

**SAFETY DATA SHEET**  
**FLUXCLENE**

According to Appendix D, OSHA Hazard Communication Standard 29 CFR §1910.1200

**1. Identification****Product identifier****Product name** FLUXCLENE**Product number** FLU-b, EFLU01L, EFLU05L, EFLU25L, ZE**Recommended use of the chemical and restrictions on use****Application** Cleaning agent.**Uses advised against** No specific uses advised against are identified.**Details of the supplier of the safety data sheet****Supplier**ELECTROLUBE. A division of HK WENTWORTH LTD  
HK WENTWORTH-AMERICA  
PO Box 126257  
Benbrook, Texas 76126  
USA  
info@hkw.us.com  
+1 888-501-9203**Emergency telephone number****Emergency telephone** +1 202 464 2554 (USA only)  
+44 1235 239670**2. Hazard(s) identification****Classification of the substance or mixture****Physical hazards** Flam. Liq. 2 - H225**Health hazards** Skin Irrit. 2 - H315 Eye Irrit. 2A - H319 Skin Sens. 1 - H317 STOT SE 3 - H336 Asp. Tox. 1 - H304**Environmental hazards** Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410**Label elements****Pictogram****Signal word**

Danger

## FLUXCLENE

**Hazard statements**

H225 Highly flammable liquid and vapor.  
H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.  
H410 Very toxic to aquatic life with long lasting effects.

**Precautionary statements**

P210 Keep away from heat, sparks, open flames and hot surfaces. No smoking.  
P240 Ground/ bond container and receiving equipment.  
P241 Use explosion-proof electrical equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P261 Avoid breathing vapor/ spray.  
P264 Wash contaminated skin thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing must not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P301+P310 If swallowed: Immediately call a poison center/ doctor.  
P302+P352 If on skin: Wash with plenty of water.  
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P312 Call a poison center/ doctor if you feel unwell.  
P321 Specific treatment (see medical advice on this label).  
P331 Do NOT induce vomiting.  
P332+P313 If skin irritation occurs: Get medical advice/ attention.  
P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P337+P313 If eye irritation persists: Get medical advice/ attention.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.  
P391 Collect spillage.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P403+P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.  
P501 Dispose of contents/ container in accordance with national regulations.

**Contains**

Cyclohexane, Propan-2-ol, 1-Methoxy-2-propanol, Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics, Orange Terpenes

**Other hazards**

This product does not contain any substances classified as PBT or vPvB.

**3. Composition/information on ingredients****Mixtures**

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<b>Cyclohexane</b> CAS number: 110-82-7 M factor (Acute) = 1      M factor (Chronic) = 1	<b>30-60%</b>
<b>Classification</b> Flam. Liq. 2 - H225 Skin Irrit. 2 - H315 STOT SE 3 - H336 Asp. Tox. 1 - H304 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	
<b>Propan-2-ol</b> CAS number: 67-63-0	<b>10-30%</b>
<b>Classification</b> Flam. Liq. 2 - H225 Eye Irrit. 2A - H319 STOT SE 3 - H336	
<b>1-Methoxy-2-propanol</b> CAS number: 107-98-2	<b>10-30%</b>
<b>Classification</b> Flam. Liq. 3 - H226 STOT SE 3 - H336	
<b>Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics</b> CAS number: —	<b>5-10%</b>
<b>Classification</b> Flam. Liq. 2 - H225 Skin Irrit. 2 - H315 STOT SE 3 - H336 Asp. Tox. 1 - H304 Aquatic Chronic 2 - H411	
<b>Orange Terpenes</b> CAS number: 8028-48-6	<b>5-10%</b>
<b>Classification</b> Flam. Liq. 3 - H226 Skin Irrit. 2 - H315 Skin Sens. 1 - H317 Asp. Tox. 1 - H304 Aquatic Chronic 2 - H411	

The full text for all hazard statements is displayed in Section 16.

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### 4. First-aid measures

#### Description of first aid measures

<b>General information</b>	Get medical attention immediately. Show this Safety Data Sheet to the medical personnel.
<b>Inhalation</b>	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.
<b>Ingestion</b>	Rinse mouth thoroughly with water. Remove any dentures. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.
<b>Skin Contact</b>	It is important to remove the substance from the skin immediately. In the event of any sensitization symptoms developing, ensure further exposure is avoided. Remove contamination with soap and water or recognized skin cleansing agent. Get medical attention if symptoms are severe or persist after washing.
<b>Eye contact</b>	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.
<b>Protection of first aiders</b>	First aid personnel should wear appropriate protective equipment during any rescue. If it is suspected that volatile contaminants are still present around the affected person, first aid personnel should wear an appropriate respirator or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

#### Most important symptoms and effects, both acute and delayed

<b>General information</b>	See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
<b>Inhalation</b>	A single exposure may cause the following adverse effects: Headache. Nausea, vomiting. Central nervous system depression. Drowsiness, dizziness, disorientation, vertigo. Narcotic effect.
<b>Ingestion</b>	May cause sensitization or allergic reactions in sensitive individuals. May cause irritation. Aspiration hazard if swallowed. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.
<b>Skin contact</b>	May cause skin sensitization or allergic reactions in sensitive individuals. Redness. Irritating to skin.
<b>Eye contact</b>	Irritating to eyes.

#### Indication of immediate medical attention and special treatment needed

<b>Notes for the doctor</b>	Treat symptomatically. May cause sensitization or allergic reactions in sensitive individuals.
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### 5. Fire-fighting measures

#### Extinguishing media

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**Suitable extinguishing media** The product is flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

### Special hazards arising from the substance or mixture

**Specific hazards** Containers can burst violently or explode when heated, due to excessive pressure build-up. Flammable liquid and vapour. Vapors may be ignited by a spark, a hot surface or an ember. Vapors may form explosive mixtures with air. Fire-water run-off in sewers may create fire or explosion hazard.

**Hazardous combustion products** Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

### Advice for firefighters

**Protective actions during firefighting** Avoid breathing fire gases or vapors. Evacuate area. Keep upwind to avoid inhalation of gases, vapors, fumes and smoke. Ventilate closed spaces before entering them. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapors and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

**Special protective equipment for firefighters** Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.

## **6. Accidental release measures**

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material. Evacuate area. Provide adequate ventilation. No smoking, sparks, flames or other sources of ignition near spillage. Promptly remove any clothing that becomes contaminated. Avoid inhalation of vapors and spray/mists. Use suitable respiratory protection if ventilation is inadequate. Avoid contact with skin and eyes.

### Environmental precautions

**Environmental precautions** Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

### Methods and material for containment and cleaning up

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### Methods for cleaning up

Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Eliminate all ignition sources if safe to do so. No smoking, sparks, flames or other sources of ignition near spillage. Do not allow material to enter confined spaces, due to the risk of explosion. Approach the spillage from upwind. Small Spillages: If the product is soluble in water, dilute the spillage with water and mop it up. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. Large Spillages: If leakage cannot be stopped, evacuate area. Flush spilled material into an effluent treatment plant, or proceed as follows. Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labeled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

### Reference to other sections

For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

## 7. Handling and storage

### Precautions for safe handling

#### Usage precautions

Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimize spills. Keep container tightly sealed when not in use. Avoid the formation of mists. The product is flammable. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. In use may form flammable/explosive vapour-air mixture. Vapors may accumulate on the floor and in low-lying areas. Use explosion-proof electrical, ventilating and lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharges. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

#### Advice on general occupational hygiene

Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

### Conditions for safe storage, including any incompatibilities

#### Storage precautions

Store away from incompatible materials (see Section 10). Store in accordance with local regulations. Eliminate all sources of ignition. Take precautionary measures against static discharges. Ground container and transfer equipment to eliminate sparks from static electricity. Keep away from oxidizing materials, heat and flames. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Utilize retaining walls to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.

#### Storage class

Flammable liquid storage.

### Specific end uses(s)

#### Specific end use(s)

The identified uses for this product are detailed in Section 1.

## 8. Exposure Controls/personal protection

## FLUXCLENE

### Control parameters

#### Occupational exposure limits

##### **Cyclohexane**

Long-term exposure limit (8-hour TWA): ACGIH 100 ppm 344 mg/m<sup>3</sup>

Long-term exposure limit (8-hour TWA): OSHA 300 ppm 1050 mg/m<sup>3</sup>

##### **Propan-2-ol**

Long-term exposure limit (8-hour TWA): OSHA 400 ppm 980 mg/m<sup>3</sup>

Long-term exposure limit (8-hour TWA): ACGIH 200 ppm 492 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): ACGIH 400 ppm 984 mg/m<sup>3</sup>

A4

##### **1-Methoxy-2-propanol**

Long-term exposure limit (8-hour TWA): ACGIH 50 ppm 184 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): ACGIH 100 ppm 369 mg/m<sup>3</sup>

A4

ACGIH = American Conference of Governmental Industrial Hygienists.

OSHA = Occupational Safety and Health Administration.

A4 = Not Classifiable as a Human Carcinogen.

#### Cyclohexane (CAS: 110-82-7)

**Immediate danger to life  
and health** 1300 ppm

#### Propan-2-ol (CAS: 67-63-0)

**Immediate danger to life  
and health** 2000 ppm

### Exposure controls

#### **Protective equipment**



#### **Appropriate engineering controls**

Provide adequate ventilation. Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimize worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimize exposure. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilating equipment.

#### **Eye/face protection**

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with OSHA 1910.133. Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

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<b>Hand protection</b>	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacture, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with OSHA 1910.138 and be demonstrated to be impervious to the chemical and resist degradation. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.
<b>Other skin and body protection</b>	Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.
<b>Hygiene measures</b>	Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.
<b>Respiratory protection</b>	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is NIOSH approved. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with OSHA 1910.134. Full face mask respirators with replaceable filter cartridges should comply with OSHA 1910.134. Half mask and quarter mask respirators with replaceable filter cartridges should comply with OSHA 1910.134.
<b>Environmental exposure controls</b>	Keep container tightly sealed when not in use. 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.

### 9. Physical and Chemical Properties

#### Information on basic physical and chemical properties

<b>Appearance</b>	Liquid.
<b>Color</b>	Colorless.
<b>Odor</b>	Fruity.
<b>pH</b>	Not available.
<b>Melting point</b>	Not available.
<b>Initial boiling point and range</b>	Not available.
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	16 (diethyl ether = 1)
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Bulk density</b>	0.78 kg/l



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<b>Solubility(ies)</b>	Immiscible with water.
<b>Partition coefficient</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition Temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Explosive properties</b>	Not considered to be explosive.
<b>Oxidizing properties</b>	Does not meet the criteria for classification as oxidizing.

**10. Stability and reactivity**

<b>Reactivity</b>	See the other subsections of this section for further details.
<b>Stability</b>	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
<b>Possibility of hazardous reactions</b>	The following materials may react strongly with the product: Oxidizing agents.
<b>Conditions to avoid</b>	Avoid heat, flames and other sources of ignition. Containers can burst violently or explode when heated, due to excessive pressure build-up. Static electricity and formation of sparks must be prevented. Do not pressurize, cut, weld, drill, grind or otherwise expose containers to heat or sources of ignition.
<b>Materials to avoid</b>	Oxidizing materials. Acids - oxidizing.
<b>Hazardous decomposition products</b>	Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

**11. Toxicological information****Information on toxicological effects****Acute toxicity - oral**

**Notes (oral LD<sub>50</sub>)** Based on available data the classification criteria are not met.

**Acute toxicity - dermal**

**Notes (dermal LD<sub>50</sub>)** Based on available data the classification criteria are not met.

**Acute toxicity - inhalation**

**Notes (inhalation LC<sub>50</sub>)** Based on available data the classification criteria are not met.

**Skin corrosion/irritation**

**Animal data** Irritating.

**Serious eye damage/irritation**

**Serious eye damage/irritation** Causes serious eye irritation.

**Respiratory sensitization**

**Respiratory sensitization** Based on available data the classification criteria are not met.

**Skin sensitization**

**Skin sensitization** May cause skin sensitization or allergic reactions in sensitive individuals.

**Germ cell mutagenicity**

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<b>Genotoxicity - in vitro</b>	Based on available data the classification criteria are not met.
<b><u>Carcinogenicity</u></b>	
<b>Carcinogenicity</b>	Based on available data the classification criteria are not met.
<b>IARC carcinogenicity</b>	Contains a substance which may be potentially carcinogenic. IARC Group 3 Not classifiable as to its carcinogenicity to humans.
<b><u>Reproductive toxicity</u></b>	
<b>Reproductive toxicity - fertility</b>	Based on available data the classification criteria are not met.
<b>Reproductive toxicity - development</b>	Based on available data the classification criteria are not met.
<b><u>Specific target organ toxicity - single exposure</u></b>	
<b>STOT - single exposure</b>	STOT SE 3 - H336 May cause drowsiness or dizziness.
<b>Target organs</b>	Central nervous system
<b><u>Specific target organ toxicity - repeated exposure</u></b>	
<b>STOT - repeated exposure</b>	Not classified as a specific target organ toxicant after repeated exposure.
<b><u>Aspiration hazard</u></b>	
<b>Aspiration hazard</b>	Asp. Tox. 1 - H304 May be fatal if swallowed and enters airways. Pneumonia may be the result if vomited material containing solvents reaches the lungs.
<b>General information</b>	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
<b>Inhalation</b>	A single exposure may cause the following adverse effects: Headache. Nausea, vomiting. Central nervous system depression. Drowsiness, dizziness, disorientation, vertigo. Narcotic effect.
<b>Ingestion</b>	May cause sensitization or allergic reactions in sensitive individuals. May cause irritation. Aspiration hazard if swallowed. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.
<b>Skin Contact</b>	May cause skin sensitization or allergic reactions in sensitive individuals. Redness. Irritating to skin.
<b>Eye contact</b>	Irritating to eyes.
<b>Route of entry</b>	Ingestion Inhalation Skin and/or eye contact
<b>Target Organs</b>	Central nervous system
<b>Medical considerations</b>	Skin disorders and allergies.

### Propan-2-ol

#### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> 5840 mg/kg, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

#### Skin corrosion/irritation

**Animal data** Primary dermal irritation index: 0 REACH dossier information. Based on available data the classification criteria are not met.

#### Serious eye damage/irritation

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<b>Serious eye damage/irritation</b>	Dose: 0.1 mL, 1 second, Rabbit Causes serious eye irritation.
<b><u>Skin sensitization</u></b>	
<b>Skin sensitization</b>	Buehler test - Guinea pig: Not sensitizing. REACH dossier information. Based on available data the classification criteria are not met.
<b><u>Germ cell mutagenicity</u></b>	
<b>Genotoxicity - in vitro</b>	Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.
<b>Genotoxicity - in vivo</b>	Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.
<b><u>Carcinogenicity</u></b>	
<b>Carcinogenicity</b>	NOAEL 5000 ppm, Inhalation, Rat REACH dossier information. Based on available data the classification criteria are not met.
<b>IARC carcinogenicity</b>	IARC Group 3 Not classifiable as to its carcinogenicity to humans.
<b><u>Specific target organ toxicity - single exposure</u></b>	
<b>STOT - single exposure</b>	STOT SE 3 - H336 May cause drowsiness or dizziness.
<b>Target organs</b>	Central nervous system
<b><u>Specific target organ toxicity - repeated exposure</u></b>	
<b>STOT - repeated exposure</b>	NOAEC 5000 ppm, Inhalation, Rat REACH dossier information. Based on available data the classification criteria are not met.

### 1-Methoxy-2-propanol

<b><u>Acute toxicity - oral</u></b>	
<b>Acute toxicity oral (LD<sub>50</sub> mg/kg)</b>	3,739.0
<b>Species</b>	Rat
<b>Notes (oral LD<sub>50</sub>)</b>	LD <sub>50</sub> 3739 mg/kg, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.
<b>ATE oral (mg/kg)</b>	3,739.0
<b><u>Acute toxicity - dermal</u></b>	
<b>Notes (dermal LD<sub>50</sub>)</b>	LD <sub>50</sub> >2000 mg/kg, Dermal, Rat REACH dossier information. Based on available data the classification criteria are not met.
<b><u>Skin corrosion/irritation</u></b>	
<b>Animal data</b>	Dose: 0.5 mL, 4 hours, Rabbit Erythema/eschar score: No erythema (0). Oedema score: No oedema (0). REACH dossier information. Based on available data the classification criteria are not met.
<b><u>Skin sensitization</u></b>	
<b>Skin sensitization</b>	Guinea pig maximization test (GPMT) - Guinea pig: Not sensitizing. REACH dossier information. Based on available data the classification criteria are not met.
<b><u>Germ cell mutagenicity</u></b>	

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<b>Genotoxicity - in vitro</b>	Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.
<b>Genotoxicity - in vivo</b>	Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.
<b><u>Carcinogenicity</u></b>	
<b>Carcinogenicity</b>	NOEL 3000 ppm, Inhalation, Mouse REACH dossier information. Based on available data the classification criteria are not met.
<b><u>Reproductive toxicity</u></b>	
<b>Reproductive toxicity - fertility</b>	Two-generation study - NOAEL 1000 ppm, Inhalation, Rat F1 REACH dossier information. Based on available data the classification criteria are not met.
<b>Reproductive toxicity - development</b>	- NOAEL: 1500 ppm, Inhalation, Rat REACH dossier information. Based on available data the classification criteria are not met.
<b><u>Specific target organ toxicity - single exposure</u></b>	
<b>STOT - single exposure</b>	STOT SE 3 - H336 May cause drowsiness or dizziness. REACH dossier information.
<b>Target organs</b>	Central nervous system Brain
<b><u>Specific target organ toxicity - repeated exposure</u></b>	
<b>STOT - repeated exposure</b>	NOAEL 919 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

### Orange Terpenes

#### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> 4400 mg/kg, Oral, Rat

#### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> >2000 mg/kg, Dermal, Rabbit

### 2-Methoxypropanol

#### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> 5710 mg/kg, Oral, Rat Based on available data the classification criteria are not met.

#### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> 5660 mg/kg, Dermal, Rabbit Based on available data the classification criteria are not met.

#### Skin corrosion/irritation

**Skin corrosion/irritation** Irritating to skin.

#### Serious eye damage/irritation

**Serious eye damage/irritation** May cause serious eye damage.

#### Reproductive toxicity

**Reproductive toxicity - development** Maternal toxicity: - Dose level: 545 ppm, Inhalation, Rabbit May damage the unborn child.

#### Specific target organ toxicity - single exposure

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**STOT - single exposure** STOT SE 3 - H335 May cause respiratory system irritation.

**Target organs** Respiratory system, lungs

### 12. Ecological Information

**Toxicity** Aquatic Acute 1 - H400 Very toxic to aquatic life. Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects.

#### Cyclohexane

##### Acute aquatic toxicity

**LE(C)<sub>50</sub>** 0.1 < L(E)C<sub>50</sub> ≤ 1

**M factor (Acute)** 1

**Acute toxicity - fish** LC<sub>50</sub>, 4 days: 4.5 mg/l, Pimephales promelas (Fat-head Minnow)

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 2 days: 0.9 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** EC<sub>50</sub>, 3 days: 9.317 mg/l, Selenastrum capricornutum

##### Chronic aquatic toxicity

**M factor (Chronic)** 1

#### Propan-2-ol

**Toxicity** Aquatic toxicity is unlikely to occur. Based on available data the classification criteria are not met.

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: 10000 mg/l, Pimephales promelas (Fat-head Minnow)

**Acute toxicity - aquatic invertebrates** LC<sub>50</sub>, 24 hours: >10000 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** EC<sub>50</sub>, 7 days: 1800 mg/l, Scenedesmus quadricauda

#### 1-Methoxy-2-propanol

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: 20800 mg/l, Pimephales promelas (Fat-head Minnow)  
REACH dossier information.

**Acute toxicity - aquatic invertebrates** LC<sub>50</sub>, 48 hours: 21100 mg/l, Daphnia magna  
REACH dossier information.

**Acute toxicity - aquatic plants** EC<sub>50</sub>, 7 days: >1000 mg/l, Selenastrum capricornutum  
REACH dossier information.

#### 2-Methoxypropanol

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: >1006 mg/l, Fish, Estimated value.

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 48 hours: >13205 mg/l, Daphnia magna, Estimated value.

#### Persistence and degradability

## FLUXCLENE

**Persistence and degradability** The degradability of the product is not known.

### Propan-2-ol

**Persistence and degradability** The substance is readily biodegradable.

**Biodegradation** Water - Degradation 53%: 5 days

**Biological oxygen demand** 1.19-1.72 g O<sub>2</sub>/g substance

**Chemical oxygen demand** 2.23 g O<sub>2</sub>/g substance

### 1-Methoxy-2-propanol

**Persistence and degradability** The substance is readily biodegradable.

**Phototransformation** Water - DT<sub>50</sub> : 3.1 hours  
REACH dossier information.

**Biodegradation** Water - Degradation 96%: 28 days  
REACH dossier information.

### 2-Methoxypropanol

**Biodegradation** No data available.

### Bioaccumulative potential

**Bio-Accumulative Potential** No data available on bioaccumulation.

**Partition coefficient** Not available.

### Cyclohexane

**Partition coefficient** log K<sub>ow</sub>: 3.44

### Propan-2-ol

**Bio-Accumulative Potential** Bioaccumulation is unlikely.

### 1-Methoxy-2-propanol

**Bio-Accumulative Potential** No data available on bioaccumulation.

**Partition coefficient** log P<sub>ow</sub>: <1 REACH dossier information.

### Orange Terpenes

**Bio-Accumulative Potential** Potentially bioaccumulating.

### 2-Methoxypropanol

**Bio-Accumulative Potential** BCF: ~ 1 - 10, Estimated value. Bioaccumulation is unlikely.

### Mobility in soil

**Mobility** No data available.

**FLUXCLENE****Propan-2-ol**

**Mobility** The product is soluble in water.

**1-Methoxy-2-propanol**

**Mobility** Mobile.

**Surface tension** 70.7 mN/m @ 20°C

**2-Methoxypropanol**

**Mobility** Soluble in water.

**Adsorption/desorption coefficient** - log Kow: ~ (-0.45) - (-0.49) @ 25°C Calculation method. - Log Koc: ~ 0.0 - 1.13 @ 25°C Calculation method.

**Other adverse effects**

**Other adverse effects** None known.

**Orange Terpenes**

**Other adverse effects** Dangerous for the environment.

**13. Disposal considerations****Waste treatment methods****General information**

The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

**Disposal methods**

Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labeled with their contents. Incineration or landfill should only be considered when recycling is not feasible. Vapor from residual product may create a highly flammable or explosive atmosphere inside the container. Containers should be thoroughly emptied before disposal because of the risk of an explosion. Do not cut or weld used containers unless they have been thoroughly cleaned internally.

**14. Transport Information****General**

For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section.

**UN Number**

UN No. (TDG)	1993
UN No. (IMDG)	1993
UN No. (ICAO)	1993
UN No. (DOT)	ID8000

## FLUXCLENE

### UN proper shipping name

**Proper shipping name (TDG)** FLAMMABLE LIQUID, N.O.S. (CONTAINS Cyclohexane, Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics)

**Proper shipping name (IMDG)** FLAMMABLE LIQUID, N.O.S. (CONTAINS Cyclohexane, Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics, Orange Terpenes)

**Proper shipping name (ICAO)** FLAMMABLE LIQUID, N.O.S. (CONTAINS Cyclohexane, Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics)

**Proper shipping name (DOT)** CONSUMER COMMODITY

### Transport hazard class(es)

**DOT hazard class** 9

**DOT hazard label** 9

**TDG class** 3

**TDG label(s)** 3

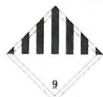
**IMDG Class** 3

**ICAO class/division** 3

### Transport labels



### DOT transport labels



### Packing group

**TDG Packing Group** II

**IMDG packing group** II

**ICAO packing group** II

### Environmental hazards

#### **Environmentally Hazardous Substance**



### Special precautions for user

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.

**EmS** F-E, S-E

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

### **15. Regulatory information**



## FLUXCLENE

### US Federal Regulations

#### **SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities**

None of the ingredients are listed or exempt.

#### **CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)**

The following ingredients are listed or exempt:

*Cyclohexane*

Final CERCLA RQ: 1000(454) pounds (Kilograms)

#### **SARA Extremely Hazardous Substances EPCRA Reportable Quantities**

None of the ingredients are listed or exempt.

#### **SARA 313 Emission Reporting**

The following ingredients are listed or exempt:

*Cyclohexane*

1.0 %

#### **CAA Accidental Release Prevention**

None of the ingredients are listed or exempt.

#### **FDA - Essential Chemical**

None of the ingredients are listed or exempt.

#### **FDA - Precursor Chemical**

None of the ingredients are listed or exempt.

#### **SARA (311/312) Hazard Categories**

None of the ingredients are listed or exempt.

#### **OSHA Highly Hazardous Chemicals**

None of the ingredients are listed or exempt.

### US State Regulations

#### **California Proposition 65 Carcinogens and Reproductive Toxins**

None of the ingredients are listed or exempt.

#### **California Air Toxics "Hot Spots" (A-I)**

The following ingredients are listed or exempt:

*Propan-2-ol*

*1-Methoxy-2-propanol*

*Cyclohexane*

#### **California Air Toxics "Hot Spots" (A-II)**

None of the ingredients are listed or exempt.

#### **California Directors List of Hazardous Substances**

The following ingredients are listed or exempt:

*Propan-2-ol*

*1-Methoxy-2-propanol*

*Cyclohexane*

#### **Massachusetts "Right To Know" List**

The following ingredients are listed or exempt:

**FLUXCLEN***Propan-2-ol**1-Methoxy-2-propanol**Cyclohexane***Rhode Island "Right To Know" List**

The following ingredients are listed or exempt:

*Propan-2-ol**1-Methoxy-2-propanol**Cyclohexane***Minnesota "Right To Know" List**

The following ingredients are listed or exempt:

*Propan-2-ol**1-Methoxy-2-propanol**Cyclohexane***New Jersey "Right To Know" List**

The following ingredients are listed or exempt:

*Propan-2-ol**1-Methoxy-2-propanol**Cyclohexane***Pennsylvania "Right To Know" List**

The following ingredients are listed or exempt:

*Propan-2-ol**1-Methoxy-2-propanol**Cyclohexane***Inventories****US - TSCA**

The following ingredients are listed or exempt:

*Propan-2-ol**2-Methoxypropanol**1-Methoxy-2-propanol**Cyclohexane***US - TSCA 12(b) Export Notification**

None of the ingredients are listed or exempt.

**16. Other information****Classification abbreviations  
and acronyms**

Flam. Liq. = Flammable liquid

Asp. Tox. = Aspiration hazard

Eye Irrit. = Eye irritation

Skin Irrit. = Skin irritation

Skin Sens. = Skin sensitisation

STOT SE = Specific target organ toxicity-single exposure

Aquatic Acute = Hazardous to the aquatic environment (acute)

Aquatic Chronic = Hazardous to the aquatic environment (chronic)

## FLUXCLENE

<b>Training advice</b>	Read and follow manufacturer's recommendations. Only trained personnel should use this material.
<b>Issued by</b>	Bethan Massey
<b>Revision date</b>	12/19/2016
<b>Revision</b>	0
<b>SDS No.</b>	676
<b>Hazard statements in full</b>	H225 Highly flammable liquid and vapor. H226 Flammable liquid and vapor. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects. H411 Toxic to aquatic life with long lasting effects.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

