isobutane	75-28-5	
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	RR-100219-3	
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclic, <5% n-hexane	RR-100221-7	

Aluminium Oxide	7429-90-5	
Zink Alu G&G 12A-1037-0906 unknown-1	UNKNOWN	
Zinc (Powder or dust, stabilised)	7440-66-6	
2-Pentanone oxime	623-40-5	

Chemical name	Notes
Dimethyl ether - 115-10-6	U
Propane - 74-98-6	U
Butane - 106-97-8	C,U
Isobutane - 75-28-5	C,U
Aluminium Oxide - 7429-90-5	T

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Inhalation Remove to fresh air. Aspiration into lungs can produce severe lung damage. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, (trained personnel should) give oxygen. Get immediate medical attention. Delayed pulmonary edema may occur.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.

Skin contact Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Ingestion Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Get immediate medical attention.

Self-protection of the first aider Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

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

Symptoms Difficulty in breathing. Coughing and/ or wheezing. Dizziness. May cause redness and tearing of the eyes. Burning sensation. Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

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

Note to doctors Because of the danger of aspiration, emesis or gastric lavage should not be used unless the risk is justified by the presence of additional toxic substances.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Dry chemical. Carbon dioxide (CO2). Water spray.

Unsuitable extinguishing media DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Cylinders may rupture under extreme heat. Damaged cylinders should be handled only by specialists. Containers may explode when heated.

Hazardous combustion products Carbon oxides. Carbon monoxide. Carbon dioxide (CO2). Hydrocarbons. Aldehydes.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Take precautionary measures against static discharges. Avoid breathing dust/fume/gas/mist/vapours/spray.

Other information Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

Methods for containment Keep out of drains, sewers, ditches and waterways. Stop leak if you can do it without risk. A vapour suppressing foam may be used to reduce vapours. Dyke far ahead of spill to collect run-off water. Flood with water to complete polymerization and scrape off floor.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labelled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Use personal protection equipment. 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. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Use spark-proof tools and explosion-proof equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Keep in an area equipped with sprinklers. Do not puncture or incinerate cans. Contents under pressure. In case of rupture. Avoid breathing vapours or mists. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse. In case of insufficient ventilation, wear suitable respiratory equipment.

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Wear suitable gloves and eye/face protection. Avoid contact with skin, eyes or clothing.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Protect from sunlight. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labelled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Store in a cool, dry area away from potential sources of heat, open flames, sunlight or other chemicals. Store locked up. Keep out of the reach of children. Store away from other materials. Keep/store only in original container. Store in a dry place. Store in a closed container.

7.3. Specific end use(s)

Specific use(s)
Paint, Aerosol.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

Other information Observe technical data sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	Ireland	United Kingdom
Acetone 67-64-1	TWA: 500 ppm TWA: 1210 mg/m³	TWA: 500 ppm TWA: 1210 mg/m³ STEL: 1500 ppm STEL: 3630 mg/m³	TWA: 500 ppm TWA: 1210 mg/m³ STEL: 1500 ppm STEL: 3620 mg/m³
Xylene (reaction mass of ethylbenzene and xylene) RR-45541-4	TWA: 50 ppm TWA: 221 mg/m³ STEL: 100 ppm STEL: 442 mg/m³ S*	TWA: 50 ppm TWA: 221 mg/m³ STEL: 100 ppm STEL: 442 mg/m³ Skin	STEL: 100 ppm STEL: 441 mg/m³ TWA: 50 ppm TWA: 220 mg/m³ Skin
Dimethyl ether 115-10-6	TWA: 1000 ppm TWA: 1920 mg/m³	TWA: 1000 ppm TWA: 1920 mg/m³ STEL: 3000 ppm STEL: 5760 mg/m³	TWA: 400 ppm TWA: 766 mg/m³ STEL: 500 ppm STEL: 958 mg/m³
Butane 106-97-8	-	TWA: 1000 ppm STEL: 3000 ppm	TWA: 600 ppm TWA: 1450 mg/m³ STEL: 750 ppm STEL: 1810 mg/m³
Isobutane 75-28-5	-	TWA: 1000 ppm (8hr) STEL: 1000 ppm	
Propane	-	STEL: 3000 ppm	

74-98-6		Simple asphyxiant	
Aluminium Oxide 7429-90-5	-	TWA: 1 mg/m³ STEL: 3 mg/m³	TWA: 10 mg/m³ TWA: 4 mg/m³ STEL: 30 mg/m³ STEL: 12 mg/m³

Chemical name	European Union
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclic, <5% n-hexane RR-100221-7	DNEL (Ind/Prof) 773 mg/Kg bw/day (dermal) 2035 mg/m³/8h (inhalation)

Derived No Effect Level (DNEL) No information available

Derived No Effect Level (DNEL)			
Acetone (67-64-1)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
Long term Systemic health effects worker	Dermal	186 mg/kg bw/d	
Short term Local health effects worker	Inhalation	2420 mg/m³	
Long term Systemic health effects worker	Inhalation	1210 mg/m³	

Xylene (reaction mass of ethylbenzene and xylene) (RR-45541-4)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
worker Long term Systemic health effects	Inhalation	221 mg/m³	
worker Long term Local health effects	Inhalation	221 mg/m³	
worker Short term Local health effects	Inhalation	442 mg/m³	
worker Long term Systemic health effects	Dermal	212 mg/kg bw/d	

Dimethyl ether (115-10-6)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
worker Long term Systemic health effects	Inhalation	1894 mg/m³	

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics (RR-100219-3)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
worker Long term Systemic health effects	Inhalation	2085 mg/m³	
worker Long term Systemic health effects	Dermal	300 mg/kg bw/d	

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclic, <5% n-hexane (RR-100221-7)			
Type	Exposure route	Derived No Effect Level	Safety factor

		(DNEL)	
Long term Systemic health effects worker DNEL	Inhalation	2035 mg/m³	
Long term Systemic health effects worker DNEL	Dermal	773 mg/kg bw/d	

Zinc (Powder or dust, stabilised) (7440-66-6)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
worker Long term Systemic health effects	Inhalation	5 mg/m³	
worker Long term Systemic health effects	Dermal	83 mg/kg bw/d	

Derived No Effect Level (DNEL)			
Acetone (67-64-1)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
Consumer Long term Systemic health effects	Inhalation	200 mg/m³	
Consumer Long term Systemic health effects	Dermal	62 mg/kg bw/d	
Consumer Long term Systemic health effects	Oral	62 mg/kg bw/d	

Xylene (reaction mass of ethylbenzene and xylene) (RR-45541-4)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
Consumer Long term Systemic health effects	Inhalation	65.3 mg/m³	
Consumer Short term Systemic health effects	Inhalation	260 mg/m³	
Consumer Long term Local health effects	Inhalation	65.3 mg/m³	
Consumer Short term Local health effects	Inhalation	260 mg/m³	
Consumer Long term Systemic health effects	Dermal	125 mg/kg bw/d	
Consumer Long term Systemic health effects	Oral	12.5 mg/kg bw/d	

Dimethyl ether (115-10-6)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor

Consumer Long term Systemic health effects	Inhalation	471 mg/m³	

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics (RR-100219-3)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
Consumer Long term Systemic health effects	Inhalation	447 mg/m³	
Consumer Long term Systemic health effects	Dermal	149 mg/kg bw/d	
Consumer Long term Systemic health effects	Oral	149 mg/kg bw/d	

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclic, <5% n-hexane (RR-100221-7)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
Consumer Long term Systemic health effects	Dermal	699 mg/kg bw/d	
Consumer Long term Systemic health effects	Inhalation	608 mg/m³	
Consumer Long term Systemic health effects	Oral	699 mg/kg bw/d	

Zinc (Powder or dust, stabilised) (7440-66-6)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
Consumer Long term Systemic health effects	Inhalation	2.5 mg/m³	
Consumer Long term Systemic health effects	Dermal	83 mg/kg bw/d	
Consumer Long term Systemic health effects	Oral	0.83 mg/kg bw/d	

Predicted No Effect Concentration (PNEC) No information available.

Predicted No Effect Concentration (PNEC)	
Acetone (67-64-1)	
Environmental compartment	Predicted No Effect Concentration (PNEC)
Freshwater	10.6 mg/l
Freshwater - intermittent	21 mg/l
Marine water	1.06 mg/l
Microorganisms in sewage treatment	100 mg/l
Freshwater sediment	30.4 mg/kg dry weight
Marine water	3.04 mg/kg dry weight
Soil	29.5 mg/kg dry weight

Xylene (reaction mass of ethylbenzene and xylene) (RR-45541-4)	
Environmental compartment	Predicted No Effect Concentration (PNEC)
Freshwater	0.327 mg/l

Marine water	0.327 mg/l
Microorganisms in sewage treatment	6.58 mg/l
Freshwater sediment	12.46 mg/kg dry weight
Soil	2.31 mg/kg dry weight

Dimethyl ether (115-10-6)	
Environmental compartment	Predicted No Effect Concentration (PNEC)
Freshwater	0.155 mg/l
Marine water	0.016 mg/l
Microorganisms in sewage treatment	160 mg/l
Freshwater sediment	0.681 mg/kg dry weight
Soil	0.45 mg/kg dry weight

Zinc (Powder or dust, stabilised) (7440-66-6)	
Environmental compartment	Predicted No Effect Concentration (PNEC)
Freshwater	20.6 µg/l
Marine water	6.1 µg/l
Sewage treatment plant	100 µg/l
Freshwater sediment	235.6 mg/kg
Marine sediment	121 mg/kg dry weight
Soil	106.8 mg/kg dry weight

8.2. Exposure controls

Engineering controls Ensure adequate ventilation, especially in confined areas. Vapours/aerosols must be exhausted directly at the point of origin.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Eye protection must conform to standard EN 166

Hand protection Wear suitable gloves. Glove thickness > 0.7mm. Butyl rubber. Nitrile rubber. The breakthrough time for the mentioned glove material is in general greater than 480 min. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. Gloves must conform to standard EN 374

Skin and body protection Wear appropriate personal protective clothing to prevent skin contact.

Respiratory protection Ensure adequate respiratory protection during spray applications. In case of insufficient ventilation, wear suitable respiratory equipment.

Recommended filter type: Organic gases and vapours filter conforming to EN 14387. Wear a respirator conforming to EN 140 with Type A filter or better.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state Liquid
Appearance Aerosol
Colour Silver
Odour Solvent.
Odour threshold No information available

Property	**Values**	**Remarks • Method**
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	Not applicable, Aerosol .	Not applicable, Aerosol
Flammability	Not applicable for liquids .	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	

Flash point	Not applicable, Aerosol .	Not applicable, Aerosol
Autoignition temperature	>200 °C	None known
Decomposition temperature		None known
pH	No data available	Not applicable. Insoluble in water.
pH (as aqueous solution)	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	
Water solubility	No data available.	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Vapour pressure	No data available	None known
Relative density	No data available	None known
Bulk Density	No data available	
Density	0.7348 g/cm³	
Relative vapour density	No data available	None known
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	

9.2. Other information

Solid content (%) 0

VOC content No data available

9.2.1. Information with regards to physical hazard classes
Not applicable

9.2.2. Other safety characteristics
No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge Yes.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Heating causes rise in pressure with risk of bursting.

10.4. Conditions to avoid

Conditions to avoid Heat, flames and sparks. Keep away from open flames, hot surfaces and sources of ignition. Extremes of temperature and direct sunlight.

10.5. Incompatible materials

Incompatible materials Strong acids. Strong bases. Strong oxidising agents. Incompatible with oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition None under normal use conditions. Stable under recommended storage conditions.

products

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal. Specific test data for the substance or mixture is not available. Aspiration into lungs can produce severe lung damage. May cause pulmonary edema. Pulmonary edema can be fatal. May cause irritation of respiratory tract. May cause drowsiness or dizziness.

Eye contact Specific test data for the substance or mixture is not available. May cause irritation. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.

Skin contact Repeated exposure may cause skin dryness or cracking. Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).

Ingestion Specific test data for the substance or mixture is not available. Potential for aspiration if swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis. May be fatal if swallowed and enters airways. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Difficulty in breathing. Coughing and/ or wheezing. Dizziness. Redness. May cause redness and tearing of the eyes. Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Acute toxicity

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (dermal) 7,111.70 mg/kg
ATEmix (inhalation-vapour) 122.80 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Acetone	=5800 mg/kg (Rattus) 3000 mg/Kg (mouse)	>15800 mg/Kg (Rattus)	=79 mg/l(Rattus) 4 h
Xylene (reaction mass of ethylbenzene and xylene)	=3500 mg/kg (Rattus)	>10000 mg/kg (Oryctolagus cuniculus)	=>47635 mg/L (Rattus) 4 h = >5000 ppm (Rattus) 4 h
Dimethyl ether	-	-	=164000 ppm (Rattus) 4 h
Propane	-	-	>800000 ppm (Rattus) 15 min
Butane	-	-	=658 g/m³ (Rattus) 4 h
Hydrocarbons, C9,aromatics	3592 mg/Kg (Rattus) (OECD 401)	>3160 mg/Kg (Oryctolagus cuniculus) (OECD 402)	4hour >6193 mg/m³ (Rattus)
Isobutane	-	-	=658 mg/L (Rattus) 4 h
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	LD50 >5840 mg/kg Rat	LD50 >2920 mg/kg (Rattus)	LC50 >23.3 mg/L (4h)(Rat, vapour) (OECD 403)
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclic,	LD50 >5840 mg/kg (Rattus)	LD50 >2800-3100 mg/kg (Rattus)	LD50 (4h) >25200 mg/m³ LD50 (4h) >20 mg/l (rattus) v

<5% n-hexane			
Aluminium Oxide	-	-	> 0.888 mg/L (Rat) 4 h
Zinc (Powder or dust, stabilised)	LD50 >2000 mg/kg (Rattus) (OECD 401)	-	LC50 (4h)> 5.41 mg/Kg Dust (Rattus) (OECD 403)
2-Pentanone oxime	LD50 = 1133 mg/kg (Rattus) OECD 425	-	> 295 ppm (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Classification based on data available for ingredients. Irritating to skin.

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes serious eye irritation.

Acetone (67-64-1)

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD Test No. 405: Acute Eye Irritation/Corrosion	Rabbit	eye			irritant

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

Acetone (67-64-1)

Method	Species	Exposure route	Results
OECD Test No. 406: Skin Sensitisation	Guinea pig	Dermal	Not a skin sensitiser

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 respiratory irritation. May cause drowsiness or dizziness.

STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard May be fatal if swallowed and enters airways.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea	M-Factor	M-Factor (long-term)
Acetone 67-64-1	-	LC50 96 h 4.74 - 6.33 mL/L (Oncorhynchus mykiss)	EC50 = 14500 mg/L 15 min	EC50 48 h 10294 - 17704 mg/L (Daphnia magna Static)		
Xylene (reaction mass of ethylbenzene and xylene) RR-45541-4	EC50 (72hr) 2.2 mg/l (Selenastrum capricornutum)	LC50(96h) 2.6 mg/l (Oncorhynchus mykiss-OECD 203)	EC50 = 0.0084 mg/L 24 h	LC50(24h) 1 mg/l (Daphnia magna-OECD 202)		
Dimethyl ether 115-10-6	-	LC50: >4.1g/L (96h, Poecilia reticulata)	-	> 4400 mg/L (Daphnia) (NEN 6501)		
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics RR-100219-3	ErL50 (72h) = 10-30 mg/L (Pseudokirchneriella subcapitata)	LL50 (96h) >13.4 mg/L (Oncorhynchus mykiss) OECD 203	-	EL50 (48h) = 3.0 mg/L (Daphnia magna)		
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclic, <5% n-hexane RR-100221-7	EL50 (72h)= 26 mg/L (Pseudokirchneriella subcapitata) OECD 201	LL50 (96h) =12 mg/L (Oncorhynchus mykiss) OECD 203	-	EL50 (48h) =3mg/L (Daphnia magna) OECD 202		
Zinc (Powder or dust, stabilised) 7440-66-6	EC50: 0.09 - 0.125mg/L (72h, Pseudokirchneriella subcapitata)	LC50: =0.24mg/L (96h, Oncorhynchus mykiss)	-	EC50: 0.139 - 0.908mg/L (48h, Daphnia magna)	1	1
2-Pentanone oxime 623-40-5	EC50 (72h) = 54 mg/L (Pseudokirchneriella subcapitata) OECD 201	LC50 (96h) > 100 mg/L (Oncorhynchus mykiss) OECD Guideline 203	-	EC50 (48h) > 100 mg/l (Daphnia magna) OECD Guideline 202		

12.2. Persistence and degradability

Persistence and degradability No information available.

Acetone (67-64-1)

Method	Exposure time	Value	Results
OECD Test No. 301B: Ready Biodegradability: CO2 Evolution Test (TG 301 B)	28 days	biodegradation	91 % Readily biodegradable

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics (RR-100219-3)

Method	Exposure time	Value	Results
OECD Test No. 301F: Ready Biodegradability: Manometric Respirometry Test (TG 301 F)	28 days	98%	Readily biodegradable

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclic, <5% n-hexane (RR-100221-7)

Method	Exposure time	Value	Results
OECD Test No. 301F: Ready Biodegradability: Manometric	28 days	98%	Readily biodegradable

Respirometry Test (TG 301 F)			

12.3. Bioaccumulative potential

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Acetone	-0.24
Xylene (reaction mass of ethylbenzene and xylene)	3.15
Dimethyl ether	-0.18
Propane	1.09
Butane	2.31
Isobutane	2.8
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclic, <5% n-hexane	4
2-Pentanone oxime	1.43

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment

Chemical name	PBT and vPvB assessment
Acetone	The substance is not PBT / vPvB PBT assessment does not apply
Xylene (reaction mass of ethylbenzene and xylene)	The substance is not PBT / vPvB
Dimethyl ether	The substance is not PBT / vPvB
Propane	The substance is not PBT / vPvB
Butane	The substance is not PBT / vPvB PBT assessment does not apply
Isobutane	The substance is not PBT / vPvB PBT assessment does not apply
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	The substance is not PBT / vPvB
Aluminium Oxide	The substance is not PBT / vPvB PBT assessment does not apply
Zinc (Powder or dust, stabilised)	The substance is not PBT / vPvB PBT assessment does not apply
2-Pentanone oxime	The substance is not PBT / vPvB

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging	Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.
European Waste Catalogue	16 05 04* gases in pressure containers (including halons) containing dangerous substances 15 01 04 metallic packaging
Other information	Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1 UN number or ID number	UN1950
14.2 Proper Shipping Name	Aerosols
14.3 Transport hazard class(es)	2
Labels	2.1
14.4 Packing group	Not regulated
Description	UN1950, Aerosols, 2, (D), Environmentally Hazardous
14.5 Environmental hazards	Yes
14.6 Special Provisions	190, 327, 344, 625
Classification code	5F
Tunnel restriction code	(D)
Limited quantity (LQ)	1 L

IMDG

14.1 UN number or ID number	UN1950
14.2 Proper Shipping Name	Aerosols
14.3 Transport hazard class(es)	2.1
14.4 Packing group	Not regulated
Description	UN1950, Aerosols (Hydrocarbons, C9,aromatics), 2.1, (0°C c.c.), Marine Pollutant
14.5 Marine pollutant	P
14.6 Special Provisions	63,190, 277, 327, 344, 381, 959
Limited Quantity (LQ)	See SP277
EmS-No	F-D, S-U
14.7 Maritime transport in bulk according to IMO instruments	Not applicable

Air transport (ICAO-TI / IATA-DGR)

14.1 UN number or ID number	UN1950
14.2 Proper Shipping Name	Aerosols, flammable
14.3 Transport hazard class(es)	2.1
14.4 Packing group	Not regulated
Description	UN1950, Aerosols, flammable, 2.1
14.5 Environmental hazards	Yes
14.6 Special Provisions	A145, A167, A802
Limited quantity (LQ)	30 kg G
ERG Code	10L

Section 15: REGULATORY INFORMATION

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

European Union

Registration, Evaluation, Authorization, and Restriction of Chemicals (REACh) Regulation (EC 1907/2006)

SVHC: Substances of Very High Concern for Authorisation:

This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Chemical name	CAS No
Acetone	67-64-1
Xylene (reaction mass of ethylbenzene and xylene)	RR-45541-4
Dimethyl ether	115-10-6
Propane	74-98-6
Butane	106-97-8
Hydrocarbons, C9,aromatics	--
Isobutane	75-28-5
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	RR-100219-3
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclic, <5% n-hexane	RR-100221-7
Aluminium Oxide	7429-90-5
Zink Alu G&G 12A-1037-0906 unknown-1	UNKNOWN
Zinc (Powder or dust, stabilised)	7440-66-6
2-Pentanone oxime	623-40-5

EU-REACH (1907/2006) - Annex XVII - Substances subject to Restriction
This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII).

Chemical name	CAS No	Restricted substance per REACH Annex XVII
Acetone	67-64-1	
Xylene (reaction mass of ethylbenzene and xylene)	RR-45541-4	
Dimethyl ether	115-10-6	
Propane	74-98-6	
Butane	106-97-8	
Hydrocarbons, C9,aromatics	--	
Isobutane	75-28-5	
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	RR-100219-3	
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclic, <5% n-hexane	RR-100221-7	
Aluminium Oxide	7429-90-5	
Zink Alu G&G 12A-1037-0906 unknown-1	UNKNOWN	
Zinc (Powder or dust, stabilised)	7440-66-6	
2-Pentanone oxime	623-40-5	

Substance subject to authorisation per REACH Annex XIV
This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV)

Dangerous substance category per Seveso Directive (2012/18/EU)
P3a - FLAMMABLE AEROSOLS
P3b - FLAMMABLE AEROSOLS
E2 - Hazardous to the Aquatic Environment in Category Chronic 2

Ozone-depleting substances (ODS) regulation (EC) 1005/2009
Not applicable

Persistent Organic Pollutants
Not applicable

REGULATION (EU) 2019/1148 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 June 2019 on the marketing and use of explosives precursors
This product contains

Chemical name	Reporting of suspicious transactions, disappearances and thefts	Restricted
Acetone - 67-64-1	X	
Aluminium Oxide - 7429-90-5	X	

National regulations

15.2. Chemical safety assessment

Chemical Safety Assessments have been carried out by the Reach registrants for substances registered at >10 tpa. No Chemical Safety Assessment has been carried out for this mixture

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3
EUH066 - Repeated exposure may cause skin dryness or cracking
H220 - Extremely flammable gas
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

SVHC: Substances of Very High Concern for Authorisation:
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Chemicals
vPvB: Very Persistent and very Bioaccumulative (vPvB) Chemicals
STOT RE: Specific target organ toxicity - Repeated exposure
STOT SE: Specific target organ toxicity - Single exposure
EWC: European Waste Catalogue
LOW: List of Wastes (see http://ec.europa.eu/environment/waste/framework/list.htm)
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IATA: International Air Transport Association
ICAO: ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG: International Maritime Dangerous Goods
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail

Legend SECTION 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
AGW	Occupational exposure limit value	BGW	Biological limit value
Ceiling	Maximum limit value	*	Skin designation

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - Vapour	Calculation method

Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method
	On basis of test data

Key literature references and sources for data used to compile the SDS
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
NIOSH (National Institute for Occupational Safety and Health)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set

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Training Advice No information available

Further information No information available

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Disclaimer
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End of Safety Data Sheet