

## Section 1. Identification

**UN number** : UN2922  
**Product identifier** : Fetant Gluben  
**Product code** : 124000003490  
**Other means of identification** : 90209493; 90209494

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

**Identified uses** : Environmental applications  
**Uses advised against** : None known.

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## Section 2. Hazards identification

**Classification of the substance or mixture** : ACUTE TOXICITY (oral) - Category 4  
ACUTE TOXICITY (inhalation) - Category 3  
SKIN CORROSION - Category 1B  
EYE IRRITATION - Category 2A  
RESPIRATORY SENSITIZATION - Category 1  
SKIN SENSITIZATION - Category 1  
TOXIC TO REPRODUCTION - Category 2  
TOXIC TO REPRODUCTION - Effects on or via lactation  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1  
AQUATIC TOXICITY (ACUTE) - Category 2  
AQUATIC TOXICITY (CHRONIC) - Category 2  
Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 11.5%

### GHS label elements

#### **Hazard pictograms**



#### **Signal word**

: Danger

#### **Hazard statements**

: H302 - Harmful if swallowed.  
H314 - Causes severe skin burns and eye damage.  
H317 - May cause an allergic skin reaction.  
H331 - Toxic if inhaled.  
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H361 - Suspected of damaging fertility or the unborn child.  
H362 - May cause harm to breast-fed children.  
H370 - Causes damage to organs.  
H372 - Causes damage to organs through prolonged or repeated exposure.

## Section 2. Hazards identification

H411 - Toxic to aquatic life with long lasting effects.

### Precautionary statements

#### Prevention

- : P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P280 - Wear protective gloves, protective clothing and eye or face protection.
- P284 - Wear respiratory protection.
- P271 - Use only outdoors or in a well-ventilated area.
- P273 - Avoid release to the environment.
- P260 - Do not breathe vapor.
- P263 - Avoid contact during pregnancy and while nursing.
- P270 - Do not eat, drink or smoke when using this product.
- P264 - Wash thoroughly after handling.
- P272 - Contaminated work clothing should not be allowed out of the workplace.

#### Response

- : P391 - Collect spillage.
- P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor.
- P304 + P340, P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor.
- P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
- P301 + P310, P330, P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting.
- P303 + P361 + P353, P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor.
- P363 - Wash contaminated clothing before reuse.
- P302 + P352 - IF ON SKIN: Wash with plenty of water.
- P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337 + P313 - If eye irritation persists: Get medical advice or attention.

#### Storage

- : P405 - Store locked up.

#### Disposal

- : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Other hazards which do not result in classification** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

| Ingredient name                        | CAS number | %         |
|----------------------------------------|------------|-----------|
| glutaral                               | 111-30-8   | ≥10 - ≤22 |
| propan-2-ol                            | 67-63-0    | ≥10 - ≤25 |
| benzylododecyldimethylammonium bromide | 7281-04-1  | ≥10 - ≤17 |
| Alcohols, C12-15, ethoxylated          | 68131-39-5 | ≤1.1      |

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment 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** : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. 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. 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. In the event of any complaints or symptoms, avoid further exposure.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a 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** : Toxic if inhaled. Causes damage to organs following a single exposure if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : Causes severe burns. Causes damage to organs following a single exposure in contact with skin. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed. Causes damage to organs following a single exposure if swallowed.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
wheezing and breathing difficulties  
asthma  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

## Section 4. First aid measures

- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
stomach pains  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- 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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

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** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
halogenated compounds

- 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.
- 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. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

## Section 6. Accidental release measures

**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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### Methods and materials for containment and cleaning up

**Small spill :** Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry 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. 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. 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 (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

**Protective measures :** Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid contact during pregnancy or while nursing. 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 release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**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 in original container protected 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. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. 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 |
|-----------------|-----------------|
| None.           |                 |

#### Biological exposure indices

## Section 8. Exposure controls/personal protection

No exposure indices known.

|                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Appropriate engineering controls</b>      | : 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.                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Environmental exposure controls</b>       | : 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.                                                                                                                                                                                                                                                                               |
| <b><u>Individual protection measures</u></b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Hygiene measures</b>                      | : 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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.                                                                                                                                         |
| <b>Eye/face protection</b>                   | : 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 and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.                                                                                                                                                         |
| <b><u>Skin protection</u></b>                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Hand protection</b>                       | : 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. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. |
| <b>Body protection</b>                       | : 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.                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Other skin protection</b>                 | : 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.                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Respiratory protection</b>                | : 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.                                                                                                                                                                                                                                                                                                                           |

## Section 9. Physical and chemical properties and safety characteristics

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

### Appearance

|                                                                |                              |
|----------------------------------------------------------------|------------------------------|
| <b>Physical state</b>                                          | : Liquid.                    |
| <b>Color</b>                                                   | : Colorless to light yellow. |
| <b>Odor</b>                                                    | : Not available.             |
| <b>Odor threshold</b>                                          | : Not available.             |
| <b>pH</b>                                                      | : Not available.             |
| <b>Melting point/freezing point</b>                            | : Not available.             |
| <b>Boiling point, initial boiling point, and boiling range</b> | : Not available.             |

## Section 9. Physical and chemical properties and safety characteristics

|                                                    |   |                                         |                        |       |               |                        |     |        |
|----------------------------------------------------|---|-----------------------------------------|------------------------|-------|---------------|------------------------|-----|--------|
| Flash point                                        | : |                                         | Closed cup             |       |               | Open cup               |     |        |
|                                                    |   | Ingredient name                         | °C                     | °F    | Method        | °C                     | °F  | Method |
|                                                    |   | Isopropyl alcohol                       | 11.7                   | 53.1  |               |                        |     |        |
|                                                    |   | glutaral                                | 71                     | 159.8 |               |                        |     |        |
|                                                    |   | benzylododecyltrimethylammonium bromide | 110                    | 230   |               |                        |     |        |
| Evaporation rate                                   | : | Not available.                          |                        |       |               |                        |     |        |
| Flammability                                       | : | Not available.                          |                        |       |               |                        |     |        |
| Lower and upper explosion limit/flammability limit | : | Not available.                          |                        |       |               |                        |     |        |
| Vapor pressure                                     | : |                                         | Vapor Pressure at 20°C |       |               | Vapor pressure at 50°C |     |        |
|                                                    |   | Ingredient name                         | mm Hg                  | kPa   | Method        | mm Hg                  | kPa | Method |
|                                                    |   | Isopropyl alcohol                       | 33                     | 4.4   |               |                        |     |        |
|                                                    |   | water                                   | 23.8                   | 3.2   |               |                        |     |        |
|                                                    |   | glutaral                                | 15                     | 2     |               |                        |     |        |
| Relative vapor density                             | : | Not available.                          |                        |       |               |                        |     |        |
| Relative density                                   | : | Not available.                          |                        |       |               |                        |     |        |
| Solubility(ies)                                    | : | Not available.                          |                        |       |               |                        |     |        |
| Solubility in water                                | : | Not available.                          |                        |       |               |                        |     |        |
| Partition coefficient: n-octanol/water             | : | Not applicable.                         |                        |       |               |                        |     |        |
| Auto-ignition temperature                          | : | Ingredient name                         | °C                     | °F    | Method        |                        |     |        |
|                                                    |   | Alcohols, C12-15, ethoxylated           | 235                    | 455   | ASTM E 659-78 |                        |     |        |
|                                                    |   | Isopropyl alcohol                       | 456                    | 852.8 |               |                        |     |        |
| Decomposition temperature                          | : | Not available.                          |                        |       |               |                        |     |        |
| Viscosity                                          | : | Not available.                          |                        |       |               |                        |     |        |
| Flow time (ISO 2431)                               | : | Not available.                          |                        |       |               |                        |     |        |
| Particle characteristics                           | : |                                         |                        |       |               |                        |     |        |
| Median particle size                               | : | Not applicable.                         |                        |       |               |                        |     |        |

## 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                | : | No specific data.                                                                                    |
| 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                | Species | Dose                  | Exposure |
|----------------------------------------|-----------------------|---------|-----------------------|----------|
| glutaral                               | LC50 Inhalation Vapor | Rat     | 480 mg/m <sup>3</sup> | 4 hours  |
|                                        | LD50 Oral             | Rat     | 134 mg/kg             | -        |
| propan-2-ol                            | LC50 Inhalation Vapor | Rat     | 72.6 mg/l             | 4 hours  |
|                                        | LD50 Dermal           | Rabbit  | 12800 mg/kg           | -        |
|                                        | LD50 Oral             | Rat     | 4570 mg/kg            | -        |
| benzylododecyldimethylammonium bromide | LD50 Oral             | Rat     | 230 mg/kg             | -        |
| Alcohols, C12-15, ethoxylated          | LD50 Oral             | Rat     | 2 g/kg                | -        |

#### Irritation/Corrosion

| Product/ingredient name | Result                   | Species | Score | Exposure        | Observation |
|-------------------------|--------------------------|---------|-------|-----------------|-------------|
| glutaral                | Eyes - Severe irritant   | Rabbit  | -     | 1 mg            | -           |
|                         | Eyes - Severe irritant   | Rabbit  | -     | 24 hours 250 ug | -           |
|                         | Skin - Mild irritant     | Rabbit  | -     | 13 mg           | -           |
|                         | Skin - Severe irritant   | Human   | -     | 72 hours 6 mg l | -           |
|                         | Skin - Severe irritant   | Rabbit  | -     | 24 hours 2 mg   | -           |
| propan-2-ol             | Eyes - Moderate irritant | Rabbit  | -     | 10 mg           | -           |
|                         | Eyes - Moderate irritant | Rabbit  | -     | 24 hours 100 mg | -           |
|                         | Eyes - Severe irritant   | Rabbit  | -     | 100 mg          | -           |
|                         | Skin - Mild irritant     | Rabbit  | -     | 500 mg          | -           |

#### Sensitization

Not available.

#### Mutagenicity

Not available.

#### Carcinogenicity

Not available.

#### Reproductive toxicity

Not available.

#### Teratogenicity

Not available.

#### Specific target organ toxicity (single exposure)

| Name        | Category   | Route of exposure | Target organs |
|-------------|------------|-------------------|---------------|
| propan-2-ol | Category 1 | -                 | -             |

#### Specific target organ toxicity (repeated exposure)

| Name        | Category   | Route of exposure | Target organs |
|-------------|------------|-------------------|---------------|
| propan-2-ol | Category 1 | -                 | -             |

#### Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.



## Section 11. Toxicological information

### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Toxic if inhaled. Causes damage to organs following a single exposure if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : Causes severe burns. Causes damage to organs following a single exposure in contact with skin. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed. Causes damage to organs following a single exposure if swallowed.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
wheezing and breathing difficulties  
asthma  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
stomach pains  
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.

- General** : Causes damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : Suspected of damaging the unborn child.
- Developmental effects** : May cause harm to breast-fed children.
- Fertility effects** : Suspected of damaging fertility.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product name : Fetant Gluben

Version :0.02

Date of revision :26 September  
2023

Date of previous issue :24 July 2023

VN : ENGLISH

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## Section 11. Toxicological information

| Product/ingredient name                | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapors) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|----------------------------------------|--------------|----------------|--------------------------|----------------------------|-------------------------------------|
| Fetant Gluben                          | 503.0        | N/A            | N/A                      | 2.2                        | N/A                                 |
| glutaral                               | 134          | N/A            | N/A                      | 0.5                        | N/A                                 |
| propan-2-ol                            | 4570         | 12800          | N/A                      | 72.6                       | N/A                                 |
| benzylododecyldimethylammonium bromide | 230          | N/A            | N/A                      | N/A                        | N/A                                 |
| Alcohols, C12-15, ethoxylated          | 2000         | N/A            | N/A                      | N/A                        | N/A                                 |

## Section 12. Ecological information

### Toxicity

| Product/ingredient name                | Result                                  | Species                                    | Exposure |
|----------------------------------------|-----------------------------------------|--------------------------------------------|----------|
| glutaral                               | Acute EC50 0.75 ppm Fresh water         | Daphnia - Daphnia magna                    | 48 hours |
|                                        | Acute LC50 5.4 ppm Fresh water          | Fish - Pimephales promelas                 | 96 hours |
|                                        | Chronic NOEC 3.41 ppm                   | Fish - Oncorhynchus mykiss                 | 97 days  |
| propan-2-ol                            | IC50 >1000 mg/l                         | Algae - Desmodesmus subspicatus            | 72 hours |
|                                        | LC50 1400 mg/l                          | Fish - Lepomis macrochirus                 | 96 hours |
|                                        | Acute EC50 7550 mg/l Fresh water        | Daphnia - Daphnia magna - Neonate          | 48 hours |
| benzylododecyldimethylammonium bromide | Acute LC50 1400000 µg/l Marine water    | Crustaceans - Crangon crangon              | 48 hours |
|                                        | Acute LC50 100 to 500 µg/l Marine water | Crustaceans - Echinogammarus olivii        | 48 hours |
|                                        | Acute LC50 6.55 ppm Fresh water         | Fish - Oncorhynchus mykiss                 | 96 hours |
| Alcohols, C12-15, ethoxylated          | Acute EC50 0.39 mg/l Fresh water        | Crustaceans - Ceriodaphnia dubia - Neonate | 48 hours |
|                                        | Acute EC50 302 µg/l Fresh water         | Daphnia - Daphnia magna - Neonate          | 48 hours |
|                                        | Acute LC50 1400 µg/l Fresh water        | Fish - Pimephales promelas                 | 96 hours |
|                                        | Chronic NOEC 83 µg/l Fresh water        | Daphnia - Daphnia magna - Neonate          | 21 days  |

### Persistence and degradability

| Product/ingredient name | Test | Result                    | Dose | Inoculum |
|-------------------------|------|---------------------------|------|----------|
| propan-2-ol             | -    | >70 % - Readily - 10 days | -    | -        |

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|-------------------------|-------------------|------------|------------------|
| propan-2-ol             | -                 | -          | Readily          |

### Bioaccumulative potential

| Product/ingredient name       | LogP <sub>ow</sub> | BCF | Potential |
|-------------------------------|--------------------|-----|-----------|
| glutaral                      | -0.36              | -   | Low       |
| propan-2-ol                   | 0.05               | -   | Low       |
| Alcohols, C12-15, ethoxylated | 2.03 to 6.24       | -   | High      |

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : 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. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

|                            | UN                                                                                     | IMDG                                                                                                                                                                     | IATA                                                                                     |
|----------------------------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| UN number                  | UN2922                                                                                 | UN2922                                                                                                                                                                   | UN2922                                                                                   |
| UN proper shipping name    | CORROSIVE LIQUID, TOXIC, N.O.S. (GLUTARAL)                                             | CORROSIVE LIQUID, TOXIC, N.O.S. (GLUTARAL)                                                                                                                               | CORROSIVE LIQUID, TOXIC, N.O.S. (GLUTARAL)                                               |
| Transport hazard class(es) | 8<br> | 8<br>  | 8<br> |
| Packing group              | II                                                                                     | II                                                                                                                                                                       | II                                                                                       |
| Environmental hazards      | Yes. The environmentally hazardous substance mark is not required.                     | Yes.                                                                                                                                                                     | Yes. The environmentally hazardous substance mark is not required.                       |

### Additional information

**IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.  
**IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.

**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

[Decree No. 113/2017/ND-CP - Chemicals subject to conditional production and trade](#) : Applicable

[Decree No. 113/2017/ND-CP - Chemicals to be declared](#) : Applicable

**Toxic classification (TCVN 3164-79)** : 3

### [Inventory list](#)

**Viet Nam**

All components are listed or exempted.

## Section 16. Other information

### History

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date of issue/Date of revision | : 9/26/2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Date of previous issue         | : 7/24/2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Version                        | : 0.02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Key to abbreviations           | : ATE = Acute Toxicity Estimate<br>BCF = Bioconcentration Factor<br>GHS = Globally Harmonized System of Classification and Labelling of Chemicals<br>HMIS = Hazardous Material Information System (U.S.A.)<br>IATA = International Air Transport Association<br>IBC = Intermediate Bulk Container<br>IMDG = International Maritime Dangerous Goods<br>LogPow = logarithm of the octanol/water partition coefficient<br>MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)<br>N/A = Not available<br>NFPA = National Fire Protection Association (U.S.A.)<br>SGG = Segregation Group<br>UN = United Nations |

### Procedure used to derive the classification

| Classification                                                  | Justification      |
|-----------------------------------------------------------------|--------------------|
| ACUTE TOXICITY (oral) - Category 4                              | Calculation method |
| ACUTE TOXICITY (inhalation) - Category 3                        | Calculation method |
| SKIN CORROSION - Category 1B                                    | Calculation method |
| EYE IRRITATION - Category 2A                                    | Calculation method |
| RESPIRATORY SENSITIZATION - Category 1                          | Calculation method |
| SKIN SENSITIZATION - Category 1                                 | Calculation method |
| TOXIC TO REPRODUCTION - Category 2                              | Calculation method |
| TOXIC TO REPRODUCTION - Effects on or via lactation             | Calculation method |
| SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1   | Calculation method |
| SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1 | Calculation method |
| AQUATIC TOXICITY (ACUTE) - Category 2                           | Calculation method |
| AQUATIC TOXICITY (CHRONIC) - Category 2                         | Calculation method |

References : Not available.

Indicates information that has changed from previously issued version.

### Notice to reader

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