

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH), (EU) 2020/878

Revision date: 22 Dec 2022

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Version: 1

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Zinc Guard 500ml

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

1.1. Product identifier

Trade name/designation:

Zinc Guard 500ml

Article No.:

T112001

UFI:

KH9R-YDAF-Q9K9-UEMS

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

Use of the substance/mixture:

Aerosol coating

1.3. Details of the supplier of the safety data sheet

Supplier:

Techniqua Handels GmbH

Hartleitnerstraße 3

4653 Eberstalzell

Austria

Telephone: +43 (0) 7241 213 79

E-mail: office@techniqua.at

1.4. Emergency telephone number

Vergiftungsinformationszentrale (VIZ), Stubenring 6, 1010 Wien, 24h: 01 406 43 43, Montag - Freitag: 8 bis 16 Uhr, Tel.: 01 406 68 98 (keine medizinische Auskunft) (Only available during office hours.)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Hazard classes and hazard categories	Hazard statements	Classification procedure
Hazardous to the aquatic environment (Aquatic Chronic 2)	H411: Toxic to aquatic life with long lasting effects.	
Serious eye damage/eye irritation (Eye Irrit. 2)	H319: Causes serious eye irritation.	
STOT-single exposure (STOT SE 3)	H336: May cause drowsiness or dizziness.	
Aerosols (Aerosol 1)	H222; H229: Extremely flammable aerosol. Pressurised container: May burst if heated.	

2.2. Label elements

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

Hazard pictograms:



GHS09

Environment



GHS07

Exclamation mark



GHS02

Flame

Signal word: Danger

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Hazard components for labelling:

Acetone; Hydrocarbons, C9, aromatics; Butan-1-ol

Hazard statements for physical hazards

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.

Hazard statements for health hazards

H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

Hazard statements for environmental hazards

H411	Toxic to aquatic life with long lasting effects.
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Supplemental hazard information

EUH066	Repeated exposure may cause skin dryness or cracking.
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Precautionary statements Prevention

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 dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Precautionary statements Response

P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Precautionary statements Storage

P403	Store in a well-ventilated place.
P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Precautionary statements Disposal

P501	Dispose of contents/container to an appropriate recycling or disposal facility.
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2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Description:

Active ingredient mixture with propellant gas

Additional information:

Aerosols and containers fitted with a solid nebuliser containing substances or mixtures classified as hazardous by aspiration must not be labelled for this hazard.

Hazardous ingredients / Hazardous impurities / Stabilisers:

Product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 67-64-1 Index No.: 606-001-00-8 REACH No.: 01-2119471330-49	Acetone Eye Irrit. 2 (H319), Flam. Liq. 2 (H225), STOT SE 3 (H336) Danger EUH066	25 - < 50 %
CAS No.: 106-97-8 EC No.: 203-448-7 Index No.: 601-004-00-0 REACH No.: 01-2119474691-32	butane Flam. Gas 1A (H220), Press. Gas (Comp.) (H280) Danger	10 - < 25 %

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Product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 74-98-6 EC No.: 200-827-9 Index No.: 601-003-00-5 REACH No.: 01-2119486944-21	propane Flam. Gas 1A (H220), Press. Gas (Comp.) (H280) Danger	10 - < 25 %
CAS No.: 128601-23-0 EC No.: 918-668-5 REACH No.: 01-2119455851-35	Hydrocarbons, C9, aromatics Aquatic Chronic 2 (H411), Asp. Tox. 1 (H304), Flam. Liq. 3 (H226), STOT SE 3 (H335, H336) Danger	2.5 - < 10 %
CAS No.: 75-28-5 EC No.: 200-857-2 REACH No.: 01-2119485395-27	Isobutane Flam. Gas 1A (H220), Press. Gas (Comp.) (H280) Danger	2.5 - < 10 %
CAS No.: 7440-66-6 EC No.: 231-175-3 Index No.: 030-001-01-9 REACH No.: 01-2119467174-37	Zinc powder - Zinc dust (stabilised) Aquatic Acute 1 (H400), Aquatic Chronic 1 (H410) Warning	1 - < 2.5 %
CAS No.: 71-36-3 EC No.: 200-751-6 Index No.: 603-004-00-6 REACH No.: 01-2119484630-38	Butan-1-ol Acute Tox. 4 (H302), Eye Dam. 1 (H318), Flam. Liq. 3 (H226), STOT SE 3 (H335, H336), Skin Irrit. 2 (H315) Danger	1 - < 2.5 %
CAS No.: 1314-13-2 EC No.: 215-222-5 REACH No.: 01-2119463881-32	zinc oxide Asp. Tox. 1 (H304) Danger	0.1 - < 1 %
CAS No.: 7779-90-0 EC No.: 231-944-3 Index No.: 030-011-00-6 REACH No.: 01-2119485044-40	trizinc bis(orthophosphate) Aquatic Acute 1 (H400), Aquatic Chronic 1 (H410) Warning	≥ 0.25 - < 1 %
CAS No.: 1314-13-2 EC No.: 215-222-5 Index No.: 030-013-00-7 REACH No.: 01-2119463881-32	zinc oxide Aquatic Acute 1 (H400), Aquatic Chronic 1 (H410) Warning	≥ 0.1 - < 0.25 %

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

SECTION 4: First aid measures

4.1. Description of first aid measures

Following inhalation:

Fresh air supply, consult a doctor in case of complaints.

In case of skin contact:

In general, the product is not irritating to skin.

After eye contact:

Rinse opened eye for several minutes under running water. Consult a doctor if symptoms persist

Following ingestion:

Do not induce vomiting, seek medical help immediately.

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

No further relevant information available.

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

No further relevant information available.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water mist, Extinguishing powder, Carbon dioxide, alcohol resistant foam

Unsuitable extinguishing media:

Water in full jet

5.2. Special hazards arising from the substance or mixture

No further relevant information available.

5.3. Advice for firefighters

Special protective equipment: Put on breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Personal precautions:

Wear protective equipment. Keep unprotected persons away.

6.1.2. For emergency responders

No data available

6.2. Environmental precautions

Do not allow to enter into surface water or drains. In case of spillage into water or sewage system, inform the competent authorities.

6.3. Methods and material for containment and cleaning up

For cleaning up:

Do not wash away with water or aqueous detergents.

Other information:

Provide adequate ventilation.

6.4. Reference to other sections

Further information on proper storage: see section 7.

For further information on personal protective equipment: see section 8.

For further information on disposal: see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advices on safe handling:

Ensure good ventilation/extraction at the workplace.

Fire prevent measures:

Do not spray on naked flames or any incandescent material. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Container is under pressure. Protect from sunlight and temperatures above 50°C (e.g. from incandescent lamps). Do not open by force or burn even after use.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels:

Store in a cool place. The official regulations for the storage of pressurised gas packages must be observed.

Hints on storage assembly:

The official regulations for the storage of pressurised gas packages must be observed.

Storage class (TRGS 510, Germany): 2B - Aerosol dispensers and lighters

Further information on storage conditions:

Store in a cool dry place. Protect from heat and direct sunlight.

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7.3. Specific end use(s)

Recommendation:

No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Occupational exposure limit values

Limit value type (country of origin)	Substance name	① Long-term occupational exposure limit value ② Short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
MAK (AT)	Acetone CAS No.: 67-64-1	② 2,000 ppm (4,800 mg/m ³) ⑤ (max. 4x15 min./Schicht)
IOELV (EU)	Acetone CAS No.: 67-64-1	① 500 ppm (1,210 mg/m ³)
MAK (AT)	Acetone CAS No.: 67-64-1	① 500 ppm (1,200 mg/m ³)
MAK (AT)	butane CAS No.: 106-97-8 EC No.: 203-448-7	① 800 ppm (1,900 mg/m ³)
MAK (AT)	butane CAS No.: 106-97-8 EC No.: 203-448-7	② 1,600 ppm (3,800 mg/m ³) ⑤ (max. 3x60 min./Schicht, Momentanwert)
MAK (AT)	propane CAS No.: 74-98-6 EC No.: 200-827-9	② 2,000 ppm (3,600 mg/m ³) ⑤ (max. 3x60 min./Schicht, Momentanwert)
MAK (AT)	propane CAS No.: 74-98-6 EC No.: 200-827-9	① 1,000 ppm (1,800 mg/m ³)
MAK (AT)	Isobutane CAS No.: 75-28-5 EC No.: 200-857-2	② 1,600 ppm (3,800 mg/m ³) ⑤ (max. 3x60 min./Schicht Momentanwert)
MAK (AT)	Isobutane CAS No.: 75-28-5 EC No.: 200-857-2	① 800 ppm (1,900 mg/m ³)
MAK (AT)	Butan-1-ol CAS No.: 71-36-3 EC No.: 200-751-6	① 50 ppm (150 mg/m ³)
MAK (AT)	Butan-1-ol CAS No.: 71-36-3 EC No.: 200-751-6	② 200 ppm (600 mg/m ³) ⑤ (max. 4x15 min./Schicht)
MAK (AT)	zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5	① 5 mg/m ³ ⑤ (alveolengängige Fraktion)
MAK (AT)	zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5	① 5 mg/m ³ ⑤ (alveolengängige Fraktion)

8.1.2. Biological limit values

No data available

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8.1.3. DNEL-/PNEC-values

Substance name	DNEL value	① DNEL type ② Exposure route
Acetone CAS No.: 67-64-1	1,210 mg/m ³	① DNEL worker ② Long-term - inhalation, systemic effects
Acetone CAS No.: 67-64-1	200 mg/m ³	① DNEL Consumer ② Long-term - inhalation, systemic effects
Acetone CAS No.: 67-64-1	2,420 mg/m ³	① DNEL worker ② Long-term - inhalation, local effects
Acetone CAS No.: 67-64-1	186 mg/kg bw/ day	① DNEL worker ② Long-term - dermal, systemic effects
Acetone CAS No.: 67-64-1	62 mg/kg bw/ day	① DNEL Consumer ② Long-term - dermal, systemic effects
Acetone CAS No.: 67-64-1	62 mg/kg bw/ day	① DNEL Consumer ② Long-term - oral, systemic effects
Hydrocarbons, C9, aromatics CAS No.: 128601-23-0 EC No.: 918-668-5	100 mg/m ³	① DNEL worker ② Long-term - inhalation, systemic effects
Hydrocarbons, C9, aromatics CAS No.: 128601-23-0 EC No.: 918-668-5	32 mg/m ³	① DNEL Consumer ② Long-term - inhalation, systemic effects
Hydrocarbons, C9, aromatics CAS No.: 128601-23-0 EC No.: 918-668-5	25 mg/kg bw/ day	① DNEL worker ② Long-term - dermal, systemic effects
Hydrocarbons, C9, aromatics CAS No.: 128601-23-0 EC No.: 918-668-5	11 mg/kg bw/ day	① DNEL Consumer ② Long-term - dermal, systemic effects
Hydrocarbons, C9, aromatics CAS No.: 128601-23-0 EC No.: 918-668-5	11 mg/kg bw/ day	① DNEL Consumer ② Long-term - oral, systemic effects
Zinc powder - Zinc dust (stabilised) CAS No.: 7440-66-6 EC No.: 231-175-3	5 mg/m ³	① DNEL worker ② Long-term - inhalation, systemic effects
Zinc powder - Zinc dust (stabilised) CAS No.: 7440-66-6 EC No.: 231-175-3	2.5 mg/m ³	① DNEL Consumer ② Long-term - inhalation, systemic effects
Zinc powder - Zinc dust (stabilised) CAS No.: 7440-66-6 EC No.: 231-175-3	5,000 mg/kg bw/day	① DNEL worker ② Long-term - dermal, systemic effects
Zinc powder - Zinc dust (stabilised) CAS No.: 7440-66-6 EC No.: 231-175-3	5,000 mg/kg bw/day	① DNEL Consumer ② Long-term - dermal, systemic effects
Zinc powder - Zinc dust (stabilised) CAS No.: 7440-66-6 EC No.: 231-175-3	50 mg/kg bw/ day	① DNEL worker ② Long-term - oral, systemic effects
Butan-1-ol CAS No.: 71-36-3 EC No.: 200-751-6	2.7 mg/m ³	① DNEL worker ② Long-term - inhalation, systemic effects
Butan-1-ol CAS No.: 71-36-3 EC No.: 200-751-6	0.5 mg/m ³	① DNEL Consumer ② Long-term - inhalation, systemic effects
Butan-1-ol CAS No.: 71-36-3 EC No.: 200-751-6	214 mg/m ³	① DNEL worker ② Acute - inhalation, systemic effects
Butan-1-ol CAS No.: 71-36-3 EC No.: 200-751-6	159.8 mg/m ³	① DNEL Consumer ② Acute - inhalation, systemic effects

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Substance name	DNEL value	① DNEL type ② Exposure route
Butan-1-ol CAS No.: 71-36-3 EC No.: 200-751-6	310 mg/m ³	① DNEL worker ② Long-term - inhalation, local effects
Butan-1-ol CAS No.: 71-36-3 EC No.: 200-751-6	55 mg/m ³	① DNEL Consumer ② Long-term - inhalation, local effects
Butan-1-ol CAS No.: 71-36-3 EC No.: 200-751-6	5.5 mg/kg bw/ day	① DNEL worker ② Long-term - dermal, systemic effects
Butan-1-ol CAS No.: 71-36-3 EC No.: 200-751-6	2.7 mg/kg bw/ day	① DNEL Consumer ② Long-term - dermal, systemic effects
Butan-1-ol CAS No.: 71-36-3 EC No.: 200-751-6	0.3 mg/kg bw/ day	① DNEL worker ② Long-term - oral, systemic effects
Butan-1-ol CAS No.: 71-36-3 EC No.: 200-751-6	3,125 mg/kg bw/day	① DNEL Consumer ② Long-term - oral, systemic effects
zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5	5 mg/m ³	① DNEL worker ② Long-term - inhalation, systemic effects
zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5	2.5 mg/m ³	① DNEL Consumer ② Long-term - inhalation, systemic effects
zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5	0.5 mg/m ³	① DNEL worker ② Long-term - inhalation, local effects
zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5	83 mg/kg bw/ day	① DNEL Consumer ② Long-term - dermal, systemic effects
zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5	0.83 mg/kg bw/day	① DNEL Consumer ② Long-term - oral, systemic effects
trizinc bis(orthophosphate) CAS No.: 7779-90-0 EC No.: 231-944-3	5 mg/m ³	① DNEL worker ② Long-term - inhalation, systemic effects
trizinc bis(orthophosphate) CAS No.: 7779-90-0 EC No.: 231-944-3	2.5 mg/m ³	① DNEL Consumer ② Long-term - inhalation, systemic effects
trizinc bis(orthophosphate) CAS No.: 7779-90-0 EC No.: 231-944-3	83 mg/kg bw/ day	① DNEL worker ② Long-term - dermal, systemic effects
trizinc bis(orthophosphate) CAS No.: 7779-90-0 EC No.: 231-944-3	83 mg/kg bw/ day	① DNEL Consumer ② Long-term - dermal, systemic effects
trizinc bis(orthophosphate) CAS No.: 7779-90-0 EC No.: 231-944-3	0.83 mg/kg bw/day	① DNEL Consumer ② Long-term - oral, systemic effects
zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5	5 mg/m ³	① DNEL worker ② Long-term - inhalation, systemic effects
zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5	2.5 mg/m ³	① DNEL Consumer ② Long-term - inhalation, systemic effects
zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5	0.5 mg/m ³	① DNEL worker ② Long-term - inhalation, local effects

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zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5	83 mg/kg bw/ day	① DNEL Consumer ② Long-term - dermal, systemic effects
zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5	0.83 mg/kg bw/day	① DNEL Consumer ② Long-term - oral, systemic effects

Substance name	PNEC Value	① PNEC type
Acetone CAS No.: 67-64-1	1.06 mg/L	① PNEC aquatic, marine water
Acetone CAS No.: 67-64-1	30.4 mg/L	① PNEC sediment, freshwater
Acetone CAS No.: 67-64-1	3.04 mg/L	① PNEC sediment, marine water
Acetone CAS No.: 67-64-1	29.5 mg/kg	① PNEC soil
Zinc powder - Zinc dust (stabilised) CAS No.: 7440-66-6 EC No.: 231-175-3	6.1 mg/L	① PNEC aquatic, marine water
Zinc powder - Zinc dust (stabilised) CAS No.: 7440-66-6 EC No.: 231-175-3	52 mg/L	① PNEC sewage treatment plant
Zinc powder - Zinc dust (stabilised) CAS No.: 7440-66-6 EC No.: 231-175-3	118 mg/L	① PNEC sediment, freshwater
Zinc powder - Zinc dust (stabilised) CAS No.: 7440-66-6 EC No.: 231-175-3	56.5 mg/L	① PNEC sediment, marine water
Zinc powder - Zinc dust (stabilised) CAS No.: 7440-66-6 EC No.: 231-175-3	56.6 mg/kg	① PNEC soil
zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5	6.1 mg/L	① PNEC aquatic, marine water
zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5	52 mg/L	① PNEC sewage treatment plant
zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5	117 mg/L	① PNEC sediment, freshwater
zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5	56.5 mg/L	① PNEC sediment, marine water
zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5	35.6 mg/kg	① PNEC soil
trizinc bis(orthophosphate) CAS No.: 7779-90-0 EC No.: 231-944-3	0.0061 mg/L	① PNEC aquatic, marine water
trizinc bis(orthophosphate) CAS No.: 7779-90-0 EC No.: 231-944-3	0.1 mg/L	① PNEC sewage treatment plant
trizinc bis(orthophosphate) CAS No.: 7779-90-0 EC No.: 231-944-3	117.8 mg/L	① PNEC sediment, freshwater
trizinc bis(orthophosphate) CAS No.: 7779-90-0 EC No.: 231-944-3	56.5 mg/L	① PNEC sediment, marine water

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Substance name	PNEC Value	① PNEC type
trizinc bis(orthophosphate) CAS No.: 7779-90-0 EC No.: 231-944-3	35,600 mg/kg	① PNEC soil
zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5	6.1 mg/L	① PNEC aquatic, marine water
zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5	52 mg/L	① PNEC sewage treatment plant
zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5	117 mg/L	① PNEC sediment, freshwater
zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5	56.5 mg/L	① PNEC sediment, marine water
zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5	35.6 mg/kg	① PNEC soil

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No further details. See section 7.

8.2.2. Personal protection equipment



Eye/face protection:

Safety goggles (EN-166)

Skin protection:

Hand protection:

Gloves / solvent resistant

Breakthrough times and swelling properties of the material must be taken into consideration.

Glove material:

The selection of a suitable glove depends not only on the material but also on other quality features and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of glove materials cannot be calculated in advance and must therefore be checked before use. NBR (Nitrile rubber)

Recommended material thickness: $\geq 0,5\text{mm}$

Permeation time (maximum wear duration):

For continuous contact we recommend gloves with a breakthrough time of at least 240 minutes, with the preference for a breakthrough time greater than 480 minutes. For short term or splash protection we recommend the same. We are aware that suitable gloves offering this protection are not available. In this case, a shorter breakthrough time is permissible, provided the procedures for maintenance and timely replacement are followed. The thickness of the gloves is not a good measure of the resistance the gloves give against a chemical substance, as this depends on the exact composition of the material of the gloves. The exact breakthrough time should be checked with the glove manufacturer and adhered to.

Body protection:

Use protective suit. (EN-13034/6)

Antistatic, chemical and oil resistant clothing and safety shoes are recommended. (EN1149; EN340&EN ISO 13688 EN13034-6).

Respiratory protection:

In case of inadequate ventilation wear respiratory protection.

Filter A2/P2

Other protection measures:

General protective and hygienic measures:

Keep away from food, drink and animal feed.

Remove contaminated, saturated clothing immediately.

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Wash hands before breaks and after work.
Do not inhale gases/vapours/aerosols.
Avoid contact with eyes and skin.
General ventilation.

8.2.3. Environmental exposure controls

Use a suitable container to prevent environmental pollution.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: Aerosol

Colour: metallic

Odour: characteristic

Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
pH	<i>not applicable</i>		② Mixture is not polar/aprotic.
Melting point	<i>not determined</i>		
Freezing point	<i>not determined</i>		
Initial boiling point and boiling range	-44.5 °C		
Decomposition temperature	<i>not determined</i>		
Flash point	-97 °C		
Evaporation rate	<i>not determined</i>		
Auto-ignition temperature	365 °C		
Upper/lower flammability or explosive limits	0.7 - 13 Vol-%		
Vapour pressure	3,800 hPa	20 °C	
Vapour density	<i>not determined</i>		
Density	≈ 0.826 g/cm ³	20 °C	
Relative density	<i>not determined</i>		
Bulk density	<i>not determined</i>		
Water solubility	<i>not applicable</i>		② Not miscible or only slightly miscible.
Partition coefficient: n-octanol/water	<i>not determined</i>		
Dynamic viscosity	<i>not determined</i>		
Kinematic viscosity	<i>not determined</i>		

9.2. Other information

The product is not self-igniting. The product is not explosive, but the formation of explosive vapour/air mixtures is possible. formation of explosive vapour/air mixtures is possible.

9.2.1. Information with regard to physical hazard classes

Explosives:

Not applicable

Flammable gases:

Not applicable

Aerosols:

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

Oxidizing gases:

Not applicable

Gases under pressure:

Not applicable

Flammable liquids:

Not applicable

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Flammable solids:

Not applicable

Self-reactive substances and mixtures:

Not applicable

Pyrophoric liquids:

Not applicable

Pyrophoric solids:

Not applicable

Self-heating substances and mixtures:

Not applicable

Substances or mixtures which, in contact with water, emit flammable gases:

Not applicable

Oxidizing liquids:

Not applicable

Oxidizing solids:

Not applicable

Organic peroxides:

Not applicable

Corrosive to metals:

Not applicable

Desensitised explosives:

Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

No further relevant information available.

10.2. Chemical stability

Thermal decomposition / Conditions to avoid: No decomposition when used as directed.

10.3. Possibility of hazardous reactions

No dangerous reactions known.

10.4. Conditions to avoid

No further relevant information available.

10.5. Incompatible materials

No further relevant information available.

10.6. Hazardous decomposition products

No dangerous decomposition products known.

SECTION 11: Toxicological information

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

Acetone CAS No.: 67-64-1
LD₅₀ oral: 5,800 mg/kg (Rat)
LD₅₀ dermal: >20 mg/kg (Rat)
LC₅₀ Acute inhalation toxicity (gas): >20 ppmV 4 h (Rat)
butane CAS No.: 106-97-8 EC No.: 203-448-7
LD₅₀ oral: ≥5,000 mg/kg (Rat)
LD₅₀ dermal: ≥5,000 mg/kg (Rabbit)
LC₅₀ Acute inhalation toxicity (gas): 658 ppmV 4 h (Rat)
LC₅₀ Acute inhalation toxicity (vapour): ≥50 mg/L 4 h (Rat)

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propane CAS No.: 74-98-6 EC No.: 200-827-9
LD₅₀ oral: 5,840 mg/kg (Rat)
LD₅₀ dermal: 13,900 mg/kg (Rabbit)
LC₅₀ Acute inhalation toxicity (gas): >25 ppmV 4 h (Rat)
LC₅₀ Acute inhalation toxicity (vapour): ≥50 mg/L 4 h (Rat)
Hydrocarbons, C9, aromatics CAS No.: 128601-23-0 EC No.: 918-668-5
LD₅₀ oral: 3,492 mg/kg (Ratte)
LD₅₀ dermal: >3,160 mg/kg (Kaninchen)
LC₅₀ Acute inhalation toxicity (gas): >6,193 ppmV 4 h (Ratte)
Isobutane CAS No.: 75-28-5 EC No.: 200-857-2
LC₅₀ Acute inhalation toxicity (vapour): 1,237 mg/L (Mouse)
Zinc powder - Zinc dust (stabilised) CAS No.: 7440-66-6 EC No.: 231-175-3
LD₅₀ oral: >2,000 mg/kg (Ratte)
LC₅₀ Acute inhalation toxicity (gas): >5.4 ppmV 4 h (Ratte)
Butan-1-ol CAS No.: 71-36-3 EC No.: 200-751-6
LD₅₀ oral: 2,292 mg/kg (Ratte)
LD₅₀ dermal: 3,430 mg/kg (Kaninchen)
LC₅₀ Acute inhalation toxicity (gas): 21 ppmV 4 h (Ratte)
zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5
LD₅₀ oral: >5,000 mg/kg (Rat)
LD₅₀ dermal: >2,000 mg/kg (Rat)
LC₅₀ Acute inhalation toxicity (gas): >5,700 ppmV 4 h (Rat)
trizinc bis(orthophosphate) CAS No.: 7779-90-0 EC No.: 231-944-3
LD₅₀ oral: 5,000 mg/kg (Rat)
zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5
LD₅₀ oral: >5,000 mg/kg (Rat)
LD₅₀ dermal: >2,000 mg/kg (Rat)
LC₅₀ Acute inhalation toxicity (gas): >5,700 ppmV 4 h (Rat)

Acute oral toxicity:

Based on available data, the classification criteria are not met.

Acute dermal toxicity:

Based on available data, the classification criteria are not met.

Acute inhalation toxicity:

Based on available data, the classification criteria are not met.

Skin corrosion/irritation:

Based on available data, the classification criteria are not met.

Serious eye damage/irritation:

Causes serious eye irritation.

Respiratory or skin sensitisation:

Based on available data, the classification criteria are not met.

Germ cell mutagenicity:

Based on available data, the classification criteria are not met.

Carcinogenicity:

Based on available data, the classification criteria are not met.

Reproductive toxicity:

Based on available data, the classification criteria are not met.

STOT-single exposure:

May cause drowsiness or dizziness.

STOT-repeated exposure:

Based on available data, the classification criteria are not met.

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Aspiration hazard:

Based on available data, the classification criteria are not met.

11.2. Information on other hazards

Endocrine disrupting properties:

None of the ingredients are included.

SECTION 12: Ecological information

12.1. Toxicity

Acetone CAS No.: 67-64-1
EC ₅₀ : 8,800 mg/L (crustaceans, Daphnia magna)
EC ₅₀ : 8,300 mg/L (fish)
EC ₅₀ : 8,800 mg/L (Daphnia magna)
LC ₅₀ : 8,300 mg/L 4 d
butane CAS No.: 106-97-8 EC No.: 203-448-7
LC ₅₀ : 49.9 mg/L 4 d (fish)
EC ₅₀ : 69.43 mg/L 2 d (crustaceans, Daphnia)
ErC ₅₀ : 19.37 mg/L 4 d (Algae/water plant)
propane CAS No.: 74-98-6 EC No.: 200-827-9
LC ₅₀ : 9,640 mg/L 4 d (fish, Pimephales promelas)
EC ₅₀ : >100 mg/L (Algae/water plant, Bacteria)
LOEC: 1,000 mg/L (Algae/water plant, Algae)
LC ₅₀ : 0.41 mg/L 4 d (fish, Oncorhynchus mykiss)
EC ₅₀ : 0.17 mg/L 3 d (Algae/water plant, Selenastrum capricornutum)
NOEC: 0.017 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata)
LC ₅₀ : 49.9 mg/L 4 d (fish)
EC ₅₀ : 69.43 mg/L 2 d (crustaceans, Daphnia)
ErC ₅₀ : 19.37 mg/L 4 d (Algae/water plant)
LOEC: 1,000 mg/L (Algae/water plant, Alge)
Isobutane CAS No.: 75-28-5 EC No.: 200-857-2
LC ₅₀ : 91.42 mg/L 4 d (fish)
EC ₅₀ : 69.43 mg/L 2 d (crustaceans, Daphnia)
ErC ₅₀ : 19.37 mg/L 4 d (Algae/water plant)
EC ₅₀ : 69.43 mg/L 2 d (crustaceans, Daphnia sp.)
Zinc powder - Zinc dust (stabilised) CAS No.: 7440-66-6 EC No.: 231-175-3
LC ₅₀ : 0.17 mg/L 4 d (Oncorhynchus mykiss)
EC ₅₀ : 0.41 mg/L 2 d (Daphnia magna)
NOEC: 0.017 mg/L 3 d (Pseudokirchneriella subcapitata)
Butan-1-ol CAS No.: 71-36-3 EC No.: 200-751-6
LC ₅₀ : 1,376 mg/L 4 d (fish, Pimephales promelas)
EC ₅₀ : 225 mg/L (Algae/water plant, Selenastrum capricornatum)
EC ₅₀ : 225 mg/L (Algae/water plant, Selenastrum capricornutum)
NOEC: 4.1 mg/L 21 d (crustaceans, Daphnia magna)
zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5
LC ₅₀ : 1.1 mg/L 4 d (fish, Oncorhynchus mykiss)
IC ₅₀ : 1.85 mg/L 4 d (Algae/water plant, Skeletonema costatum)
IC ₅₀ : 1.85 mg/L 4 d (Algae/water plant, Skeletonema costatum)

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trizinc bis(orthophosphate) CAS No.: 7779-90-0 EC No.: 231-944-3

LC₅₀: 0.169 mg/L 4 d

EC₅₀: 0.136 mg/L 3 d (Algae/water plant)

NOEC: 0.019 mg/L (Algae/water plant, Pseudokirchneriella subcapitata)

ErC₅₀: 0.14 mg/L 3 d (Algae/water plant, Desmodesmus subspicatus)

zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5

LC₅₀: 1.1 mg/L 4 d (fish, Oncorhynchus mykiss)

IC₅₀: 1.85 mg/L 4 d (Algae/water plant, Skeletonema costatum)

IC₅₀: 1.85 mg/L 4 d (Algae/water plant, Skeletonema costatum)

Additional ecotoxicological information:

No further relevant information available.

12.2. Persistence and degradability

Biodegradation:

Not readily biodegradable.

12.3. Bioaccumulative potential

butane CAS No.: 106-97-8 EC No.: 203-448-7

Log K_{OW}: 1.09

propane CAS No.: 74-98-6 EC No.: 200-827-9

Log K_{OW}: 1.09

isobutane CAS No.: 75-28-5 EC No.: 200-857-2

Log K_{OW}: 1.09

zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5

Bioconcentration factor (BCF): 28,960

zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5

Bioconcentration factor (BCF): 28,960

Bioconcentration factor (BCF):

No further relevant information available.

12.4. Mobility in soil

No further relevant information available.

12.5. Results of PBT and vPvB assessment

Acetone CAS No.: 67-64-1

Results of PBT and vPvB assessment: —

butane CAS No.: 106-97-8 EC No.: 203-448-7

Results of PBT and vPvB assessment: —

propane CAS No.: 74-98-6 EC No.: 200-827-9

Results of PBT and vPvB assessment: —

Hydrocarbons, C₉, aromatics CAS No.: 128601-23-0 EC No.: 918-668-5

Results of PBT and vPvB assessment: —

isobutane CAS No.: 75-28-5 EC No.: 200-857-2

Results of PBT and vPvB assessment: —

Zinc powder - Zinc dust (stabilised) CAS No.: 7440-66-6 EC No.: 231-175-3

Results of PBT and vPvB assessment: —

Butan-1-ol CAS No.: 71-36-3 EC No.: 200-751-6

Results of PBT and vPvB assessment: —

zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5

Results of PBT and vPvB assessment: —

trizinc bis(orthophosphate) CAS No.: 7779-90-0 EC No.: 231-944-3

Results of PBT and vPvB assessment: —

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zinc oxide CAS No.: 1314-13-2 EC No.: 215-222-5

Results of PBT and vPvB assessment: —

not applicable

12.6. Endocrine disrupting properties

The product does not contain any substances with endocrine-disrupting properties.

12.7. Other adverse effects

Toxic to aquatic life.

Toxic to fish.

Drinking water hazard even when small quantities leak into the subsoil.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Must not be disposed of together with household waste. Do not allow to enter into surface water or drains.

13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

Waste code product

08 01 11 * Waste paint and varnish containing organic solvents or other dangerous substances

*: Evidence for disposal must be provided.

Directive 2008/98/EC (Waste Framework Directive)

HP 3	Flammable
HP 4	Irritant — skin irritation and eye damage
HP 5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
HP 14	Ecotoxic

Waste code packaging







15 01 04 metallic packaging

Waste treatment options

Other disposal recommendations:

Uncleaned packaging: Dispose of waste according to applicable legislation.

SECTION 14: Transport information

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1. UN number or ID number			
UN 1950	UN 1950	UN 1950	UN 1950
14.2. UN proper shipping name			
AEROSOLS, ENVIRONMENTALLY HAZARDOUS	AEROSOLS, ENVIRONMENTALLY HAZARDOUS	AEROSOLS, MARINE POLLUTANT	AEROSOLS, flammable
14.3. Transport hazard class(es)			
 2.1	 2.1	 2.1	 2.1
14.4. Packing group			
		-	
14.5. Environmental hazards			
	No	 MARINE POLLUTANT	No

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Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.6. Special precautions for user			
Special Provisions: 190 327 344 625 Limited quantity (LQ): 1 L Excepted Quantities (EQ): E0 Classification code: 5F Tunnel restriction code: (D) Remark: Attention: Gases	Special Provisions: 190 327 344 625 Limited quantity (LQ): 1 L Excepted Quantities (EQ): E0 Classification code: 5F Remark: Attention: Gases	Special Provisions: 63 190 277 327 344 381 959 Limited quantity (LQ): 1L Excepted Quantities (EQ): E0 EmS-No.: F-D,S-U Remark: Attention: Gases	Special Provisions: A145 A167 Remark: Attention: Gases

14.7. Maritime transport in bulk according to IMO instruments

No data available

SECTION 15: Regulatory information

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

15.1.1. EU legislation

Authorisations:

Directive 2012/18/EU

Named dangerous substances - ANNEX I: None of the ingredients are included.

Restrictions on use:

Regulation (EC) No 1907/2006 ANNEX XVII: Restriction conditions: 3

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment - Annex II:

None of the ingredients are included.

Regulation (EU) 2019/1148

Annex I - RESTRICTED EXPORT SUBSTANCES FOR EXPLOSIVES (upper concentration limit for a permit pursuant to Article 5(3)): None of the ingredients are included.

Annex II - EXPLOSIVES REPORTABLE FOR EXPLOSIVES: 67-64-1 Acetone

Regulation (EC) No 273/2004 on drug precursors: 67-64-1 Acetone

Regulation (EC) No 111/2005 laying down rules for the monitoring of trade in drug precursors between the Community and third countries: 67-64-1 Acetone

Other regulations (EU):

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive], Hazard categories:

- P3a 'Flammable' aerosols Category 1 or 2, containing flammable gases Category 1 or 2 or flammable liquids
- E2 Hazardous to the Aquatic Environment in Category Chronic 2

Directive 2004/42/EC on the limitation of emissions of volatile organic compounds:

Volatile organic compounds (VOC) content in percent by weight: 746 g/L

15.1.2. National regulations

No data available

15.2. Chemical Safety Assessment

A chemical safety assessment has not been carried out.

SECTION 16: Other information

16.1. Indication of changes

No data available

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16.2. Abbreviations and acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
DNEL	derived no-effect level
EC ₅₀	Effective Concentration 50%
EN	European Standard
ES	Exposure scenario
EWC	European Waste Catalogue
IC ₅₀	Inhibition Concentration 50 %
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
KG	body weight
LC ₅₀	Lethal (fatal) Concentration 50%
LD ₅₀	Lethal (fatal) Dose 50%
MAK	Maximum concentration in the workplace air (CH)
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety & Health
NOEC	No Observed Effect Concentration
OEL	Threshold Limit Value
OSHA	Occupational Safety & Health Administration
PBT	persistent and bioaccumulative and toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation and Authorization of Chemicals
RID	Dangerous goods regulations for transport by rail
TRGS	Technische Regeln für Gefahrstoffe
UN	United Nations
VOC	Volatile organic compounds
ZNS	central nervous system

16.3. Key literature references and sources for data

No data available

16.4. Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Hazard classes and hazard categories	Hazard statements	Classification procedure
Hazardous to the aquatic environment (<i>Aquatic Chronic 2</i>)	H411: Toxic to aquatic life with long lasting effects.	
Serious eye damage/eye irritation (<i>Eye Irrit. 2</i>)	H319: Causes serious eye irritation.	
STOT-single exposure (<i>STOT SE 3</i>)	H336: May cause drowsiness or dizziness.	
Aerosols (<i>Aerosol 1</i>)	H222; H229: Extremely flammable aerosol. Pressurised container: May burst if heated.	

16.5. Relevant R-, H- and EUH-phrases (Number and full text)

Hazard statements	
H220	Extremely flammable gas.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H280	Contains gas under pressure; may explode if heated.
H302	Harmful if swallowed.

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Hazard statements

H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Supplemental hazard information

EUH066	Repeated exposure may cause skin dryness or cracking.
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16.6. Training advice

No data available

16.7. Additional information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-mentioned supplier nor its subsidiaries assume any liability with regard to the correctness or completeness of the information provided. A final determination of the suitability of individual materials is the sole responsibility of the user. All materials may involve unknown risks and should be used with caution. While certain risks are described herein, we cannot guarantee that these are the only possible risks.