

SAFETY DATA SHEET

PTFE-Spray

Section 1. Identification

GHS product identifier : PTFE-Spray
Product code : 113000
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-Lubricating agent-Release products

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
TOXIC TO REPRODUCTION - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1

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.
H336 - May cause drowsiness or dizziness.
H361 - Suspected of damaging fertility or the unborn child.
H372 - Causes damage to organs through prolonged or repeated exposure. (nervous system)

Section 2. Hazards identification

Precautionary statements

Prevention	: P201 - Obtain special instructions before use. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P280 - Wear protective gloves, protective clothing and eye or face protection.
Response	: Not applicable.
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
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	≥15 - ≤40	-
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
Isopropyl alcohol	isopropanol; 2-Propanol	≥1 - ≤5	CAS: 67-63-0
n-hexane	hexane; normal-Hexane; Hexyl hydride; hydrocarbons, C6, n-alkanes, iso-alkanes, cycloalkanes, with n-hexane containing at least 60% and less than 95% n-hexane; mixture of C6 aliphatic hydrocarbons (CAS RN 92112-69-1), containing by weight 60 % or more but not more than 80 % of n-hexane (CAS RN 110-54-3); Normal hexane; hexane, n-; hexane, (n)	≥1 - ≤5	CAS: 110-54-3
titanium tetrabutanolat	1-Butanol, titanium(4+) salt (4:1); 1-Butanol, titanium(4++) salt; 1-Butanol, titanium(4+) salt; Tetrabutyltitanate; Titanium tetrabutoxide; 1-Butanol, titanium (IV) salt; Titanic acid, tetrabutyl ester; titanium tetrakis(butan-1-olato); Butyl titanate;	≥1 - ≤5	CAS: 5593-70-4

Section 3. Composition/information on ingredients

butan-1-ol	Tributoxytitanium; Tetra-n-butoxytitanium 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	≤0.1	CAS: 71-36-3
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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. Continue to rinse for at least 10 minutes. Get medical attention. 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.
- Skin contact** : Causes skin irritation.
- Ingestion** : Can cause central nervous system (CNS) depression.

Section 4. First aid measures

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
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

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
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. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid breathing gas. 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. 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	NIOSH REL (United States, 10/2020) TWA 10 hours: 800 ppm. TWA 10 hours: 1900 mg/m ³ . ACGIH TLV (United States, 1/2025) [Butane] Explosive potential. STEL 15 minutes: 1000 ppm.
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane propane	None. NIOSH REL (United States, 10/2020) TWA 10 hours: 1000 ppm. TWA 10 hours: 1800 mg/m ³ . CAL OSHA PEL (United States, 1/2025) TWA 8 hours: 1800 mg/m ³ . TWA 8 hours: 1000 ppm. OSHA PEL (United States, 5/2018) TWA 8 hours: 1000 ppm. TWA 8 hours: 1800 mg/m ³ . OSHA PEL 1989 (United States, 3/1989) TWA 8 hours: 1000 ppm. TWA 8 hours: 1800 mg/m ³ . ACGIH TLV (United States, 1/2025) Oxygen depletion [asphyxiant] , Explosive potential.
Isopropyl alcohol	NIOSH REL (United States, 10/2020) TWA 10 hours: 400 ppm. TWA 10 hours: 980 mg/m ³ . STEL 15 minutes: 500 ppm. STEL 15 minutes: 1225 mg/m ³ . CAL OSHA PEL (United States, 1/2025) STEL 15 minutes: 1225 mg/m ³ . STEL 15 minutes: 500 ppm. TWA 8 hours: 980 mg/m ³ . TWA 8 hours: 400 ppm. OSHA PEL (United States, 5/2018) TWA 8 hours: 400 ppm. TWA 8 hours: 980 mg/m ³ . OSHA PEL 1989 (United States, 3/1989) TWA 8 hours: 400 ppm. TWA 8 hours: 980 mg/m ³ . STEL 15 minutes: 500 ppm. STEL 15 minutes: 1225 mg/m ³ . ACGIH TLV (United States, 1/2025) A4. TWA 8 hours: 200 ppm. STEL 15 minutes: 400 ppm.
n-hexane	NIOSH REL (United States, 10/2020) TWA 10 hours: 50 ppm. TWA 10 hours: 180 mg/m ³ . CAL OSHA PEL (United States, 1/2025) Absorbed through skin. TWA 8 hours: 180 mg/m ³ . TWA 8 hours: 50 ppm. OSHA PEL (United States, 5/2018)

Section 8. Exposure controls/personal protection

titanium tetrabutanolate
butan-1-ol

TWA 8 hours: 500 ppm.
TWA 8 hours: 1800 mg/m³.
OSHA PEL 1989 (United States, 3/1989)
TWA 8 hours: 50 ppm.
TWA 8 hours: 180 mg/m³.
ACGIH TLV (United States, 1/2025)
Absorbed through skin.
TWA 8 hours: 50 ppm.

None.
NIOSH REL (United States, 10/2020)
Absorbed through skin.
CEIL: 50 ppm.
CEIL: 150 mg/m³.
CAL OSHA PEL (United States, 1/2025)
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
Isopropyl alcohol	ACGIH BEI (United States, 1/2025) BEI: 40 mg/l, acetone [in urine]. Sampling time: end of shift at end of workweek.
n-hexane	ACGIH BEI (United States, 1/2025) BEI: 0.5 mg/l, 2,5-hexanedion [in urine]. Sampling time: end of shift.

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

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

Section 8. Exposure controls/personal 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.
- Fire point** : >230°C (>446°F)
- Evaporation rate** : Not available.
- Flammability** : Extremely flammable in the presence of the following materials or conditions: open flames, sparks and static discharge.
Highly flammable in the presence of the following materials or conditions: heat.
- Lower and upper explosion limit/flammability limit** : Lower: 1.86%
Upper: 9.5%
- Vapor pressure** : Not available.
- Relative vapor density** : Not available.
- Relative density** : Not applicable.
- Density** : 0.755 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** : 26.17 kJ/g

Section 9. Physical and chemical properties

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

n-hexane

Rat - Oral - LD50

15840 mg/kg

Rat - Inhalation - LC50 Gas.

48000 ppm [4 hours]

titanium tetrabutanolate

Rat - Oral - LD50

3122 mg/kg

butan-1-ol

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 Vapor

24000 mg/m³ [4 hours]

Conclusion/Summary [Product] : Not available.

Skin corrosion/irritation

Product/ingredient name

Result

Section 11. Toxicological information

Isopropyl alcohol

Rabbit - Skin - Mild irritantAmount/concentration applied: 500 mg

butan-1-ol

Rabbit - Skin - Moderate irritantDuration of treatment/exposure: 24 hoursAmount/concentration applied: 20 mg

Conclusion/Summary [Product] : Not available.

Serious eye damage/eye irritation

Product/ingredient name

Result

Isopropyl alcohol

Rabbit - Eyes - Moderate irritantDuration of treatment/exposure: 24 hoursAmount/concentration applied: 100 mg**Rabbit - Eyes - Moderate irritant**Amount/concentration applied: 10 mg**Rabbit - Eyes - Severe irritant**Amount/concentration applied: 100 mg

n-hexane

Rabbit - Eyes - Mild irritantAmount/concentration applied: 10 mg

butan-1-ol

Rabbit - Eyes - Severe irritantDuration of treatment/exposure: 24 hoursAmount/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.

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.

Section 11. Toxicological information

Classification

Product/ingredient name	OSHA	IARC	NTP
Isopropyl alcohol	-	3	-

Reproductive toxicity

Not available.

Conclusion/Summary [Product] : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name

Hydrocarbons, C6-C7, n-alkanes, isoalkanes,
cyclics, <5% n-hexane
propan-2-ol

n-hexane

butan-1-ol

Result

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

n-hexane

Result

SPECIFIC TARGET ORGAN TOXICITY (REPEATED
EXPOSURE) (nervous system) - Category 1

Aspiration hazard

Product/ingredient name

Hydrocarbons, C6-C7, n-alkanes, isoalkanes,
cyclics, <5% n-hexane
n-hexane

Result

ASPIRATION HAZARD - Category 1
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

: Causes skin irritation.

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
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
 irritation
 redness
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations

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** : Causes damage to organs through prolonged or repeated exposure.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : Suspected of damaging fertility or the unborn child.

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
n-hexane	15840	N/A	48000	N/A	N/A
titanium tetrabutanolat	3122	N/A	N/A	N/A	N/A
butan-1-ol	790	3400	N/A	24	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name

Isopropyl alcohol

Result

Acute - LC50 - Marine water

Crustaceans - 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

n-hexane

Acute - LC50 - Fresh water

Fish - Fathead minnow - *Pimephales promelas*

Age: 31 days; Size: 20.4 mm; Weight: 0.123 g

2500 µg/l [96 hours]

Effect: Mortality

butan-1-ol

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]

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
propane	1.09	-	Low
Isopropyl alcohol	0.05	-	Low
n-hexane	4	501.187	High
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.

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 (Isobutane, Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane)	Aerosols, flammable (Isobutane, Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane)
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

: **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

Section 14. Transport information

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

TSCA 12(b) - Chemical export notification

Not applicable.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : 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
 SKIN IRRITATION - Category 2
 EYE IRRITATION - Category 2A
 TOXIC TO REPRODUCTION - Category 2
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1

Composition/information on ingredients

Name	%	Classification
Isobutane	≥15 - ≤40	FLAMMABLE GASES - Category 1A GASES UNDER PRESSURE - Compressed gas
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	≥15 - ≤40	FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
propane	≥10 - ≤30	ASPIRATION HAZARD - Category 1 FLAMMABLE GASES - Category 1A GASES UNDER PRESSURE - Compressed gas
Isopropyl alcohol	≥1 - ≤5	FLAMMABLE LIQUIDS - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
n-hexane	≥1 - ≤5	FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 TOXIC TO REPRODUCTION - Category 2

Section 15. Regulatory information

titanium tetrabutanolate	≥1 - ≤5	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1 ASPIRATION HAZARD - Category 1 FLAMMABLE LIQUIDS - Category 3 SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1
butan-1-ol	≤0.1	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

	Product name	CAS number	%
Form R - Reporting requirements	n-hexane	110-54-3	≥1 - ≤5
Supplier notification	n-hexane	110-54-3	≥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: ISOBUTANE; PROPANE; ISOPROPYL ALCOHOL; HEXANE

New York

: The following components are listed: Hexane

New Jersey

: The following components are listed: Isobutane; PROPANE; ISOPROPYL ALCOHOL; n-HEXANE

Pennsylvania

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

California Prop. 65

⚠ WARNING: This product can expose you to n-hexane, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Ingredient name	No significant risk level	Maximum acceptable dosage level
n-hexane	-	Yes.

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

Section 15. Regulatory information

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 : Not determined.
Japan	: Japan inventory (CSCL) : All components are listed or exempted. Japan inventory (ISHL) : Not determined.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: Not determined.
Thailand	: Not determined.
Turkey	: All components are listed or exempted.
United States	: Not determined.
Viet Nam	: Not determined.

Section 16. Other information

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

Health	*	3
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	On basis of test data
SKIN IRRITATION - Category 2	Calculation method
EYE IRRITATION - Category 2A	Calculation method
TOXIC TO REPRODUCTION - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1	Calculation method

History

Date of printing	: 2/3/2026
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Section 16. Other information

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.

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