

SAFETY DATA SHEET according to regulation 1907/2006



Product name: 4025 Zn-Al Prime

Creation date: 18.11.2020, Revision: 16.02.2021, version: 1.1

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

1.1.1 Product name
4025 Zn-Al Prime



<https://my.chemius.net/p/R0tttF/en/pd/en>

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

1.2.1 Relevant identified uses
Coating. An agent for protection against corrosion.

1.2.2 Uses advised against
No information.

1.3 Details of the supplier of the safety data sheet

1.3.1 Supplier
SILCO, D.O.O.
Šentrupert 5 a
3303 Gomilsko, Slovenia
+386 3 703 3180
n.cvilak@silco-automotive.com

1.4 Emergency Telephone Number

Emergency
112

Supplier
+386 3 703 3180

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No 1272/2008 (CLP)
Aerosol 1; H222 Extremely flammable aerosol.
Aerosol 1; H229.1 Pressurised container: May burst if heated.
Asp. Tox. 1; H304 May be fatal if swallowed and enters airways.
Skin Irrit. 2; H315 Causes skin irritation.
Eye Irrit. 2; H319 Causes serious eye irritation.
STOT SE 3; H336 May cause drowsiness or dizziness.
Aquatic Chronic 2; H411 Toxic to aquatic life with long lasting effects.

2.2 Label elements

2.2.1 Labelling according to Regulation (EC) No 1272/2008 [CLP]

**Signal word: Danger**

H222 Extremely flammable aerosol.

H229.1 Pressurised container: May burst if heated.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

EUH208 Contains 2-butanone oxime. May produce an allergic reaction.

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.

P302 + P352 + P362 + P364 IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE/doctor if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P391 Collect spillage.

P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.

P501 Dispose of contents/container in accordance with national regulation.

2.2.2 Contains:

acetone

hydrocarbons, C7, n-alkanes, isoalkanes, cyclics

Hydrocarbons, C9, aromatics

2.3 Other hazards

No information.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1 Substances**

For mixtures see 3.2.

3.2 Mixtures

NAME	CAS EC INDEX REACH	%	CLASSIFICATION ACCORDING TO REGULATION (EC) NO 1272/2008 (CLP)	SPECIFIC CONC. LIMITS	NOTES FOR SUBSTANCES
acetone	67-64-1 200-662-2 606-001-00-8 01-2119471330-49	10-25	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 EUH066	/	/

isobutane	75-28-5 200-857-2 601-004-00-0 01- 2119485395- 27	10- 25	Flam. Gas 1; H220 Press. Gas; H280	/	C, U
xylene	1330-20-7 215-535-7 601-022-00-9	10- 25	Flam. Liq. 3; H226 Acute Tox. 4; H312 Skin Irrit. 2; H315 Acute Tox. 4; H332	/	C
dimethyl ether	115-10-6 204-065-8 603-019-00-8 01- 2119472128- 37	10- 25	Flam. Gas 1; H220 Press. Gas; H280	/	U
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	- 927-510-4 - 01- 2119475515- 33	2,5- 10	Flam. Liq. 2; H225 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Aquatic Chronic 2; H411	/	/
propane	74-98-6 200-827-9 601-003-00-5 01- 2119486944- 21	2,5- 10	Flam. Gas 1; H220 Press. Gas; H280	/	U
Hydrocarbons, C9, aromatics	- 918-668-5 - 01- 2119455851- 35	2,5- 10	Flam. Liq. 3; H226 Asp. Tox. 1; H304 STOT SE 3; H335 STOT SE 3; H336 Aquatic Chronic 2; H411	/	/
zinc powder - zinc dust (stabilized)	7440-66-6 231-175-3 030-001-01-9 01- 2119467174- 37	2,5- 10	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	/	/
aluminium powder (stabilised)	7429-90-5 231-072-3 013-002-00-1 01- 2119529243- 45	2,5- 10	Flam. Sol. 1; H228.1 Water-react. 2; H261.2	/	T
2-butanone oxime	96-29-7 202-496-6 616-014-00-0 01- 2119539477- 28	< 1	Acute Tox. 4; H312 Skin Sens. 1; H317 Eye Dam. 1; H318 Carc. 2; H351	/	/
n-hexane	110-54-3 203-777-6 601-037-00-0	< 1	Flam. Liq. 2; H225 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Repr. 2; H361f STOT RE 2; H373 Aquatic Chronic 2; H411	STOT RE 2; H373; C ≥ 5	/

Notes for substances

C	<p>Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers.</p> <p>In this case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers.</p>
T	<p>This substance may be marketed in a form which does not have the physical hazards as indicated by the classification in the entry in Part 3. If the results of the relevant method or methods in accordance with Part 2 of Annex I of this Regulation show that the specific form of substance marketed does not exhibit this physical property or these physical hazards, the substance shall be classified in accordance with the result or results of this test or these tests. Relevant information, including reference to the relevant test method(s) shall be included in the safety data sheet.</p>
U	<p>When put on the market gases have to be classified as 'Gases under pressure', in one of the groups compressed gas, liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case. The following codes are assigned:</p> <p>Press. Gas (Comp.) Press. Gas (Liq.) Press. Gas (Ref. Liq.) Press. Gas (Diss.)</p> <p>Aerosols shall not be classified as gases under pressure (See Annex I, Part 2, Section 2.3.2.1, Note 2).</p>

SECTION 4: FIRST AID MEASURES

4.1 First aid measures

4.1.1 General notes

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Never give anything by mouth to an unconscious person. Place patient in recovery position and ensure airway patency. No action shall be taken involving any personal risk or without suitable training.

4.1.2 Following inhalation

Remove patient to fresh air - move out of dangerous area. Keep at rest in a position comfortable for breathing. If symptoms develop and persist, seek medical attention. If breathing is irregular or respiratory arrest occurs provide artificial respiration. Immediately consult a doctor. In case of unconsciousness bring patient into stable side position and seek medical attention.

4.1.3 Following skin contact

Take off all contaminated clothing. Wash affected skin areas thoroughly with plenty of water and soap. If symptoms develop and persist, seek medical attention. Wash contaminated clothes and shoes before reuse.

4.1.4 Following eye contact

Immediately flush eyes with running water, keeping eyelids apart. If irritation persists, seek professional medical attention.

4.1.5 Following ingestion

Not likely. Accidental ingestion: Rinse mouth thoroughly with water. Do not induce vomiting without prior consultation with a doctor. In case of doubt or if feeling unwell seek medical help. If vomiting occurs, the patient should hold the head lower than the hips, because it reduces the possibility of aspiration. Show the physician the safety data sheet or label.

4.2 Most important symptoms and effects, both acute and delayed

4.2.1 Following inhalation

Vapours may cause drowsiness and dizziness. Excessive exposure to spray mist, fog, or vapours may cause respiratory irritation. Coughing, sneezing, nasal discharge, labored breathing.

4.2.2 Following skin contact

Irritating to the skin. Itching, redness, pain. May cause sensitisation by skin contact (itching, redness, rashes).

4.2.3 Following eye contact

Causes severe eye irritation. Redness, tearing, pain.

4.2.4 Following ingestion

Not likely. Accidental ingestion: May cause abdominal discomfort. May cause nausea/vomiting and diarrhea. May cause irritation of the digestive tract. May be fatal if swallowed and enters airways.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

5.1.1 Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Fire extinguishing powder.

Carbon dioxide (CO₂).

5.1.2 Unsuitable extinguishing media

Water.

5.2 Special hazards arising from the substance or mixture

5.2.1 Hazardous combustion products

In case of a fire toxic gases can be generated; do not inhale gases/smoke. In the event of fire the following can be generated: carbon monoxide (CO), carbon dioxide (CO₂). Hydrocarbons.

Nitrogen oxides (NO_x).

Aldehydes. Soot.

5.3 Advice for firefighters

5.3.1 Protective actions

In case of fire or heating do not breathe fumes/vapours. Vapours can form explosive mixtures with air. Prolonged heating can cause an explosion. In case of fire aerosols can explode and be propelled to considerable distances in different directions. Cool containers at risk with water spray. If possible remove containers from endangered area. No action shall be taken involving any personal risk or without suitable training.

5.3.2 Special protective equipment for fire-fighters

Firefighters should wear appropriate protective clothing for firefighters (including helmets, protective boots and gloves) (EN 469) and self-contained breathing apparatus (SCBA) with a full face-piece (EN 137).

5.3.3 Additional information

Contaminated extinguishing agents must be disposed of in accordance with the regulations; do not allow to reach the sewage system.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Protective equipment

Use personal protective equipment (Section 8).

Precautionary measures

Ensure adequate ventilation. Keep away from sources of ignition and/or heat; No smoking!

Emergency procedures

Evacuate the danger zone. Prevent access to unprotected personnel. Prevent access to unauthorised personnel. Avoid contact with skin, eyes and clothing. Do not breathe vapour or mist.

6.1.5 For emergency responders

Use personal protective equipment.

6.2 Environmental precautions

Do not allow product to reach water/drains/sewage systems or permeable soil. The product is an aerosol, which is why leakage of large amounts of product is not expected. In case of release into the environment, inform the relevant

authorities.

6.3 Methods and material for containment and cleaning up

6.3.1 For containment

Stem the spill if this does not pose risks.

6.3.2 For cleaning up

Collect the spray cans and hand them over to an authorized waste disposal contractor. Release of liquid because of damaged aerosol can (release of large quantities): In case of bigger spill, dam the spillage, pump the liquid into appropriate labelled containers, absorb a residue with absorbent material and dispose of according to local regulations. Do not absorb spillage with sawdust or other combustible material. Dispose in accordance with applicable regulations (see Section 13). Prevent release into the sewer, water, basements or confined areas.

6.4 Reference to other sections

See also sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

7.1.1 Protective measures

Measures to prevent fire

Ensure adequate ventilation. Protect from open fire and other sources of ignition or heat. Pressurized container; protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Vapours and air form explosive mixtures. Take precautionary measures against static discharges. Use spark-proof tools.

Measures to prevent aerosol and dust generation

Use general or local exhaust ventilation to prevent inhaling vapours and aerosols.

Measures to protect the environment

Avoid release to the environment.

7.1.6 Advice on general occupational hygiene

Refer to instructions on label and regulations for safety and health at work. Consider measures required in Section 8 of this safety data sheet. Use personal protective equipment. Use good personal hygiene practices – wash hands at breaks and when done working with material. Do not eat, drink or smoke while working. Avoid contact with skin, eyes and clothes. Do not breathe vapours/mist.

7.2 Conditions for safe storage, including any incompatibilities

7.2.1 Technical measures and storage conditions

Follow safe storage practices for packed compressed gas as described by the Compressed Gas Association or the relevant agency in the country where the product is used. Store in accordance with local regulations. Keep away from food, drink and animal feeding stuffs. Keep out of the reach of children. Keep in cool and well ventilated area. Keep in a dry place. Keep in well closed containers. Keep away from sources of ignition - no smoking. Protect against heat and direct sunlight. Store away from strong acids. Keep away from oxidising substances.

7.2.2 Packaging materials

The original container of producer.

7.2.3 Requirements for storage rooms and vessels

Do not store in unlabelled containers.

7.2.5 Further information on storage conditions

Keep away from incompatible materials (see Section 10).

7.3 Specific end use(s)

Recommendations

See identified uses in Section 1.2.

Industrial sector specific solutions

No specific data available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure limit values

NAME	MG/M ³	ML/M ³	SHORT-TERM VALUE MG/M ³	SHORT-TERM VALUE ML/M ³	REMARK	BIOLOGICAL TOLERANCE VALUES
Aluminium alkyl compounds	2	/	/	/	/	/
Aluminium salts, soluble	2	/	/	/	/	/
Xylene, o-,m-,p- or mixed isomers (1330-20-7)	220	50	441	100	Sk, BMGV	650 mmol methyl hippuric acid/mol creatinine in urine - Post shift
n-Hexane (110-54-3)	72	20	/	/	/	/
Acetone (67-64-1)	1210	500	3620	1500	/	/
Aluminium metal inhalable dust (7429-90-5)	10	/	/	/	/	/
Aluminium metal respirable dust (7429-90-5)	4	/	/	/	/	/
Dimethyl ether (115-10-6)	766	400	958	500	/	/

8.1.2 Information on monitoring procedures

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. BS EN 482:2012+A1:2015 Workplace exposure. General requirements for the performance of procedures for the measurement of chemical agents.

8.1.3 DNEL/DMEL values

For product

No information.

For components

NAME	TYPE	EXPOSURE ROUTE	EXP. FREQUENCY	REMARK	VALUE
acetone	Worker	inhalation	long term systemic effects	/	1210 mg/m ³
acetone	Worker	inhalation	short term local effects	/	2420 mg/m ³
acetone	Worker	dermal	long term systemic effects	/	186 mg/kg bw/day
acetone	Consumer	inhalation	long term systemic effects	/	200 mg/m ³
acetone	Consumer	dermal	long term systemic effects	/	62 mg/kg bw/day
acetone	Consumer	oral	long term systemic effects	/	62 mg/kg bw/day
xylene	Worker	inhalation	long term systemic effects	/	221 mg/m ³

xylene	Worker	inhalation	short term systemic effects	/	442 mg/m ³
xylene	Worker	inhalation	long term local effects	/	221 mg/m ³
xylene	Worker	inhalation	short term local effects	/	442 mg/m ³
xylene	Worker	dermal	long term systemic effects	/	212 mg/kg bw/day
xylene	Consumer	inhalation	long term systemic effects	/	65.3 mg/m ³
xylene	Consumer	inhalation	short term systemic effects	/	260 mg/m ³
xylene	Consumer	inhalation	long term local effects	/	65.3 mg/m ³
xylene	Consumer	inhalation	short term local effects	/	260 mg/m ³
xylene	Consumer	dermal	long term systemic effects	/	125 mg/kg bw/day
xylene	Consumer	oral	long term systemic effects	/	12.5 mg/kg bw/day
dimethyl ether	Worker	inhalation	long term systemic effects	/	1894 mg/m ³
dimethyl ether	Consumer	inhalation	long term systemic effects	/	471 mg/m ³
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Worker	inhalation	long term systemic effects	/	2085 mg/m ³
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Worker	dermal	long term systemic effects	/	300 mg/kg bw/day
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Consumer	inhalation	long term systemic effects	/	447 mg/m ³
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Consumer	dermal	long term systemic effects	/	149 mg/kg bw/day
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Consumer	oral	long term systemic effects	/	149 mg/kg bw/day
Hydrocarbons, C9, aromatics	Worker	inhalation	long term systemic effects	/	150 mg/m ³
Hydrocarbons, C9, aromatics	Worker	dermal	long term systemic effects	/	25 mg/kg bw/day
Hydrocarbons, C9, aromatics	Consumer	inhalation	long term systemic effects	/	32 mg/m ³
Hydrocarbons, C9, aromatics	Consumer	dermal	long term systemic effects	/	11 mg/kg bw/day
Hydrocarbons, C9, aromatics	Consumer	oral	long term systemic effects	/	11 mg/kg bw/day
zinc powder - zinc dust (stabilized)	Worker	inhalation	long term systemic effects	/	5 mg/m ³

zinc powder - zinc dust (stabilized)	Worker	dermal	long term systemic effects	/	83 mg/kg bw/day
zinc powder - zinc dust (stabilized)	Consumer	inhalation	long term systemic effects	/	2.5 mg/m ³
zinc powder - zinc dust (stabilized)	Consumer	dermal	long term systemic effects	/	83 mg/kg bw/day
zinc powder - zinc dust (stabilized)	Consumer	oral	long term systemic effects	/	0.83 mg/kg bw/day
aluminium powder (stabilised)	Worker	inhalation	long term systemic effects	/	3.72 mg/m ³
aluminium powder (stabilised)	Worker	inhalation	long term local effects	/	3.72 mg/m ³
aluminium powder (stabilised)	Consumer	oral	long term systemic effects	/	7.9 mg/kg bw/day
n-hexane	Worker	inhalation	long term systemic effects	/	75 mg/m ³
n-hexane	Worker	dermal	long term systemic effects	/	11 mg/kg bw/day
n-hexane	Consumer	inhalation	long term systemic effects	/	16 mg/m ³
n-hexane	Consumer	dermal	long term systemic effects	/	5.3 mg/kg bw/day
n-hexane	Consumer	oral	long term systemic effects	/	4 mg/kg bw/day

8.1.6 PNEC values

For product

No information.

For components

NAME	EXPOSURE ROUTE	REMARK	VALUE
acetone	fresh water	/	10.6 mg/L
acetone	marine water	/	1.06 mg/L
acetone	water, intermittent release	/	21 mg/L
acetone	water treatment plant	/	100 mg/L
acetone	fresh water sediment	dry weight	30.4 mg/kg
acetone	marine water sediment	dry weight	3.04 mg/kg
acetone	soil	dry weight	29.5 mg/kg
xylene	fresh water	/	0.327 mg/L
xylene	water, intermittent release	fresh water	0.327 mg/L
xylene	marine water	/	0.327 mg/L

xylene	fresh water sediment	dry weight	12.46 mg/kg
xylene	marine water sediment	dry weight	12.46 mg/kg
xylene	soil	dry weight	2.31 mg/kg
dimethyl ether	fresh water	/	0.155 mg/L
dimethyl ether	marine water	/	0.016 mg/L
dimethyl ether	water, intermittent release	fresh water	1.549 mg/L
dimethyl ether	water treatment plant	/	160 mg/L
dimethyl ether	fresh water sediment	dry weight	0.681 mg/kg
dimethyl ether	marine water sediment	dry weight	0.069 mg/kg
dimethyl ether	soil	dry weight	0.045 mg/kg
zinc powder - zinc dust (stabilized)	fresh water	/	20.6 µg/l
zinc powder - zinc dust (stabilized)	marine water	/	6.1 µg/l
zinc powder - zinc dust (stabilized)	water treatment plant	/	100 µg/l
zinc powder - zinc dust (stabilized)	fresh water sediment	dry weight	117.8 mg/kg
zinc powder - zinc dust (stabilized)	marine water sediment	dry weight	56.5 mg/kg
zinc powder - zinc dust (stabilized)	soil	dry weight	45.6 mg/kg

8.2 Exposure controls

8.2.1 Appropriate engineering control

Substance/mixture related measures to prevent exposure during identified uses

Handle in accordance with good industrial hygiene and safety practice. Use good personal hygiene practices – wash hands at breaks and when done working with material. Do not eat, drink or smoke while working. Avoid contact with skin, eyes and clothes. Do not breathe vapours/aerosols. Keep away from foodstuffs, beverages and feed.

Organisational measures to prevent exposure

Remove all contaminated clothes immediately and wash them before reuse. If this product contains ingredients with exposure limits, personal, workplace atmosphere monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protection.

Technical measures to prevent exposure

Provide good ventilation and local exhaust in areas with increased concentration.

8.2.6 Personal protective equipment

Eye and face protection

Tight fitting protective goggles (EN 166).

Hand protection

Protective gloves (EN 374). Observe the manufacturer's instructions regarding the use, storage, maintenance and replacement of gloves. In case of damage or at the first signs of wear and tear, change the gloves immediately. 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. The penetration time is determined by the protective glove manufacturer and must be observed.

Skin protection

Cotton protective clothing and shoes that cover the entire foot (EN ISO 20345).

Respiratory protection

In case of insufficient ventilation wear suitable respiratory protection. If the concentration limit values are exceeded, it is

necessary to wear appropriate respiratory protection. Wear suitable protective breathing mask (EN 136) with filter A2-P2 (EN 14387). For dust/gas/ vapor concentrations above the applicable filter limit, in case of oxygen concentrations below 17% or in vague conditions, autonomous self-contained breathing apparatus should be used, according to standard EN 137, EN 138.

8.2.12 Environmental exposure controls

Substance/mixture related measures to prevent exposure

Implement measures to protect the environment.

Instruction measures to prevent exposure

No information.

Organisational measures to prevent exposure

No information.

Technical measures to prevent exposure

Do not allow product to reach drains, sewage systems or ground water.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state

liquid - aerosol

9.1.2 Colour

silver

9.1.3 Odour

characteristic

9.1.4 Important health, safety and environmental information

Odour threshold	No information.
pH	No information.
Melting point/Freezing point	No information.
Initial boiling point/boiling range	No information.
Flash point	No information.
Evaporation rate	No information.
Flammability (solid, gas)	No information.
Explosion limits (vol%)	1.5 – 10.9 vol % (propellant) 2.1 – 13 vol % (acetone) 3.3 – 26.2 vol % (dimethylether)
Vapour pressure	< 70 hPa at 20 °C
Vapour density	No information.
Density / weight	Density: 0.884 kg/L at 20 °C (data refers to the liquid portion of the product)
Solubility	No information.
Partition coefficient	No information.
Auto-ignition temperature	No information.
Decomposition temperature	No information.
Viscosity	No information.

Explosive properties	Product is not explosive. However, formation of explosive air/ vapour mixtures are possible.
Oxidising properties	No information.

9.2 OTHER INFORMATION

Weight organic solvents	646 g/l (VOC) 88 % (VOC)
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SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Stable under recommended transport or storage conditions.

10.2 Chemical stability

Product is stable under normal conditions of use, recommended handling and storage conditions.

10.3 Possibility of hazardous reactions

The product is stable under recommended storage and handling conditions. Vapours and air can form flammable or explosive mixtures.

10.4 Conditions to avoid

Avoid all possible sources of ignition (spark or flame). Do not expose to heat and direct sunlight. Do not store above 50°C.

10.5 Incompatible materials

Strong reducing agents.

Oxidants.

Peroxide. Halogenated compounds. Alkali metal. Ethanolamine. Hydrogen peroxide. Attacks many plastics and rubbers. HF (hydrofluoric acid). Oxygen. Viton.

10.6 Hazardous decomposition products

Under normal use conditions no hazardous decomposition products are expected. In case of fire/explosion vapours/gases that pose a health hazard are released.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

(a) Acute toxicity

For product

No information.

For components

NAME	EXPOSURE ROUTE	TYPE	SPECIES	TIME	VALUE	METHOD	REMARK
------	----------------	------	---------	------	-------	--------	--------

acetone	inhalation	LC ₅₀	rat	4 h	76 mg/l	/	/
acetone	dermal	LD ₅₀	rabbit	/	> 15800 mg/kg	/	/
acetone	oral	LD ₅₀	rat	/	5800 mg/kg	OECD 401	/
xylene	oral	LD ₅₀	rat	/	4300 mg/kg	/	/
xylene	dermal	LD ₅₀	rabbit	/	2000 mg/kg	/	/
xylene	inhalation	LC ₅₀	rat	4 h	21.7 mg/l	/	/
dimethyl ether	Inhalation (gases)	LC ₅₀	rat	4 h	309 mg/l	/	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	oral	LD ₅₀	rat	/	> 5840 mg/kg bw	/	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	dermal	LD ₅₀	rat	24 h	> 2920 mg/kg bw	/	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	inhalation (vapours)	LC ₅₀	rat	4 h	> 23300 mg/m ³	OECD 403	/
Hydrocarbons, C9, aromatics	oral	LD ₅₀	rat	/	> 2000 mg/kg	/	/
Hydrocarbons, C9, aromatics	dermal	LD ₅₀	rat	/	> 2000 mg/kg	/	/
2-butanone oxime	oral	LD ₅₀	rat	/	3700 mg/kg	/	/
2-butanone oxime	dermal	LD ₅₀	/	/	200 - 2000 mg/kg	/	/
2-butanone oxime	inhalation	LC ₅₀	rat	4 h	20 mg/l	/	/

Additional information

The product is not classified for acute toxicity.

(b) Skin corrosion/irritation

For product

No information.

For components

NAME	SPECIES	TIME	RESULT	METHOD	REMARK
acetone	guinea pig	/	Non-irritant.	/	/
dimethyl ether	/	/	May cause frostbite.	/	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	/	/	Irritating.	/	/

Additional information

Causes skin irritation.

(c) Serious eye damage/irritation

For product

No information.

For components

NAME	EXPOSURE ROUTE	SPECIES	TIME	RESULT	METHOD	REMARK
acetone	/	rabbit	/	Irritates the eyes. The occurrence of corneal injuries is possible.	OECD 405	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	/	/	/	May cause irritation.	/	/

Additional information

Causes serious eye irritation.

(d) Respiratory or skin sensitisation

For product

No information.

For components

NAME	EXPOSURE ROUTE	SPECIES	TIME	RESULT	METHOD	REMARK
acetone	-	guinea pig	/	Non sensitising.	OECD 406	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	-	/	/	Not classified.	/	/

Additional information

It contains at least one ingredient that can cause sensitisation. Can cause allergic reaction.

(e) (Germ cell) mutagenicity

For product

TYPE	SPECIES	TIME	RESULT	METHOD	REMARK
/	/	/	The chemical is not classified as mutagenic.	/	/

For components

NAME	TYPE	SPECIES	TIME	RESULT	METHOD	REMARK
acetone	/	Bacteria	/	The tests did not show mutagenic effects	/	/
acetone	/	Cell: Mammalian-Animal	/	The tests did not show mutagenic effects	/	/
acetone	in-vitro mutagenicity	/	/	Negative.	OECD 473	Chromosome aberration assay
acetone	in-vitro mutagenicity	Cell: Mammalian-Animal	/	Negative.	OECD 476	/
acetone	in-vitro mutagenicity	Bacteria	/	Negative.	OECD 471	/
acetone	in-vivo mutagenicity	mouse	/	Negative.	The micronucleus test	/
dimethyl ether	/	/	/	The chemical is not classified as mutagenic.	/	/
dimethyl ether	in-vitro mutagenicity	/	/	Negative.	OECD 471	Ames test
dimethyl ether	in-vitro mutagenicity	Human (lymphocytes)	/	Negative.	cytogenetic test	OECD 473

dimethyl ether	in-vivo mutagenicity	<i>Drosophila melanogaster</i>	/	Negative.	OECD 477	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	in-vivo mutagenicity	/	/	Negative.	/	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	in-vitro mutagenicity	/	/	Negative.	/	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	/	/	/	Negative.	/	/

(f) Carcinogenicity
For product

EXPOSURE ROUTE	TYPE	SPECIES	TIME	VALUE	RESULT
/	/	/	/	/	The chemical is not classified as carcinogenic.

For components

NAME	EXPOSURE ROUTE	TYPE	SPECIES	TIME	VALUE	RESULT
acetone	/	/	/	/	/	Animal testing did not show any carcinogenic effects.
acetone	dermal	/	mouse	/	/	negative
dimethyl ether	/	/	/	/	/	Substance is not classified as carcinogenic.
dimethyl ether	inhalation (vapours)	NOAEL	rat	2 years	47 mg/l	Animal testing did not show any carcinogenic effects.
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	/	/	/	/	/	Substance is not classified as carcinogenic.

(g) Reproductive toxicity
For product

TYPE	SPECIES	TIME	VALUE	RESULT	METHOD	REMARK
/	/	/	/	The chemical is not classified as toxic for reproduction.	/	/

For components

NAME	TYPE	SPECIES	TIME	VALUE	RESULT	METHOD	REMARK
acetone	/	/	/	/	Animal testing did not show any effects on fertility.	/	/
acetone	/	rat	/	/	Negative.	OECD 414	/
dimethyl ether	inhalation	rat	/	47 mg/L	Animal testing did not show any effects on fertility.	OECD 452	/
dimethyl ether	NOAEL	rat	/	5000 ppm	/	/	Inhalation
dimethyl ether	NOAEL	rat	/	40000 ppm	/	/	Inhalation

dimethyl ether	NOAEL	rat	/	40000 ppm	/	/	Inhalation
dimethyl ether	NOAEL	rat	/	20000 ppm	/	OECD 414	inhalation (vapor), embryo-fetal development
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	/	rat	/	/	Negative.	/	/
n-hexane	/	/	/	/	Suspected of damaging fertility.	/	/

Summary of evaluation of the CMR properties

The product is not classified as carcinogenic, mutagenic or toxic for reproduction.

(h) STOT-single exposure

For product

No information.

For components

NAME	EXPOSURE ROUTE	TYPE	SPECIES	TIME	ORGAN	VALUE	RESULT	METHOD	EXPOSURE	REMARK
acetone	-	-	/	/	/	/	May cause drowsiness or dizziness.	/	/	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	inhalation	-	/	/	central nervous system	/	May cause drowsiness or dizziness.	/	/	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	oral	-	/	/	/	/	May cause irritation of the digestive tract.	/	/	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	inhalation	-	/	/	/	/	Symptoms: mucous membrane irritation.	/	/	high vapours concentrations
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	inhalation	-	/	/	/	/	Symptoms: nausea, unconsciousness.	/	/	high vapours concentrations

Additional information

May cause drowsiness or dizziness.

(i) STOT-repeated exposure

For product

No information.

For components

NAME	EXPOSURE ROUTE	TYPE	SPECIES	TIME	ORGAN	VALUE	RESULT	METHOD	EXPOSURE	REMARK
acetone	dermal	-	/	/	/	/	Repeated exposure may cause dry and cracked skin.	/	/	/
acetone	Repeated dose toxicity	NOAEL	rat	90 days	oral	900 mg/kg bw/day	/	/	/	/

acetone	Repeated dose toxicity	NOAEC	rat	/	/	22500 mg/m ³	/	/	/	inhalation
acetone	inhalation	-	human	/	/	/	Headache, dizziness, fatigue, nausea and vomiting.	/	/	excessive exposure to vapors
acetone	dermal	-	human	/	/	/	Repeated or prolonged exposure may cause dermatitis.	/	/	/
acetone	inhalation	-	human	/	Nasal inner lining	/	Symptoms: inflammation of the mucous membranes.	/	/	/
dimethyl ether	Repeated dose toxicity	NOEL	rat	2 years	/	47 mg/L	/	OECD 452	/	inhalation

Additional information

STOT RE (repeated exposure): Not classified.

(j) Aspiration hazard

For product

No information.

For components

NAME	RESULT	METHOD	REMARK
acetone	Aspiration hazard: Not Classified.	/	/
dimethyl ether	Aspiration hazard: Not Classified.	/	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	May be fatal if swallowed and enters airways.	/	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Aspiration into the lungs can cause lung damage.	/	The exposed person should be kept under medical surveillance for 48 hours.

Additional information

May be fatal if swallowed and enters airways.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

12.1.1 Acute (short-term) toxicity

For product

No information.

For components

NAME	TYPE	VALUE	EXPOSURE TIME	SPECIES	ORGANISM	METHOD	REMARK
acetone	LC ₅₀	5540 mg/L	96 h	fish	<i>Oncorhynchus mykiss</i>	/	/

acetone	LC ₅₀	11000 mg/L	96 h	fish	<i>Alburnus alburnus</i>	/	/
acetone	LC ₅₀	8800 mg/L	48 h	crustacea	<i>Daphnia magna</i>	/	/
acetone	NOEC	430 mg/L	96 h	algae	/	/	/
acetone	EC ₁₂	1000 mg/L	30 min	bacteria	Activated sludge	OECD 209	/
xylene	EC ₅₀	165 mg/L	48 h	crustacea	<i>Daphnia</i>	/	/
dimethyl ether	LC ₅₀	> 4.1 mg/L	96 h	fish	<i>Poecilia reticulata</i>	/	Semi-Static system
dimethyl ether	EC ₅₀	> 4.4 mg/L	48 h	crustacea	<i>Daphnia magna</i>	/	static test
dimethyl ether	LC ₅₀	755.5 mg/L	48 h	<i>Daphnia</i>	/	ECOSAR ECOSAR	/
dimethyl ether	EC ₅₀	154.9 mg/L	96 h	algae	/	ECOSAR ECOSAR	/
dimethyl ether	EC ₁₀	> 1600 mg/L	/	bacteria	<i>Pseudomonas putida</i>	/	static test
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	ErL ₅₀	10 - 30 mg/L	72 h	algae	<i>Pseudokirchneriella subcapitata</i>	OECD 201	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	EbL ₅₀	10 - 30 mg/L	72 h	algae	<i>Pseudokirchneriella subcapitata</i>	OECD 201	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	EL ₅₀	3 mg/L	48 h	crustacea	<i>Daphnia magna</i>	OECD 202	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	LL ₅₀	> 13.4 mg/L	96 h	fish	<i>Oncorhynchus mykiss</i>	OECD 203	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	NOELR	6.3 mg/L	72 h	algae	<i>Pseudokirchneriella subcapitata</i>	OECD 201	/
Hydrocarbons, C9, aromatics	LC ₅₀	1 - 10 mg/L	48 h	crab	<i>Daphnia</i>	/	/

12.1.4 Chronic (long-term) toxicity

For product

No information.

For components

NAME	TYPE	VALUE	EXPOSURE TIME	SPECIES	ORGANISM	METHOD	REMARK
acetone	NOEC	2212 mg/l	28 days	crustacea	<i>Daphnia pulex</i>	/	reproduction
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	NOELR	1 mg/l	21 days	crustacea	<i>Daphnia magna</i>	OECD 211	/
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	NOELR	1.53 mg/l	28 days	fish	<i>Oncorhynchus mykiss</i>	QSAR Petrotox QSAR Petrotox	/

12.1.7 Additional information

No information.

12.2 Persistence and degradability

12.2.1 Abiotic degradation, physical- and photo-chemical elimination

For product

No information.

For components

NAME	ENVIRONMENT	TYPE / METHOD	HALF TIME	EVALUATION	METHOD	REMARK
acetone	water	/	/	Degraded by hydrolysis.	/	/

12.2.4 Biodegradation

For product

No information.

For components

NAME	TYPE	RATE	TIME	EVALUATION	METHOD	REMARK
acetone	biodegradability	91 %	28 days	readily biodegradable	OECD 301 B	/
acetone	BOD	1900 mg/g	5 days	/	/	/
acetone	COD	2100 mg/g	/	/	/	/
dimethyl ether	aerobic	5 %	28 days	not readily biodegradable	OECD 301 D	activated sludge
hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	biodegradability	98 %	/	readily biodegradable	OECD 301 F	/

12.2.7 Additional information

No information.

12.3 Bioaccumulative potential

12.3.1 Partition coefficient

For product

No information.

For components

NAME	MEDIA	VALUE	TEMPERATURE	PH	CONCENTRATION	METHOD
acetone	log Kow	-0.24	/	/	/	/

12.3.4 Bioconcentration factor (BCF)

For product

No information.

For components

NAME	SPECIES	ORGANISM	VALUE	DURATION	EVALUATION	METHOD	REMARK
acetone	BCF	/	< 10	/	/	/	/

12.3.7 Additional information

No information.

12.4 Mobility in soil

12.4.1 Known or predicted distribution to environmental compartments

For product

No information.

For components

No information.

12.4.4 Surface tension

For product

No information.

For components

No information.

12.4.7 Adsorption/Desorption

For product

No information.

For components

NAME	TYPE	CRITERION	VALUE	EVALUATION	METHOD	REMARK
dimethyl ether	Soil	/	/	Moderate mobility in soil.	/	/

12.4.10 Additional information

No information.

12.5 Results of PBT and vPvB assessment

No evaluation.

12.6 Other adverse effects

No information.

12.7 Additional information

For product

Toxic to aquatic life with long lasting effects. Water hazard class (WGK): 3 (Self-assessment), very hazardous for water. Do not allow to reach ground water, water courses or sewage system.

For components

acetone

Does not bioaccumulate. The substance is highly volatile. This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

dimethyl ether

Bioaccumulation is not expected. This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

hydrocarbons, C7, n-alkanes, isoalkanes, cyclics

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

13.1.1 Product / Packaging disposal

Waste chemical

Dispose of in accordance with applicable waste disposal regulation. Disposal must be made according to official

regulations: deliver it to authorised collector/remover/transformer of hazardous waste. Avoid release to the environment. Product and container must be disposed of safely.

Waste codes / waste designations according to LoW

16 05 04* - gases in pressure containers (including halons) containing dangerous substances

Packaging

Dispose of in accordance with applicable waste disposal regulation. Deliver completely emptied containers to approved waste disposal authorities. Uncleaned containers should not be perforated, cut or welded. Pressurized container. Do not pierce or burn, even after use.

Waste codes / waste designations according to LoW

15 01 11* - metallic packaging containing a dangerous solid porous matrix (for example asbestos), including empty pressure containers

13.1.6 Waste treatment-relevant information

No information.

13.1.7 Sewage disposal-relevant information

No information.

13.1.8 Other disposal recommendations

No information.

SECTION 14: TRANSPORT INFORMATION

ADR/RID	IMDG	IATA	ADN
14.1 UN number			
UN 1950	UN 1950	UN 1950	UN 1950
14.2 UN proper shipping name			
AEROSOLS, <i>flammable</i>	AEROSOLS, <i>flammable</i> (zinc powder - zinc dust (stabilized))	AEROSOLS, <i>flammable</i>	AEROSOLS, <i>flammable</i>
14.3 Transport hazard class(es)			
2	2	2	2
14.4 Packing group			
Not given/not applicable	Not given/not applicable	Not given/not applicable	Not given/not applicable
14.5 Environmental hazards			
YES	Marine pollutant	YES	YES
14.6 Special precautions for user			

Limited quantities 1 L Transport category 2 Tunnel restriction code (D)	Limited quantities 1 L EmS F-D, S-U Special provisions 190, 327, 344, 625 Packing Instructions P207, LP200 Special packing provisions PP87, RR6, L2	Limited Quantity Packing Instructions Y203 Limited Quantity Net Qty 30 kg G Passenger Packing Instruction Packing Instructions 203 Passenger Packing Instruction Net Qty 25 kg Special provisions A145, A167, A802	Limited quantities 1 L
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code			
Goods may not be carried in bulk in bulk containers, containers or vehicles.	Goods may not be carried in bulk in bulk containers, containers or vehicles.	Not given/not applicable	Not given/not applicable

SECTION 15: REGULATORY INFORMATION

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

- Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)(including last amendment Commission Regulation (EU) 2015/830)
- Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

Information according 2004/42/EC about limitation of emissions of volatile organic compounds (VOC-guideline)
not applicable

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: OTHER INFORMATION

Indication of changes

No information.

Key literature references and sources for data

No information.

Abbreviations and acronyms

ATE - Acute Toxicity Estimate
 ADR - Agreement concerning the International Carriage of Dangerous Goods by Road
 ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 CEN - European Committee for Standardisation
 C&L - Classification and Labelling
 CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
 CAS# - Chemical Abstracts Service number
 CMR - Carcinogen, Mutagen, or Reproductive Toxicant
 CSA - Chemical Safety Assessment
 CSR - Chemical Safety Report
 DMEL - Derived Minimal Effect Level
 DNEL - Derived No Effect Level
 DPD - Dangerous Preparations Directive 1999/45/EC
 DSD - Dangerous Substances Directive 67/548/EEC
 DU - Downstream User
 EC - European Community

ECHA - European Chemicals Agency
 EC-Number - EINECS and ELINCS Number (see also EINECS and ELINCS)
 EEA - European Economic Area (EU + Iceland, Liechtenstein and Norway)
 EEC - European Economic Community
 EINECS - European Inventory of Existing Commercial Substances
 ELINCS - European List of notified Chemical Substances
 EN - European Standard
 EQS - Environmental Quality Standard
 EU - European Union
 Euphrac - European Phrase Catalogue
 EWC - European Waste Catalogue (replaced by LoW – see below)
 GES - Generic Exposure Scenario
 GHS - Globally Harmonized System
 IATA - International Air Transport Association
 ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air
 IMDG - International Maritime Dangerous Goods
 IMSBC - International Maritime Solid Bulk Cargoes
 IT - Information Technology
 IUCLID - International Uniform Chemical Information Database
 IUPAC - International Union for Pure Applied Chemistry
 JRC - Joint Research Centre
 Kow - octanol-water partition coefficient
 LC50 - Lethal Concentration to 50 % of a test population
 LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)
 LE - Legal Entity
 LoW - List of Wastes (see <http://ec.europa.eu/environment/waste/framework/list.htm>)
 LR - Lead Registrant
 M/I - Manufacturer / Importer
 MS - Member States
 MSDS - Material Safety Data Sheet
 OC - Operational Conditions
 OECD - Organization for Economic Co-operation and Development
 OEL - Occupational Exposure Limit
 OJ - Official Journal
 OR - Only Representative
 OSHA - European Agency for Safety and Health at work
 PBT - Persistent, Bioaccumulative and Toxic substance
 PEC - Predicted Effect Concentration
 PNEC(s) - Predicted No Effect Concentration(s)
 PPE - Personal Protection Equipment
 (Q)SAR - Qualitative Structure Activity Relationship
 REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
 RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
 RIP - REACH Implementation Project
 RMM - Risk Management Measure
 SCBA - Self-Contained Breathing Apparatus
 SDS - Safety data sheet
 SIEF - Substance Information Exchange Forum
 SME - Small and Medium sized Enterprises
 STOT - Specific Target Organ Toxicity
 (STOT) RE - Repeated Exposure
 (STOT) SE - Single Exposure
 SVHC - Substances of Very High Concern
 UN - United Nations
 vPvB - Very Persistent and Very Bioaccumulative

List of relevant H phrases

H220 Extremely flammable gas.
H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H228 Flammable solid.
H261 In contact with water releases flammable gases.
H280 Contains gas under pressure; may explode if heated.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H361f Suspected of damaging fertility.
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.