

## SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830 - United Kingdom (UK)

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Product name** HiTrap™ Protein G HP 1 ml, 1 x 1 ml

**Catalogue Number** 29-0485-81



**Product description** Not available.

**Product type** Liquid.

**Other means of identification** Not available.

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

##### Identified uses

Use in laboratories  
Liquid chromatography.  
Scientific research and development

#### 1.3 Details of the supplier of the safety data sheet

##### Supplier

GE Healthcare UK Ltd  
Amersham Place  
Little Chalfont  
Buckinghamshire HP7 9NA  
England  
+44 0870 606 1921

##### Hours of operation

08.30 - 17.00

**Person who prepared the MSDS:** msdslifesciences@ge.com

##### United Kingdom (UK)

GE Healthcare UK Ltd  
Amersham Place  
Little Chalfont  
Buckinghamshire  
HP7 9NA

#### 1.4 Emergency telephone number

0870 606 1921

#### National advisory body/Poison Centre

##### United Kingdom (UK)

Health professionals should contact the National Poisons Information Service (NPIS) by telephone, or use TOXBASE [www.toxbase.org](http://www.toxbase.org).

NPIS <http://www.npis.org/> advise that others seeking specific information on poisons should contact:  
In England and Wales: NHS Direct - 0845 4647 or 111  
In Scotland: NHS 24 - 08454 24 24 24  
In N Ireland: Contact your local GP or pharmacist during normal hours; click here ([www.gpoutofhours.hscni.net/](http://www.gpoutofhours.hscni.net/)) for GP services Out-of-Hours.

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Product definition** Mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Flam. Liq. 3, H226

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

**Ingredients of unknown toxicity** Not applicable.



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Ingredients of unknown ecotoxicity Not applicable.

See Section 16 for the full text of the H statements declared above.  
See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms



Signal word Warning  
Hazard statements Flammable liquid and vapour.

Precautionary statements

Prevention Wear protective gloves: 1 - 4 hours (breakthrough time): butyl rubber, neoprene. Wear eye or face protection: Recommended: safety glasses with side-shields. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.  
Response IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
Storage Keep cool.  
Disposal Dispose of contents and container in accordance with all local, regional, national and international regulations.  
Hazardous ingredients Ethanol  
Supplemental label elements Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings Not applicable.  
Tactile warning of danger Not applicable.

2.3 Other hazards

Other hazards which do not result in classification None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures Mixture

| Product/ingredient name | Identifiers                                                                       | %       | Classification                                                                                 | Type    |
|-------------------------|-----------------------------------------------------------------------------------|---------|------------------------------------------------------------------------------------------------|---------|
|                         |                                                                                   |         | Regulation (EC) No. 1272/2008 [CLP]                                                            |         |
| Ethanol                 | REACH #: 01-2119457610-43<br>EC: 200-578-6<br>CAS: 64-17-5<br>Index: 603-002-00-5 | 14 - 19 | Flam. Liq. 2, H225<br><br>See Section 16 for the full text of the H statements declared above. | [1] [2] |

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, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

- [1] Substance classified with a physical, health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern

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

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eye contact</b>                | 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 if irritation occurs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Inhalation</b>                 | Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.                                                                                                                                                                                                                        |
| <b>Skin contact</b>               | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Ingestion</b>                  | Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. |
| <b>Protection of first-aiders</b> | No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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

#### Potential acute health effects

|                     |                                                   |
|---------------------|---------------------------------------------------|
| <b>Eye contact</b>  | No known significant effects or critical hazards. |
| <b>Inhalation</b>   | No known significant effects or critical hazards. |
| <b>Skin contact</b> | No known significant effects or critical hazards. |
| <b>Ingestion</b>    | No known significant effects or critical hazards. |

#### Over-exposure signs/symptoms

|                     |                   |
|---------------------|-------------------|
| <b>Eye contact</b>  | No specific data. |
| <b>Inhalation</b>   | No specific data. |
| <b>Skin contact</b> | No specific data. |
| <b>Ingestion</b>    | No specific data. |

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

|                            |                                                                                                                           |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>Notes to physician</b>  | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| <b>Specific treatments</b> | No specific treatment.                                                                                                    |

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

|                                       |                                                                |
|---------------------------------------|----------------------------------------------------------------|
| <b>Suitable extinguishing media</b>   | Use dry chemical, CO <sub>2</sub> , water spray (fog) or foam. |
| <b>Unsuitable extinguishing media</b> | Do not use water jet.                                          |

### 5.2 Special hazards arising from the substance or mixture

|                                              |                                                                                                                                                                                                                |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Hazards from the substance or mixture</b> | Flammable liquid and vapour. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. |
| <b>Hazardous combustion products</b>         | Decomposition products may include the following materials:<br>carbon dioxide<br>carbon monoxide                                                                                                               |

### 5.3 Advice for firefighters

|                                                       |                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Special precautions for fire-fighters</b>          | 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.                                      |
| <b>Special protective equipment for fire-fighters</b> | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. |



## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>For non-emergency personnel</b> | 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 spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |
| <b>For emergency responders</b>    | If specialised 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".                                                                                                                                                                                                                                                                     |

**6.2 Environmental precautions** Avoid dispersal of spilt 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).

### 6.3 Methods and material for containment and cleaning up

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Small spill</b> | Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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.                                                                                                                                                                                                                                                                                 |
| <b>Large spill</b> | Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. |

**6.4 Reference to other sections** See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenarios).

### 7.1 Precautions for safe handling

|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Protective measures</b>                    | Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. 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. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container. |
| <b>Advice on general occupational hygiene</b> | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

### 7.2 Conditions for safe storage, including any incompatibilities

Store between the following temperatures: 2 to 8°C (35.6 to 46.4°F). Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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 unlabelled containers. Use appropriate containment to avoid environmental contamination.

#### Seveso Directive - Reporting thresholds (in tonnes)

##### Danger criteria

| Category                                                                                                                                                  | Notification and MAPP threshold | Safety report threshold |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------|
| <div> <div></div>           P5c: Flammable liquids 2 and 3 not falling under P5a or P5b         </div> <div>           C6: Flammable (R10)         </div> | 5000                            | 50000                   |
|                                                                                                                                                           | 5000                            | 50000                   |

### 7.3 Specific end use(s)

|                                             |                                                                       |
|---------------------------------------------|-----------------------------------------------------------------------|
| <b>Recommendations</b>                      | Analytical chemistry. Liquid chromatography. Research and Development |
| <b>Industrial sector specific solutions</b> | Not available.                                                        |



## SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 8.1 Control parameters

#### Occupational exposure limits

| Product/ingredient name | Exposure limit values                                                                                            |
|-------------------------|------------------------------------------------------------------------------------------------------------------|
| ethanol                 | EH40/2005 WELs (United Kingdom (UK), 12/2011).<br>TWA: 1920 mg/m <sup>3</sup> 8 hours.<br>TWA: 1000 ppm 8 hours. |

#### Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere 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. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

No DELs available.

#### PNECs

No PECs available.

### 8.2 Exposure controls

#### 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, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

#### 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: safety glasses with side-shields. Recommended: safety glasses with side-shields

#### Skin protection

##### Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. 1 - 4 hours (breakthrough time): butyl rubber, neoprene

##### 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. Refer to European Standard EN 1149 for further information on material and design requirements and test methods. Recommended: lab coat

##### 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: A respirator is not needed under normal and intended conditions of product use.

#### 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.



## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

|                                              |                                                                      |
|----------------------------------------------|----------------------------------------------------------------------|
| Physical state                               | Liquid.                                                              |
| Colour                                       | White. White to yellowish.                                           |
| Odour                                        | Alcohol-like. [Slight]                                               |
| Odour threshold                              | 180 ppm                                                              |
| pH                                           | Not available.                                                       |
| Melting point/freezing point                 | Not available.                                                       |
| Initial boiling point and boiling range      | Not available.                                                       |
| Flash point                                  | Closed cup: 38 to 43°C                                               |
| Evaporation rate                             | Not available.                                                       |
| Flammability (solid, gas)                    | Not available.                                                       |
| Burning time                                 | Not applicable.                                                      |
| Burning rate                                 | Not applicable.                                                      |
| Upper/lower flammability or explosive limits | Not available.                                                       |
| Vapour pressure                              | Not available.                                                       |
| Vapour density                               | Not available.                                                       |
| Relative density                             | Not available.                                                       |
| Solubility(ies)                              | Easily soluble in the following materials: cold water and hot water. |
| Partition coefficient: n-octanol/water       | Not available.                                                       |
| Auto-ignition temperature                    | Not available.                                                       |
| Decomposition temperature                    | Not available.                                                       |
| Viscosity                                    | Not available.                                                       |
| Explosive properties                         | Not available.                                                       |
| Oxidising properties                         | Not available.                                                       |

### 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

|                                         |                                                                                                                                                                         |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.1 Reactivity                         | No specific test data related to reactivity available for this product or its ingredients.                                                                              |
| 10.2 Chemical stability                 | The product is stable.                                                                                                                                                  |
| 10.3 Possibility of hazardous reactions | Under normal conditions of storage and use, hazardous reactions will not occur.                                                                                         |
| 10.4 Conditions to avoid                | Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. |
| 10.5 Incompatible materials             | Reactive or incompatible with the following materials:<br>oxidizing materials                                                                                           |
| 10.6 Hazardous decomposition products   | Under normal conditions of storage and use, hazardous decomposition products should not be produced.                                                                    |

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

| Product/ingredient name | Result                 | Species | Dose                     | Exposure |
|-------------------------|------------------------|---------|--------------------------|----------|
| Ethanol                 | LC50 Inhalation Vapour | Rat     | 124700 mg/m <sup>3</sup> | 4 hours  |

Conclusion/Summary Not available.

#### Acute toxicity estimates

Not available.



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**Irritation/Corrosion****Conclusion/Summary**

**Skin** Repeated exposure may cause skin dryness or cracking.

**Sensitisation**

**Conclusion/Summary** Not available.

**Mutagenicity**

**Conclusion/Summary** Not available.

**Carcinogenicity**

**Conclusion/Summary** Not available.

**Reproductive toxicity**

**Conclusion/Summary** Not available.

**Teratogenicity**

**Conclusion/Summary** Not available.

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

Not available.

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

Not available.

**Aspiration hazard**

Not available.

**Information on likely routes of exposure**

Routes of entry anticipated: Oral, Dermal, Inhalation.

**Potential acute health effects**

**Inhalation** No known significant effects or critical hazards.

**Ingestion** No known significant effects or critical hazards.

**Skin contact** No known significant effects or critical hazards.

**Eye contact** No known significant effects or critical hazards.

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

**Inhalation** No specific data.

**Ingestion** No specific data.

**Skin contact** No specific data.

**Eye contact** No specific data.

**Delayed and immediate effects as well as 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**

Not available.

**General** No known significant effects or critical hazards.

**Carcinogenicity** No known significant effects or critical hazards.

**Mutagenicity** No known significant effects or critical hazards.

**Teratogenicity** No known significant effects or critical hazards.

**Developmental effects** No known significant effects or critical hazards.

**Fertility effects** No known significant effects or critical hazards.

**Other information** Not available.



## SECTION 12: Ecological information

## 12.1 Toxicity

| Product/ingredient name | Result                                                                                                                                                                                         | Species                                                                                                                                             | Exposure                                                   |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| ethanol                 | Acute EC50 17.921 mg/l Marine water<br>Acute EC50 2000 µg/l Fresh water<br>Acute LC50 25500 µg/l Marine water<br><br>Acute LC50 42000 µg/l Fresh water<br>Chronic NOEC 4.995 mg/l Marine water | Algae - Ulva pertusa<br>Daphnia - Daphnia magna<br>Crustaceans - Artemia franciscana - Larvae<br>Fish - Oncorhynchus mykiss<br>Algae - Ulva pertusa | 96 hours<br>48 hours<br>48 hours<br><br>4 days<br>96 hours |

Conclusion/Summary Not available.

## 12.2 Persistence and degradability

| Product/ingredient name | Test | Result                    | Dose | Inoculum |
|-------------------------|------|---------------------------|------|----------|
| ethanol                 | -    | 100 % - Readily - 20 days | -    | -        |

Conclusion/Summary Not available.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|-------------------------|-------------------|------------|------------------|
| ethanol                 | -                 | -          | Readily          |

## 12.3 Bioaccumulative potential

| Product/ingredient name | LogP <sub>ow</sub> | BCF  | Potential |
|-------------------------|--------------------|------|-----------|
| ethanol                 | -0.35              | 0.66 | low       |

## 12.4 Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) Not available.

Mobility Not available.

## 12.5 Results of PBT and vPvB assessment

PBT Not applicable.

vPvB Not applicable.

12.6 Other adverse effects No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

## 13.1 Waste treatment methods

Product**Methods of disposal**

The generation of waste should be avoided or minimised 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.

**Hazardous waste**

Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

European waste catalogue (EWC)

| Waste code | Waste designation              |
|------------|--------------------------------|
| 07 07 99   | wastes not otherwise specified |

Packaging**Methods of disposal**

The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions**

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. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.





## SECTION 14: Transport information

|                                 | ADR/RID        | ADN            | IMDG           | IATA                                                                                                                                               |
|---------------------------------|----------------|----------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 14.1 UN number                  | Not regulated. | Not regulated. | Not regulated. | Not regulated.                                                                                                                                     |
| 14.2 UN proper shipping name    | -              | -              | -              | -                                                                                                                                                  |
| 14.3 Transport hazard class(es) | -              | -              | -              | -                                                                                                                                                  |
| 14.4 Packing group              | -              | -              | -              | -                                                                                                                                                  |
| 14.5 Environmental hazards      | No.            | No.            | No.            | No.                                                                                                                                                |
| Additional information          | -              | -              | -              | <b>Remarks</b><br>IATA Special Provision A 58<br>- Aqueous solutions containing 24% or less alcohol by volume is not subject to these regulations. |

**14.6 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.

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**      Not available.

## SECTION 15: Regulatory information

## 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)Annex XIV - List of substances subject to authorisationAnnex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**      Not applicable.

Other EU regulations

**Europe inventory**      All components are listed or exempted.

**Black List Chemicals**      Not listed

**Industrial emissions (integrated pollution prevention and control)**      Not listed  
 - Air

**Industrial emissions (integrated pollution prevention and control)**      Not listed  
 - Water

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

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This product is controlled under the Seveso Directive.

#### Danger criteria

##### **Category**

5c: Flammable liquids 2 and 3 not falling under P5a or P5b

C6: Flammable (R10)

#### International regulations

##### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

##### Montreal Protocol (Annexes A, B, C, E)

Not listed.

##### Stockholm Convention on Persistent Organic Pollutants

Not listed.

##### Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

##### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

#### International lists

##### National inventory

###### **United States**

All components are listed or exempted.

###### **Canada inventory**

All components are listed or exempted.

###### **China**

All components are listed or exempted.

###### **Japan**

Japan inventory (ENCS): All components are listed or exempted.

Japan inventory (ISHL): Not determined.

#### **15.2 Chemical safety assessment**

This product contains substances for which Chemical Safety Assessments are still required.

## SECTION 16: Other information

Indicates information that has changed from previously issued version.

#### **Abbreviations and acronyms**

ATE = Acute Toxicity Estimate

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]

DNEL = Derived No Effect Level

EUH statement = CLP-specific Hazard statement

PNEC = Predicted No Effect Concentration

RRN = REACH Registration Number

#### **Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

| Classification     | Justification         |
|--------------------|-----------------------|
| Flam. Liq. 3, H226 | On basis of test data |

#### **Full text of abbreviated H statements**

H225

Highly flammable liquid and vapour.

H226

Flammable liquid and vapour.

#### **Full text of classifications [CLP/GHS]**

Flam. Liq. 2, H225

FLAMMABLE LIQUIDS - Category 2

Flam. Liq. 3, H226

FLAMMABLE LIQUIDS - Category 3

#### **Date of printing**

23 January 2017

#### **Date of issue/ Date of revision**

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#### **Version**

2.01

#### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

