

SAFETY DATA SHEET

Smoke Detector Test Spray

Section 1. Identification

| | |
|--------------------------------------|-----------------------------|
| GHS product identifier | : Smoke Detector Test Spray |
| Product code | : 116402 |
| Other means of identification | : Not available. |
| Color | : Colorless. |
| 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 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 |
|---|---|

GHS label elements

Hazard pictograms



| | |
|--------------------|----------|
| Signal word | : Danger |
|--------------------|----------|

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|--------------------------|---|
| Hazard statements | : H222, H229 - Extremely flammable aerosol. Pressurized container: may burst if heated. H319 - Causes serious eye irritation. H336 - May cause drowsiness or dizziness. |
|--------------------------|---|

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 | : Not applicable. |
| Disposal | : P501 - Dispose of waste according to applicable legislation. |
| 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 |
|-------------------|---|-----------|---------------|
| Isobutane | Propane, 2-methyl-; Propane, 2-methyl- (isobutane); 2-Methylpropane; Propane, 2-methyl; Methyl-2 propane; Trimethylmethane; 1,1-Dimethylethane | ≥15 - ≤40 | CAS: 75-28-5 |
| Isopropyl alcohol | isopropanol; 2-Propanol | ≥10 - ≤30 | CAS: 67-63-0 |
| propane | Propyl hydride; n-Propane; Dimethyl methane; E 944; HC-290; R290; PROPYL HYDRID; Normal propane; liquefied petroleum gas; Propagas; n-propana | ≥10 - ≤30 | CAS: 74-98-6 |
| pentane | n-PENTANE; Normal-Pentane; R601; AMYL HYDRIDE; 2-methylbutane; isopentane; Normal pentane; n-pentana | ≥10 - ≤30 | CAS: 109-66-0 |
| ethanol | ethyl alcohol; ALCOHOL; Ethyl alcohol (Ethanol); EtOH; Grain alcohol; Cologne spirit; undenatured ethyl alcohol, of an alcoholic strength by volume of 80 % or more and containing up to 20 % activated carbon; aqueous solution, containing by weight - 25 % or more, but not more than 35 % of a copolymer of vinyl caprolactam, vinyl pyrrolidone, N,N-dimethylaminopropyl methacrylamide and 3-(methacryloylamino) propyllauryldimethylammonium chloride, - 10 % or more, but not more than 16 % of ethanol whether or not denatured with tert-butyl alcohol and/or denatonium benzoate; Blend, consisting of ethyl alcohol, ethyl acetate and aldehydes, higher alcohols and water; blend, consisting of ethyl alcohol, ethyl acetate and water; Denatured Alcohol | ≥3 - ≤7 | CAS: 64-17-5 |

Section 3. Composition/information on ingredients

| | | | |
|---------------------|---|-----------|--------------|
| 2-methylpropan-2-ol | tert-butyl alcohol; 2-Propanol, 2-methyl-; tert-Butanol; Trimethyl carbinol; 2-Methyl-2-propanol; aqueous solution, containing by weight - 25 % or more, but not more than 35 % of a copolymer of vinyl caprolactam, vinyl pyrrolidone, N,N-dimethylaminopropyl methacrylamide and 3-(methacryloylamino) propyllauryldimethylammonium chloride, - 10 % or more, but not more than 16 % of ethanol whether or not denatured with tert-butyl alcohol and/or denatonium benzoate; t-Butanol; T-BUTYL ALCOHOL; 1,1-Dimethylethanol; Trimethylmethanol; tert-Butyl alcohol (2-methyl-2-propanol) | ≥0.1 - ≤1 | CAS: 75-65-0 |
|---------------------|---|-----------|--------------|

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 it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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 necessary, call a poison center or physician. 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. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- 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 necessary, call a poison center or physician. 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** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Section 4. First aid measures

- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : Can cause central nervous system (CNS) depression.

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
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : No specific data.
- 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. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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

- 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.
- 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. Store locked up. 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 |
|-------------------|--|
| Isobutane | <p>NIOSH REL (United States, 10/2020) TWA 10 hours: 800 ppm. TWA 10 hours: 1900 mg/m³.</p> <p>ACGIH TLV (United States, 1/2025) [Butane] Explosive potential. STEL 15 minutes: 1000 ppm.</p> |
| Isopropyl alcohol | <p>NIOSH REL (United States, 10/2020) TWA 10 hours: 400 ppm. TWA 10 hours: 980 mg/m³. STEL 15 minutes: 500 ppm. STEL 15 minutes: 1225 mg/m³.</p> <p>CAL OSHA PEL (United States, 1/2025) STEL 15 minutes: 1225 mg/m³. STEL 15 minutes: 500 ppm. TWA 8 hours: 980 mg/m³. TWA 8 hours: 400 ppm.</p> <p>OSHA PEL (United States, 5/2018) TWA 8 hours: 400 ppm. TWA 8 hours: 980 mg/m³.</p> <p>OSHA PEL 1989 (United States, 3/1989) TWA 8 hours: 400 ppm. TWA 8 hours: 980 mg/m³. STEL 15 minutes: 500 ppm. STEL 15 minutes: 1225 mg/m³.</p> <p>ACGIH TLV (United States, 1/2025) A4. TWA 8 hours: 200 ppm. STEL 15 minutes: 400 ppm.</p> |
| propane | <p>NIOSH REL (United States, 10/2020) TWA 10 hours: 1000 ppm. TWA 10 hours: 1800 mg/m³.</p> <p>CAL OSHA PEL (United States, 1/2025) TWA 8 hours: 1800 mg/m³. TWA 8 hours: 1000 ppm.</p> <p>OSHA PEL (United States, 5/2018) TWA 8 hours: 1000 ppm. TWA 8 hours: 1800 mg/m³.</p> <p>OSHA PEL 1989 (United States, 3/1989) TWA 8 hours: 1000 ppm. TWA 8 hours: 1800 mg/m³.</p> <p>ACGIH TLV (United States, 1/2025) Oxygen depletion [asphyxiant] , Explosive potential.</p> |
| pentane | <p>NIOSH REL (United States, 10/2020) TWA 10 hours: 120 ppm. TWA 10 hours: 350 mg/m³. CEIL 15 minutes: 610 ppm. CEIL 15 minutes: 1800 mg/m³.</p> <p>CAL OSHA PEL (United States, 1/2025) TWA 8 hours: 1800 mg/m³. TWA 8 hours: 600 ppm.</p> <p>OSHA PEL (United States, 5/2018) TWA 8 hours: 1000 ppm. TWA 8 hours: 2950 mg/m³.</p> <p>OSHA PEL 1989 (United States, 3/1989) TWA 8 hours: 600 ppm. TWA 8 hours: 1800 mg/m³. STEL 15 minutes: 750 ppm. STEL 15 minutes: 2250 mg/m³.</p> |

Section 8. Exposure controls/personal protection

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|---------------------|--|
| ethanol | <p>ACGIH TLV (United States, 1/2025) [Pentane] TWA 8 hours: 1000 ppm.</p> <p>NIOSH REL (United States, 10/2020) TWA 10 hours: 1000 ppm. TWA 10 hours: 1900 mg/m³.</p> <p>CAL OSHA PEL (United States, 1/2025) TWA 8 hours: 1900 mg/m³. TWA 8 hours: 1000 ppm.</p> <p>OSHA PEL (United States, 5/2018) TWA 8 hours: 1000 ppm. TWA 8 hours: 1900 mg/m³.</p> <p>OSHA PEL 1989 (United States, 3/1989) TWA 8 hours: 1000 ppm. TWA 8 hours: 1900 mg/m³.</p> <p>ACGIH TLV (United States, 1/2025) A3. STEL 15 minutes: 1000 ppm.</p> |
| 2-methylpropan-2-ol | <p>NIOSH REL (United States, 10/2020) TWA 10 hours: 100 ppm. TWA 10 hours: 300 mg/m³. STEL 15 minutes: 150 ppm. STEL 15 minutes: 450 mg/m³.</p> <p>CAL OSHA PEL (United States, 1/2025) STEL 15 minutes: 450 mg/m³. STEL 15 minutes: 150 ppm. TWA 8 hours: 300 mg/m³. TWA 8 hours: 100 ppm.</p> <p>OSHA PEL (United States, 5/2018) TWA 8 hours: 100 ppm. TWA 8 hours: 300 mg/m³.</p> <p>OSHA PEL 1989 (United States, 3/1989) TWA 8 hours: 100 ppm. TWA 8 hours: 300 mg/m³. STEL 15 minutes: 150 ppm. STEL 15 minutes: 450 mg/m³.</p> <p>ACGIH TLV (United States, 1/2025) A4. TWA 8 hours: 100 ppm. TWA 8 hours: 303 mg/m³.</p> |

Biological exposure indices

| Ingredient name | Exposure indices |
|-------------------|---|
| Isopropyl alcohol | <p>ACGIH BEI (United States, 1/2025) BEI: 40 mg/l, acetone [in urine]. Sampling time: end of shift at end of workweek.</p> |

Appropriate engineering controls

- : Use only with adequate ventilation. 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

Section 8. Exposure controls/personal protection

- 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.
- 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.
- Color** : Colorless.
- Odor** : Characteristic.
- Odor threshold** : Not available.
- pH** : Not applicable.
- Melting point/freezing point** : Not applicable.
- Boiling point or initial boiling point and boiling range** : Not available.
- Flash point** : Closed cup: Not applicable.
- Evaporation rate** : Not available.
- Flammability** : Not available.
- Lower and upper explosion limit/flammability limit** : Lower: 1.4%
Upper: 19%
- Vapor pressure** : Not available.
- Relative vapor density** : Not available.
- Relative density** : Not applicable.
- Density** : 0.73 g/cm³ [20°C (68°F)]
- Solubility in water** : Not available.

Section 9. Physical and chemical properties

| | |
|---|--|
| Miscible with water | : No. |
| Partition coefficient: n-octanol/water | : Not applicable. |
| Auto-ignition temperature | : Not applicable. |
| Decomposition temperature | : Not available. |
| Heat of combustion | : 33.08 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

Isobutane

Rat - Inhalation - LC50 Vapor

658000 mg/m³ [4 hours]

Isopropyl alcohol

Rabbit - Dermal - LD50

12800 mg/kg

Rat - Oral - LD50

5000 mg/kg

Toxic effects: Behavioral - General anesthetic

pentane

Rat - Inhalation - LC50 Vapor

364 g/m³ [4 hours]

ethanol

Rat - Oral - LD50

7 g/kg

Rat - Inhalation - LC50 Vapor

124700 mg/m³ [4 hours]

2-methylpropan-2-ol

Rat - Oral - LD50

2733 mg/kg

Toxic effects: Behavioral - Ataxia Lung, Thorax, or Respiration - Respiratory depression

Rat - Inhalation - LC50 Gas.

14100 ppm [4 hours]

Toxic effects: Behavioral - Ataxia Lung, Thorax, or Respiration - Respiratory depression

Section 11. Toxicological information

Conclusion/Summary [Product] : Not available.

Skin corrosion/irritation

Product/ingredient name

Isopropyl alcohol

2-methylpropan-2-ol

Result

Rabbit - Skin - Mild irritant

Amount/concentration applied: 500 mg

Rabbit - Skin - Mild irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 500 uL

Conclusion/Summary [Product] : Not available.

Serious eye damage/eye irritation

Product/ingredient name

Isopropyl alcohol

ethanol

2-methylpropan-2-ol

Result

Rabbit - Eyes - Moderate irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 100 mg

Rabbit - Eyes - Moderate irritant

Amount/concentration applied: 10 mg

Rabbit - Eyes - Severe irritant

Amount/concentration applied: 100 mg

Rabbit - Eyes - Mild irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 500 mg

Rabbit - Eyes - Mild irritant

Duration of treatment/exposure: 1 hours

Amount/concentration applied: 50 pph

Rabbit - Eyes - Severe irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 100 uL

Conclusion/Summary [Product] : Not available.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product] : Not available.

Respiratory or skin sensitization

Not available.

Skin

Conclusion/Summary [Product] : Not available.

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

Not available.

Conclusion/Summary [Product] : Not available.

Section 11. Toxicological information

Carcinogenicity

Not available.

Conclusion/Summary [Product] : Not available.

Classification

| Product/ingredient name | OSHA | IARC | NTP |
|-------------------------|------|------|-----|
| Isopropyl alcohol | - | 3 | - |
| ethanol | - | 1 | - |
| 2-methylpropan-2-ol | - | 3 | - |

Reproductive toxicity

Not available.

Conclusion/Summary [Product] : Not available.

Specific target organ toxicity (single exposure)

| Product/ingredient name | Result |
|-------------------------|---|
| propan-2-ol | SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 |
| pentane | SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 |
| 2-methylpropan-2-ol | SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 |

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

| Product/ingredient name | Result |
|-------------------------|--------------------------------|
| pentane | ASPIRATION HAZARD - Category 1 |

Information on the likely routes of exposure

Not available.

Potential acute health effects

| | |
|---------------------|---|
| Eye contact | : Causes serious eye irritation. |
| Inhalation | : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. |
| Skin contact | : No known significant effects or critical hazards. |
| Ingestion | : Can cause central nervous system (CNS) depression. |

Symptoms related to the physical, chemical and toxicological characteristics

| | |
|--------------------|--|
| Eye contact | : Adverse symptoms may include the following: pain or irritation watering redness |
|--------------------|--|

Section 11. Toxicological information

- Inhalation** : Adverse symptoms may include the following:
 respiratory tract irritation
 coughing
 nausea or vomiting
 headache
 drowsiness/fatigue
 dizziness/vertigo
 unconsciousness
- Skin contact** : No specific data.
- 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) |
|-------------------------|--------------|----------------|--------------------------|----------------------------|-------------------------------------|
| Isobutane | N/A | N/A | N/A | 658 | N/A |
| propan-2-ol | 5000 | 12800 | N/A | N/A | N/A |
| pentane | N/A | N/A | N/A | 364 | N/A |
| ethanol | 7000 | N/A | N/A | 124.7 | N/A |
| 2-methylpropan-2-ol | 2733 | N/A | 14100 | N/A | N/A |

Section 12. Ecological information

Toxicity

Product/ingredient name : **Result**

Section 12. Ecological information

Isopropyl alcohol

Acute - LC50 - Marine waterCrustaceans - Common shrimp, sand shrimp - *Crangon crangon*
1400 mg/l [48 hours]Effect: Mortality**Acute - LC50 - Fresh water**Fish - Harlequinfish, red rasbora - *Rasbora heteromorpha*Size: 1 to 3 cm

4200 mg/l [96 hours]

Effect: Mortality

ethanol

Acute - LC50 - Marine waterCrustaceans - San Francisco Brine Shrimp - *Artemia franciscana* -
Larvae

25.5 mg/l [48 hours]

Effect: Mortality**Acute - LC50 - Marine water**Fish - Bleak - *Alburnus alburnus*Size: 8 to 10 cm

11 g/l [96 hours]

Effect: Mortality**Acute - LC50 - Fresh water**Crustaceans - Water flea - *Ceriodaphnia dubia* - Neonate

5577 mg/l [48 hours]

Effect: Mortality**Acute - LC50 - Fresh water**Crustaceans - Water flea - *Ceriodaphnia dubia* - Neonate

3715 mg/l [48 hours]

Effect: Mortality**Acute - LC50 - Fresh water**Crustaceans - Water flea - *Ceriodaphnia dubia* - Neonate

6076 mg/l [48 hours]

Effect: Mortality**Acute - LC50 - Fresh water**Daphnia - Water flea - *Daphnia magna* - NeonateAge: <12 hours

9248 mg/l [48 hours]

Effect: Mortality**Acute - LC50 - Fresh water**Daphnia - Water flea - *Daphnia magna* - NeonateAge: <24 hours

5680 mg/l [48 hours]

Effect: Mortality**Acute - LC50 - Fresh water**Fish - Fathead minnow - *Pimephales promelas*Size: 25 to 40 mm

1.272 pph [96 hours]

Effect: Mortality**Acute - EC50 - Marine water**Algae - Green algae - *Ulva pertusa*

17.921 mg/l [96 hours]

Effect: Reproduction**Chronic - NOEC - Marine water**Algae - Green algae - *Ulva pertusa*

4.995 mg/l [96 hours]

Effect: Reproduction**Chronic - NOEC - Fresh water**Algae - Dinoflagellate - *Prorocentrum minimum*

20 ppm [96 hours]

Effect: Population**Chronic - NOEC - Fresh water**Algae - Euglenoid - *Eutreptiella sp.*

14 ppm [96 hours]

Section 12. Ecological information

Effect: Population

Chronic - NOEC - Fresh water

Algae - Algae - *Heterosigma akashiwo*

350 ppm [96 hours]

Effect: Population

Acute - EC50 - Fresh water

Crustaceans - Ostracod - *Cypris subglobosa*

1074 mg/l [48 hours]

Effect: Intoxication

Acute - EC50 - Fresh water

Fish - Fathead minnow - *Pimephales promelas*

Age: 30 days

12.9 g/l [96 hours]

Effect: Behavior

Chronic - NOEC - Marine water

Algae - Neptune's Necklace - *Hormosira banksii* - Gamete

50 µl/l [72 hours]

Effect: Histology

Acute - EC50 - Fresh water

OECD

Daphnia - Water flea - *Daphnia magna*

Age: 8 to 24 hours

7640 mg/l [48 hours]

Effect: Intoxication

Acute - EC50 - Fresh water

Fish - Fathead minnow - *Pimephales promelas*

Age: 31 days; Size: 22 mm; Weight: 0.14 g

12.8 g/l [96 hours]

Effect: Behavior

Acute - EC50 - Marine water

Algae - Green algae - *Ulva pertusa*

Size: 9.4 mm

3306 mg/l [96 hours]

Effect: Reproduction

Acute - LC50 - Fresh water

Fish - Rainbow trout, donaldson trout - *Oncorhynchus mykiss*

42 mg/l [4 days]

Effect: Mortality

Chronic - NOEC - Fresh water

Fish - Eastern mosquitofish - *Gambusia holbrooki* - Larvae

Age: 3 days

0.375 µl/l [12 weeks]

Effect: Morphology

Chronic - NOEC - Fresh water

Daphnia - Water flea - *Daphnia magna* - Neonate

Age: <24 hours

100 µl/l [21 days]

Effect: Mortality

Acute - EC50 - Fresh water

Daphnia - Water flea - *Daphnia magna*

2 mg/l [48 hours]

Effect: Intoxication

Acute - LC50 - Fresh water

Fish - Fathead minnow - *Pimephales promelas*

Age: 32 days; Size: 20 mm; Weight: 0.114 g

6410 mg/l [96 hours]

Effect: Mortality

Acute - EC50 - Fresh water

Daphnia - Water flea - *Daphnia magna*

Age: 6 to 24 hours

5504 mg/l [48 hours]

2-methylpropan-2-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 |
|-------------------------|--------------------|------|-----------|
| Isobutane | 1.09 | - | Low |
| Isopropyl alcohol | 0.05 | - | Low |
| propane | 1.09 | - | Low |
| pentane | 3.45 | 171 | Low |
| ethanol | -0.35 | - | Low |
| 2-methylpropan-2-ol | 0.317 | 5.01 | 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.

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 | Aerosols, flammable |
| Transport hazard class(es) | 2.1  | 2.1  | 2.1  | 2.1  | 2.1  |
| Packing group | - | - | - | - | - |
| Environmental hazards | No. | No. | No. | No. | No. |

Section 14. Transport information

Additional information

- DOT Classification** : **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).
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** : **Emergency schedules** F-D, S-U
Special provisions 63, 190, 277, 327, 344, 381, 959
- IATA** : **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) PAIR: pentane; 2-methylpropan-2-ol

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

Clean Air Act (CAA) 112 regulated flammable substances: Isobutane; propane; pentane

TSCA 12(b) - Chemical export notification

Not applicable.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

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
 EYE IRRITATION - Category 2A
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Section 15. Regulatory information

Composition/information on ingredients

| Name | % | Classification |
|---------------------|-----------|---|
| Isobutane | ≥15 - ≤40 | FLAMMABLE GASES - Category 1A GASES UNDER PRESSURE - Compressed gas |
| Isopropyl alcohol | ≥10 - ≤30 | FLAMMABLE LIQUIDS - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 |
| propane | ≥10 - ≤30 | FLAMMABLE GASES - Category 1A GASES UNDER PRESSURE - Compressed gas |
| pentane | ≥10 - ≤30 | FLAMMABLE LIQUIDS - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1 |
| ethanol | ≥3 - ≤7 | FLAMMABLE LIQUIDS - Category 2 |
| 2-methylpropan-2-ol | ≥0.1 - ≤1 | FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (inhalation) - Category 4 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 |

State regulations

Massachusetts

: The following components are listed: ISOBUTANE; ISOPROPYL ALCOHOL; PROPANE; PENTANE; ETHYL ALCOHOL

New York

: None of the components are listed.

New Jersey

: The following components are listed: Isobutane; ISOPROPYL ALCOHOL; PROPANE; PENTANE; ETHYL ALCOHOL

Pennsylvania

: The following components are listed: PROPANE, 2-METHYL-; 2-PROPANOL; PROPANE; PENTANE; ETHANOL

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

: All components are listed or exempted.

China

: All components are listed or exempted.

Eurasian Economic Union

: **Russian Federation inventory**: All components are listed or exempted.

Japan

: **Japan inventory (CSCL)**: All components are listed or exempted.
Japan inventory (ISHL): All components are listed or exempted.

New Zealand

: All components are listed or exempted.

Philippines

: All components are listed or exempted.

Section 15. Regulatory information

| | |
|--------------------------|--|
| Republic of Korea | : All components are listed or exempted. |
| Taiwan | : All components are listed or exempted. |
| Thailand | : All components are listed or exempted. |
| Turkey | : All components are listed or exempted. |
| United States | : All components are active or exempted. |
| Viet Nam | : All components are listed or exempted. |

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 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 | On basis of test data Calculation method Calculation method |

History

| | |
|---------------------------------------|-------------|
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| Date of previous issue | : 1/29/2026 |
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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 |

Section 16. Other information

References : Not available.

✔ Indicates information that has changed from previously issued version.

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