

SAFETY DATA SHEET

Zinc Spray bright grade

Section 1. Identification

GHS product identifier : Zinc Spray bright grade
Product code : 110010
Other means of identification : Not available.
Color : Silver.
Product type : Aerosol.

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

Identified uses

Aerosol product

Uses advised against

Not applicable.

Supplier's details : WEICON GmbH & Co. KG
Königsberger Str. 255,
48157 Münster, Germany
phone:+49 251 93220,
email: info@weicon.de,
URL: www.weicon.de

e-mail address of person responsible for this SDS : msds@weicon.de

Emergency telephone number (with hours of operation) : +1 202 464 2554
TRANSPORT (24 Hours/Day): +1 202 464 2554

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : AEROSOLS - Category 1
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A

GHS label elements

Hazard pictograms



Signal word : Danger

Hazard statements : H222, H229 - Extremely flammable aerosol. Pressurized container: may burst if heated.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.

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.

Response : Not applicable.

Section 2. Hazards identification

Storage	: P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 122 °F/50 °C.
Disposal	: Not applicable.
Hazards not otherwise classified	: None known.
Hazards identified when used	: No known significant effects or critical hazards.

Section 3. Composition/information on ingredients

Substance/mixture	: Mixture
Other means of identification	: Not available.

Ingredient name	Synonyms	%	Identifiers
dimethyl ether	Methane, 1,1'-oxybis-; Methane, oxybis-; Methyl ether; methoxymethane; propane—methoxymethane (95%/5%); isobutane—methoxymethane (12%/88%); 1,1-difluoroethane—methoxymethane; 1,1-difluoroethane—methoxymethane— isobutane; isobutane—methoxymethane; dimethyl ether; RE 170; dimethyl oxide; R511a; R290—RE170 (95%/5%)	≥65 - ≤85	CAS: 115-10-6
n-butyl acetate	Acetic acid, butyl ester; Butyl Acetate; n-Butyl-acetate; Butyl ethanoate; n-Butyl ester of acetic acid; product composed of hydrocarbons (predominantly paraffinic and naphthenic) and n-butyl acetate; 1-butyl acetate; 1-Acetoxybutane; Butyl ester, Acetic acid; normal butyl acetate; Acetic acid, n-butyl ester	≥5 - ≤10	CAS: 123-86-4
ethyl acetate	Acetic acid ethyl ester; Acetic acid, ethyl ester; Acetic ether; Ethyl ethanoate; Ethyl ester of acetic acid; Acetic ester; Blend, consisting of ethyl alcohol, ethyl acetate and aldehydes, higher alcohols and water; blend, consisting of ethyl alcohol, ethyl acetate and water; vinegar naphtha; acetoxyethane; ethyl acetate ester	≥5 - ≤10	CAS: 141-78-6
acetone	propan-2-one; propanone; 2-Propanone; Ketone propane; Dimethyl ketone; β-ketonepropane; acetone; dimethylketone; methyl ketone; pyroacetic acid; pyroacetic ether; dimethylformaldehyde; Acetone (I); 2-Propanone (I); 2-OXOPROPANE; BETA-	≥5 - ≤10	CAS: 67-64-1

Section 3. Composition/information on ingredients

xylene	KETOPROPANE; 2-Propanon, -e Benzene, dimethyl-; Xylol; Benzene, dimethyl-, mixed isomers; xylene, mixed isomers, pure; xylene, crude; photosensitive emulsion consisting of cyclized polyisoprene containing: — 55 % or more but not more than 75 % by weight of xylene (CAS RN 1330-20-7) and — 12 % or more but not more than 18 % by weight of ethylbenzene (CAS RN 100-41-4); Benzene, dimethyl-; Xylene (mixed); xylene (total); Xylenes; Dimethylbenzene	≥3 - ≤7	CAS: 1330-20-7
Aluminium powder (stabilized)	aluminium powder (stabilised)	≥3 - ≤7	CAS: 7429-90-5
Hydrocarbons, C10-13, n-alkanes, isoalkanes, cycloalkanes, <2% aromatics		≥3 - ≤7	-
butan-1-ol	n-butanol; 1-Butanol; n-BUTYL ALCOHOL; n-Propyl carbinol; 1-Hydroxybutane; Butyl alcohol; mixture, containing by weight: - 30 % or more, but not more than 40 % of a copolymer of vinyl methyl ether and monobutyl maleate, - 10 % or more, but not more than 20 % of a copolymer of vinyl methyl ether and monoethyl maleate, - 40 % or more, but not more than 55 % of ethanol, - 1 % or more, but not more than 7 % of 1-butanol; 1-Butanol (I); n-Butyl alcohol (I); METHYLOLPROPANE; Butyl hydroxide	≥1 - ≤5	CAS: 71-36-3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First aid measures

- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes skin irritation.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : Extremely flammable aerosol. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Section 5. Fire-fighting measures

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
dimethyl ether n-butyl acetate	<p>OARS WEEL (United States, 9/2024) TWA 8 hours: 1000 ppm.</p> <p>NIOSH REL (United States, 10/2020) TWA 10 hours: 150 ppm. TWA 10 hours: 710 mg/m³. STEL 15 minutes: 200 ppm. STEL 15 minutes: 950 mg/m³.</p> <p>CAL OSHA PEL (United States, 1/2025) STEL 15 minutes: 950 mg/m³. STEL 15 minutes: 200 ppm. TWA 8 hours: 710 mg/m³. TWA 8 hours: 150 ppm.</p> <p>OSHA PEL (United States, 5/2018) TWA 8 hours: 150 ppm. TWA 8 hours: 710 mg/m³.</p> <p>OSHA PEL 1989 (United States, 3/1989) TWA 8 hours: 150 ppm. TWA 8 hours: 710 mg/m³. STEL 15 minutes: 200 ppm. STEL 15 minutes: 950 mg/m³.</p> <p>ACGIH TLV (United States, 1/2025) [Butyl acetates] STEL 15 minutes: 150 ppm. TWA 8 hours: 50 ppm.</p>
ethyl acetate	<p>NIOSH REL (United States, 10/2020) TWA 10 hours: 400 ppm. TWA 10 hours: 1400 mg/m³.</p> <p>CAL OSHA PEL (United States, 1/2025) TWA 8 hours: 1400 mg/m³. TWA 8 hours: 400 ppm.</p> <p>OSHA PEL (United States, 5/2018) TWA 8 hours: 400 ppm. TWA 8 hours: 1400 mg/m³.</p> <p>OSHA PEL 1989 (United States, 3/1989) TWA 8 hours: 400 ppm. TWA 8 hours: 1400 mg/m³.</p> <p>ACGIH TLV (United States, 1/2025) TWA 8 hours: 400 ppm. TWA 8 hours: 1440 mg/m³.</p>
acetone	<p>NIOSH REL (United States, 10/2020) TWA 10 hours: 250 ppm. TWA 10 hours: 590 mg/m³.</p> <p>CAL OSHA PEL (United States, 1/2025) STEL 15 minutes: 1780 mg/m³. STEL 15 minutes: 750 ppm. C: 3000 ppm. TWA 8 hours: 1200 mg/m³. TWA 8 hours: 500 ppm.</p> <p>OSHA PEL (United States, 5/2018) TWA 8 hours: 1000 ppm.</p>

Section 8. Exposure controls/personal protection

xylene

TWA 8 hours: 2400 mg/m³.
OSHA PEL 1989 (United States, 3/1989)
 TWA 8 hours: 750 ppm.
 TWA 8 hours: 1800 mg/m³.
 STEL 15 minutes: 1000 ppm.
 STEL 15 minutes: 2400 mg/m³.
ACGIH TLV (United States, 1/2025) A4.
 TWA 8 hours: 250 ppm.
 STEL 15 minutes: 500 ppm.

CAL OSHA PEL (United States, 1/2025)
[xylene]

STEL 15 minutes: 655 mg/m³.
 STEL 15 minutes: 150 ppm.
 C: 300 ppm.
 TWA 8 hours: 435 mg/m³.
 TWA 8 hours: 100 ppm.

OSHA PEL (United States, 5/2018) [Xylenes]

TWA 8 hours: 100 ppm.
 TWA 8 hours: 435 mg/m³.

OSHA PEL 1989 (United States, 3/1989)
[Xylenes (o-, m-, p-isomers)]

TWA 8 hours: 100 ppm.
 TWA 8 hours: 435 mg/m³.
 STEL 15 minutes: 150 ppm.
 STEL 15 minutes: 655 mg/m³.

ACGIH TLV (United States, 1/2025) [p-xylene and mixtures containing p-xylene]

A4. Ototoxicant.
 TWA 8 hours: 20 ppm.

Aluminium powder (stabilized)

NIOSH REL (United States, 10/2020)

TWA 10 hours: 10 mg/m³. Form: Total.
 TWA 10 hours: 5 mg/m³. Form: Respirable fraction.

CAL OSHA PEL (United States, 1/2025)

TWA 8 hours: 5 mg/m³. Form: powder.

OSHA PEL (United States, 5/2018)

TWA 8 hours: 15 mg/m³ (as Al). Form: Total dust.

TWA 8 hours: 5 mg/m³ (as Al). Form: Respirable fraction.

OSHA PEL 1989 (United States, 3/1989)

TWA 8 hours: 15 mg/m³ (as Al). Form: Dust.
 TWA 8 hours: 5 mg/m³ (as Al). Form: Respirable fraction.

TWA 8 hours: 5 mg/m³ (as Al). Form: Pyrophoric.

TWA 8 hours: 5 mg/m³ (as Al). Form: Welding fume.

ACGIH TLV (United States, 1/2025)
[Aluminum, metal and insoluble compounds] A4.

TWA 8 hours: 1 mg/m³. Form: Respirable fraction.

None.

NIOSH REL (United States, 10/2020)

Absorbed through skin.

CEIL: 50 ppm.

CEIL: 150 mg/m³.

CAL OSHA PEL (United States, 1/2025)

Hydrocarbons, C10-13, n-alkanes, isoalkanes, cycloalkanes, <2% aromatics
 butan-1-ol

Section 8. Exposure controls/personal protection

Absorbed through skin.
 C: 150 mg/m³.
 C: 50 ppm.
OSHA PEL (United States, 5/2018)
 TWA 8 hours: 100 ppm.
 TWA 8 hours: 300 mg/m³.
OSHA PEL 1989 (United States, 3/1989)
 Absorbed through skin.
 CEIL: 50 ppm.
 CEIL: 150 mg/m³.
ACGIH TLV (United States, 1/2025)
 TWA 8 hours: 20 ppm.

Biological exposure indices

Ingredient name	Exposure indices
acetone	ACGIH BEI (United States, 1/2025) BEI: 25 mg/l, acetone [in urine]. Sampling time: end of shift.
xylene	ACGIH BEI (United States, 1/2025) [xylenes (technical or commercial grades)] BEI: 0.3 g/g creatinine, methylhippuric acids [in urine]. Sampling time: end of shift.

Appropriate engineering controls

- : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

- : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

- : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

- : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection

- : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. Recommended : 1 - 4 hours (breakthrough time): Protective gloves made of nitrile rubber (material thickness of 0,4 mm); EN 374-5 Cat. III 4 - 8 hours (breakthrough time): Protective gloves made of Viton®/ butyl rubber (material thickness of 0,7 mm); EN388 Cat.II / EN374 Cat.III / EN374-2

Body protection

- : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Section 8. Exposure controls/personal protection

- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended : organic vapor (Type AX) and particulate filter

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

- Physical state** : Gas. [Aerosol]
- Color** : Silver.
- Odor** : Characteristic.
- Odor threshold** : Not available.
- pH** : Not applicable.
- Melting point/freezing point** : Not applicable.
- Boiling point or initial boiling point and boiling range** : 24°C (-11.2°F)
- Flash point** : Closed cup: Not applicable.
- Evaporation rate** : Not available.
- Flammability** : Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Flammable in the presence of the following materials or conditions: shocks and mechanical impacts.
- Lower and upper explosion limit/flammability limit** : Lower: 3%
Upper: 18.6%
- Vapor pressure** : Not available.
- Relative vapor density** : Not available.
- Relative density** : Not applicable.
- Density** : 1.18 g/cm³ [20°C (68°F)]
- Solubility in water** : Not available.
- Miscible with water** : No.
- Partition coefficient: n-octanol/water** : Not applicable.
- Auto-ignition temperature** : Not applicable.
- Decomposition temperature** : Not available.
- Heat of combustion** : 4.85 kJ/g
- Viscosity** : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C (104°F)): Not available.
- Particle characteristics**
- Median particle size** : Not applicable.
- Aerosol product**
- Type of aerosol** : Spray

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame).
Incompatible materials	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name

Result

dimethyl ether

Rat - Inhalation - LC50 Vapor309 g/m³ [4 hours]**Rat - Inhalation - LC50 Gas.**

164000 ppm [4 hours]

Toxic effects: Behavioral - Ataxia Behavioral - Coma

n-butyl acetate

Rat - Oral - LD50

10768 mg/kg

Toxic effects: Behavioral - Somnolence (general depressed activity) Lung, Thorax, or Respiration - Other changes Liver - Other changes**Rabbit - Dermal - LD50**

>17600 mg/kg

Rat - Male, Female - Inhalation - LC50 Vapor

>21 mg/l [4 hours]

OECD 403

ethyl acetate

Rat - Oral - LD50

5620 mg/kg

acetone

Rat - Oral - LD50

5800 mg/kg

Toxic effects: Behavioral - Altered sleep time (including change in righting reflex) Behavioral - Tremor

xylene

Rat - Oral - LD50

4300 mg/kg

Toxic effects: Liver - Other changes Kidney, Ureter, and Bladder - Other changes

butan-1-ol

Rat - Inhalation - LC50 Gas.

5000 ppm [4 hours]

Rat - Oral - LD50

790 mg/kg

Toxic effects: Liver - Fatty liver degeneration Kidney, Ureter, and Bladder - Other changes Blood - Other changes**Rabbit - Dermal - LD50**

3400 mg/kg

Rat - Inhalation - LC50 Vapor24000 mg/m³ [4 hours]

Conclusion/Summary [Product] : Not available.

Section 11. Toxicological information

Skin corrosion/irritation

Product/ingredient name

acetone

Result

Rabbit - Skin - Mild irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 500 mg

Rabbit - Skin - Mild irritant

Amount/concentration applied: 395 mg

xylene

Rat - Skin - Mild irritant

Duration of treatment/exposure: 8 hours

Amount/concentration applied: 60 uL

Rabbit - Skin - Moderate irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 500 mg

Rabbit - Skin - Moderate irritant

Amount/concentration applied: 100 %

butan-1-ol

Rabbit - Skin - Moderate irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 20 mg

Conclusion/Summary [Product] : Not available.

Serious eye damage/eye irritation

Product/ingredient name

acetone

Result

Human - Eyes - Mild irritant

Amount/concentration applied: 186300 ppm

Rabbit - Eyes - Mild irritant

Amount/concentration applied: 10 uL

Rabbit - Eyes - Moderate irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 20 mg

Rabbit - Eyes - Severe irritant

Amount/concentration applied: 20 mg

xylene

Rabbit - Eyes - Mild irritant

Amount/concentration applied: 87 mg

Rabbit - Eyes - Severe irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 5 mg

butan-1-ol

Rabbit - Eyes - Severe irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 2 mg

Rabbit - Eyes - Severe irritant

Amount/concentration applied: 0.005 MI

Rabbit - Eyes - Severe irritant

Amount/concentration applied: 1.62 mg

Conclusion/Summary [Product] : Not available.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product] : Not available.

Respiratory or skin sensitization

Not available.

Section 11. Toxicological information

Skin

Conclusion/Summary [Product] : Not available.

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

Not available.

Conclusion/Summary [Product] : Not available.

Carcinogenicity

Not available.

Conclusion/Summary [Product] : Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
xylene	-	3	-

Reproductive toxicity

Not available.

Conclusion/Summary [Product] : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name

Result

n-butyl acetate

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)
(Narcotic effects) - Category 3

ethyl acetate

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)
(Narcotic effects) - Category 3

acetone

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)
(Narcotic effects) - Category 3

xylene

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)
(Respiratory tract irritation) - Category 3

butan-1-ol

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)
(Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)
(Narcotic effects) - Category 3

Specific target organ toxicity (repeated exposure)

Product/ingredient name

Result

xylene

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

Aspiration hazard

Product/ingredient name

Result

xylene

ASPIRATION HAZARD - Category 1

Hydrocarbons, C10-13, n-alkanes,
isoalkanes, cycloalkanes, <2% aromatics

ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

Section 11. Toxicological information

Not available.

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes skin irritation.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary [Product] : Not available.

- General** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)

Section 11. Toxicological information

dimethyl ether	N/A	N/A	164000	309	N/A
n-butyl acetate	10768	N/A	N/A	N/A	N/A
ethyl acetate	5620	N/A	N/A	N/A	N/A
acetone	5800	N/A	N/A	N/A	N/A
xylene	4300	1100	N/A	11	N/A
butan-1-ol	790	3400	N/A	24	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name

n-butyl acetate

Result

Acute - LC50 - Fresh water

Fish - Fathead minnow - *Pimephales promelas*

Age: 31 to 32 days; Size: 21.6 mm; Weight: 0.175 g

18 mg/l [96 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Fish - Zebra danio - *Danio rerio*

62 mg/l [96 hours]

Effect: Mortality

Acute - LC50 - Marine water

Crustaceans - Brine shrimp - *Artemia salina*

32 mg/l [48 hours]

Effect: Mortality

ethyl acetate

Acute - LC50 - Fresh water

Daphnia - Water flea - *Daphnia cucullata*

Age: 11 days

154 mg/l [48 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Fish - Indian catfish - *Heteropneustes fossilis*

Size: 14.16 cm; Weight: 25.54 g

212.5 mg/l [96 hours]

Effect: Mortality

Acute - EC50 - Fresh water

Algae - Green algae - *Selenastrum sp.*

2500 mg/l [96 hours]

Effect: Population

Chronic - NOEC - Fresh water

Fish - Fathead minnow - *Pimephales promelas* - Embryo

Age: <24 hours

75.6 mg/l [32 days]

Effect: Mortality

Chronic - NOEC - Fresh water

Daphnia - Water flea - *Daphnia magna*

Age: ≤24 hours

2.4 mg/l [21 days]

Effect: Mortality

acetone

Acute - LC50 - Fresh water

Daphnia - Water flea - *Daphnia magna*

10 mg/l [48 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Daphnia - Water flea - *Daphnia pulex*

Age: <24 hours

8800 mg/l [48 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Daphnia - Water flea - *Daphnia cucullata*

Age: 11 days

Section 12. Ecological information

7460 mg/l [48 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Daphnia - Water flea - *Daphnia cucullata*

Age: 11 days

7810 mg/l [48 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Crustaceans - Aquatic sowbug - *Asellus aquaticus*

7550 mg/l [48 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Crustaceans - Scud - *Gammarus pulex*

6000 mg/l [48 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Fish - Fathead minnow - *Pimephales promelas*

Age: 28 days; Size: 19.2 mm; Weight: 0.076 g

7280 mg/l [96 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Fish - Fathead minnow - *Pimephales promelas*

Age: 33 days; Size: 22.6 mm; Weight: 0.159 g

8120 mg/l [96 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Fish - Fathead minnow - *Pimephales promelas*

Age: 32 days; Size: 18 mm; Weight: 0.087 g

6210 mg/l [96 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Crustaceans - Water flea - *Ceriodaphnia dubia* - Neonate

Age: <12 hours

8098 mg/l [48 hours]

Effect: Mortality

Acute - EC50 - Fresh water

Algae - Green algae - *Selenastrum sp.*

7200 mg/l [96 hours]

Effect: Population

Chronic - NOEC - Marine water

Algae - Green algae - *Ulva pertusa*

4.95 mg/l [96 hours]

Effect: Reproduction

Acute - EC50 - Marine water

Algae - Green algae - *Ulva pertusa*

20.565 mg/l [96 hours]

Effect: Reproduction

Chronic - NOEC - Marine water

Algae - Diatom - *Skeletonema costatum*

100 µl/l [72 hours]

Effect: Population

Chronic - NOEC - Marine water

Algae - Diatom - *Skeletonema costatum*

100 µl/l [96 hours]

Effect: Population

Chronic - NOEC - Marine water

Algae - Dinoflagellate - *Karenia brevis*

0.5 ml/l [96 hours]

Effect: Population

Acute - LC50 - Marine water

Section 12. Ecological information

ISO

Crustaceans - Calanoid copepod - *Acartia tonsa* - Copepodid
4.42589 ml/l [48 hours]Effect: Mortality**Acute - LC50 - Fresh water**Crustaceans - Scud - *Gammarus pulex* - Juvenile (Fledgling,
Hatchling, Weanling)Size: 5 to 10 mm

11.26487 ml/l [48 hours]

Effect: Mortality**Acute - LC50 - Fresh water**Fish - Rainbow trout,donaldson trout - *Oncorhynchus mykiss*Age: 4 to 12 months; Size: 2 to 10 cm; Weight: 0.5 to 14 g

8000 ppm [96 hours]

Effect: Mortality**Acute - LC50 - Fresh water**Fish - Guppy - *Poecilia reticulata*Age: 4 to 12 months; Size: 2 to 10 cm; Weight: 0.5 to 14 g

5600 ppm [96 hours]

Effect: Mortality**Chronic - NOEC - Fresh water**Crustaceans - Daphnia - *Daphniidae*

0.016 ml/l [21 days]

Effect: Population**Chronic - NOEC - Marine water**Fish - Threespine stickleback - *Gasterosteus aculeatus* - LarvaeAge: 7 days

5 µg/l [42 days]

Effect: Growth**Acute - LC50 - Marine water**Crustaceans - Daggerblade grass shrimp - *Palaemon pugio*

8500 µg/l [48 hours]

Effect: Mortality**Acute - LC50 - Fresh water**Fish - Fathead minnow - *Pimephales promelas*Age: 31 days; Size: 18.4 mm; Weight: 0.077 g

13.4 mg/l [96 hours]

Effect: Mortality**Acute - LC50 - Fresh water**Fish - Rainbow trout,donaldson trout - *Oncorhynchus mykiss* -

Embryo

120 µg/l [96 hours]

Effect: Mortality**Chronic - NOEC - Fresh water**Aquatic plants - Coontail - *Ceratophyllum demersum*Weight: 3.5 g

9 mg/l [3 days]

Effect: Enzymes**Acute - LC50 - Fresh water**Daphnia - Water flea - *Daphnia magna*

38 mg/l [48 hours]

Effect: Mortality**Acute - LC50 - Fresh water**Fish - Fathead minnow - *Pimephales promelas*Age: 33 days; Size: 20.6 mm; Weight: 0.119 g

1730 mg/l [96 hours]

Effect: Mortality**Acute - EC50 - Fresh water**Daphnia - Water flea - *Daphnia magna*Age: 6 to 24 hours

1983 mg/l [48 hours]

xylene

Aluminium powder (stabilized)

butan-1-ol

Section 12. Ecological information

Effect: Intoxication

Conclusion/Summary [Product] : Not available.

Persistence and degradability

Not available.

Conclusion/Summary [Product] : Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
dimethyl ether	0.07	-	Low
n-butyl acetate	2.3	-	Low
ethyl acetate	0.68	30	Low
acetone	-0.23	-	Low
xylene	3.12	8.1 to 25.9	Low
butan-1-ol	1	-	Low

Mobility in soil

Soil/Water partition coefficient : Not available.

Other adverse effects

No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
ethyl acetate (l)	141-78-6	Listed	U112
Acetone (l)	67-64-1	Listed	U002
Xylene	1330-20-7	Listed	U239
1-Butanol (l)	71-36-3	Listed	U031

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IMDG	IATA
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	Aerosols	AEROSOLS	AEROSOLS	AEROSOLS (dimethyl ether, acetone)	Aerosols, flammable (dimethyl ether, acetone)

Section 14. Transport information

Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	Yes.	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes. The environmentally hazardous substance mark is not required.

Additional information

DOT Classification

: **Reportable quantity** 1600 lbs / 726.4 kg. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

Limited quantity Yes.

Packaging instruction Exceptions: 306. Non-bulk: None. Bulk: None.

Quantity limitation Passenger aircraft/rail: 75 kg. Cargo aircraft: 150 kg.

Special provisions N82

TDG Classification

: Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2), 2.7 (Marine pollutant mark).

The marine pollutant mark is not required when transported by road or rail.

Explosive Limit and Limited Quantity Index 1

Passenger Carrying Road or Rail Index 75

Special provisions 80, 107

Mexico Classification

: **Special provisions** 63, 190, 277, 327, 344

IMDG

: The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

Emergency schedules F-D, S-U

Special provisions 63, 190, 277, 327, 344, 381, 959

IATA

: The environmentally hazardous substance mark may appear if required by other transportation regulations.

Quantity limitation Passenger and Cargo Aircraft: 75 kg. Packaging instructions: 203.

Cargo Aircraft Only: 150 kg. Packaging instructions: 203. Limited Quantities -

Passenger Aircraft: 30 kg. Packaging instructions: Y203.

Special provisions A145, A167, A802

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

U.S. Federal regulations

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

Clean Water Act (CWA) 307: Zinc powder - zinc dust (stabilized)

Clean Water Act (CWA) 311: n-butyl acetate; xylene

Clean Air Act (CAA) 112 regulated flammable substances: dimethyl ether

TSCA 12(b) - Chemical export notification

Name	One time notification		Annual notification		
	4	5	5(f)	6	7
Zinc powder - zinc dust (stabilized)	Not listed	Not listed	Not listed	Listed	Not listed

Section 15. Regulatory information

Clean Air Act Section 112 : Listed

(b) Hazardous Air Pollutants (HAPs)

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : AEROSOLS - Category 1
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A

Composition/information on ingredients

Name	%	Classification
Dimethyl ether	≥65 - ≤85	FLAMMABLE GASES - Category 1A GASES UNDER PRESSURE - Compressed gas
n-butyl acetate	≥5 - ≤10	FLAMMABLE LIQUIDS - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
ethyl acetate	≥5 - ≤10	FLAMMABLE LIQUIDS - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
acetone	≥5 - ≤10	FLAMMABLE LIQUIDS - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
xylene	≥3 - ≤7	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 ASPIRATION HAZARD - Category 1
Aluminium powder (stabilized)	≥3 - ≤7	FLAMMABLE SOLIDS - Category 1
Hydrocarbons, C10-13, n-alkanes, isoalkanes, cycloalkanes, <2% aromatics	≥3 - ≤7	ASPIRATION HAZARD - Category 1
butan-1-ol	≥1 - ≤5	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (oral) - Category 4 SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

SARA 313

Section 15. Regulatory information

	Product name	CAS number	%
Form R - Reporting requirements	Xylene	1330-20-7	≥3 - ≤7
	Zinc powder - zinc dust (stabilized)	7440-66-6	≥3 - ≤7
	Aluminium powder (stabilized)	7429-90-5	≥3 - ≤7
	butan-1-ol	71-36-3	≥1 - ≤5
Supplier notification	Xylene	1330-20-7	≥3 - ≤7
	Zinc powder - zinc dust (stabilized)	7440-66-6	≥3 - ≤7
	Aluminium powder (stabilized)	7429-90-5	≥3 - ≤7
	butan-1-ol	71-36-3	≥1 - ≤5

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

- Massachusetts** : The following components are listed: METHYL ETHER; BUTYL ACETATE; ETHYL ACETATE; ACETONE; XYLENE; ZINC; ALUMINUM; N-BUTYL ALCOHOL
- New York** : The following components are listed: Butyl acetate; Ethyl acetate; Acetone; Xylene mixed; Zinc; Butyl alcohol
- New Jersey** : The following components are listed: DIMETHYL ETHER; n-BUTYL ACETATE; ETHYL ACETATE; ACETONE; XYLENES; ZINC; ALUMINUM; n-BUTYL ALCOHOL
- Pennsylvania** : The following components are listed: METHANE, OXYBIS-; ACETIC ACID, BUTYL ESTER; ACETIC ACID ETHYL ESTER; 2-PROPANONE; BENZENE, DIMETHYL-; ZINC COMPOUNDS; 1-BUTANOL

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

- Australia** : All components are listed or exempted.
- Canada** : Not determined.
- China** : All components are listed or exempted.
- Eurasian Economic Union** : **Russian Federation inventory**: Not determined.
- Japan** : **Japan inventory (CSCL)**: Not determined.
Japan inventory (ISHL): Not determined.
- New Zealand** : Not determined.
- Philippines** : Not determined.
- Republic of Korea** : Not determined.
- Taiwan** : Not determined.
- Thailand** : Not determined.
- Turkey** : Not determined.
- United States** : All components are active or exempted.
- Viet Nam** : Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	2
Flammability	4
Physical hazards	0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)



Procedure used to derive the classification

Classification	Justification
AEROSOLS - Category 1 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A	Expert judgment Expert judgment Expert judgment

History

Date of printing : 2/3/2026
Date of issue/Date of revision : ***
Date of previous issue : 11/4/2025
Version : 3.1

Key to abbreviations

: ATE = Acute Toxicity Estimate
 : BCF = Bioconcentration Factor
 : DOT = Department of Transportation
 : GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 : IATA = International Air Transport Association
 : IBC = Intermediate Bulk Container
 : IMDG = International Maritime Dangerous Goods
 : IMO = International Maritime Organization
 : LogPow = logarithm of the octanol/water partition coefficient
 : MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 : N/A = Not available
 : SGG = Segregation Group
 : TDG = Transportation of Dangerous Goods
 : UN = United Nations

References

: Not available.

☑ Indicates information that has changed from previously issued version.

Notice to reader

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