Section 1. Identification

1.1 Product identifier
Product name: Giemsa Solution
Part no.: AR164
Validation date: 6/30/2020

1.2 Relevant identified uses of the substance or mixture and uses advised against
Material uses: Laboratory use
Container type: Dispenser Pack
AR164 // Giemsa Solution // Artisan Giemsa Stain Kit // 65 ml
Reference number: SDS028

1.3 Details of the supplier of the safety data sheet
Supplier/Manufacturer: Agilent Technologies, Inc.
5301 Stevens Creek Blvd
Santa Clara, CA 95051, USA
Tel: +1 800 227 9770

Agilent Technologies Singapore (International) Pte Ltd.
No. 1 Yishun Avenue 7
Singapore, 768923
Tel. (65) 6276 2622

Agilent Technologies Denmark ApS
Produktionsvej 42
2600 Glostrup,
Denmark
Tel. +45 44 85 95 00

www.Agilent.com

e-mail address of person responsible for this SDS: SDS@Agilent.com

1.4 Emergency telephone number
In case of emergency: CHEMTREC®: 1-800-424-9300

Section 2. Hazards identification

2.1 Classification of the substance or mixture
OSHA/HCS status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture
H225 FLAMMABLE LIQUIDS - Category 2
H301 ACUTE TOXICITY (oral) - Category 3
H311 ACUTE TOXICITY (dermal) - Category 3
H331 ACUTE TOXICITY (inhalation) - Category 3
H315 SKIN IRRITATION - Category 2
H319 EYE IRRITATION - Category 2A
H360 TOXIC TO REPRODUCTION - Category 1B
H370 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1

Date of issue: 06/30/2020
Section 2. Hazards identification

**GHS label elements**

**Hazard pictograms**

**Signal word**

**Hazard statements**

**Precautionary statements**

**Prevention**

**Response**

**Storage**

**Disposal**

**Date of issue:** 06/30/2020
Section 2. Hazards identification

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

2.3 Other hazards

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>≥50 - ≤75</td>
<td>56-81-5</td>
</tr>
<tr>
<td>Methanol</td>
<td>≥25 - ≤50</td>
<td>67-56-1</td>
</tr>
</tbody>
</table>

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified 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

4.1 Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or wristband.

Skin contact : 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. Get medical attention. If necessary, call a poison center or physician. 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. 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. 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 wristband.

4.2 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. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Date of issue : 06/30/2020
Section 4. First aid measures

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.

Notes to physician:

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments:

No specific treatment.

Over-exposure signs/symptoms

Eye contact:

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

Inhalation:

Adverse symptoms may include the following:
- respiratory tract irritation
- coughing
- nausea or vomiting
- headache
- drowsiness/fatigue
- dizziness/vertigo
- unconsciousness
- reduced fetal weight
- increase in fetal deaths
- skeletal malformations

Skin contact:

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

Ingestion:

Adverse symptoms may include the following:
- reduced fetal weight
- increase in fetal deaths
- skeletal malformations

Inhalation:

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

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

Notes to physician:

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments:

No specific treatment.

Protection of first-aiders:

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media:

Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing media:

Do not use water jet.

5.2 Special hazards arising from the substance or mixture

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Section 5. Fire-fighting measures

Specific hazards arising from the chemical: Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Hazardous thermal decomposition products: Decomposition products may include the following materials:
- carbon dioxide
- carbon monoxide
- Formaldehyde.

Special protective actions for fire-fighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

6.1 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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 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).

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up: 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.

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures: Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. 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.

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Section 7. Handling and storage

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.

7.2 Conditions for safe storage, including any incompatibilities

Specific storage conditions: Please consult the label.

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. Store locked up. 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations

Industrial applications, Professional applications.

Industrial sector specific solutions

Not applicable.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
</table>
                 | TWA: 5 mg/m³ 8 hours. Form: Respirable fraction  
                 | TWA: 10 mg/m³ 8 hours. Form: Total dust  
                 | OSHA PEL (United States, 5/2018).  
                 | TWA: 5 mg/m³ 8 hours. Form: Respirable fraction  
                 | TWA: 15 mg/m³ 8 hours. Form: Total dust  
                 | ACGIH TLV (United States, 3/2019).  
                 | Absorbed through skin.  
                 | TWA: 200 ppm 8 hours.  
                 | TWA: 262 mg/m³ 8 hours.  
                 | STEL: 250 ppm 15 minutes.  
                 | STEL: 328 mg/m³ 15 minutes.  |
                 | Absorbed through skin.  
                 | TWA: 200 ppm 8 hours.  
                 | TWA: 260 mg/m³ 8 hours.  
                 | STEL: 250 ppm 15 minutes.  
                 | STEL: 325 mg/m³ 15 minutes.  
                 | NIOSH REL (United States, 10/2016).  
                 | Absorbed through skin.  
                 | TWA: 200 ppm 10 hours.  
                 | TWA: 260 mg/m³ 10 hours.  
                 | STEL: 250 ppm 15 minutes.  
                 | STEL: 325 mg/m³ 15 minutes.  
                 | OSHA PEL (United States, 5/2018).  
                 | TWA: 200 ppm 8 hours.  
                 | TWA: 260 mg/m³ 8 hours. |

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Section 8. Exposure controls/personal protection

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

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

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.

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 antistatic protective clothing. For the greatest protection from static discharges, clothing should include antistatic overalls, boots and gloves.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state: Liquid. [Viscous liquid.]
Color: Blue. / Purple. [Dark]
Odor: Alcohol-like.
Odor threshold: Not available.
pH: Not available.
Melting point: Not available.
Section 9. Physical and chemical properties

- **Boiling point**: Not available.
- **Flash point**: Closed cup: 11°C (51.8°F)
- **Evaporation rate**: Not available.
- **Flammability (solid, gas)**: Not applicable.
- **Lower and upper explosive (flammable) limits**: Not available.
- **Vapor pressure**: Not available.
- **Vapor density**: Not available.
- **Relative density**: Not available.
- **Density**: 1 g/cm³ [20°C (68°F)]
- **Solubility**: 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.

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 pressurize, 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: 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**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>12600 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Methanol</td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>145000 ppm</td>
<td>1 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>64000 ppm</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>15800 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>5600 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

**Irritation/Corrosion**

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Section 11. Toxicological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 mg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 mg</td>
<td>-</td>
</tr>
<tr>
<td>Methanol</td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 100 mg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>40 mg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 20 mg</td>
<td>-</td>
</tr>
</tbody>
</table>

**Conclusion/Summary**

**Skin**

Repeated exposure may cause skin dryness or cracking.

**Sensitization**

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)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methanol</td>
<td>Category 1</td>
<td>-</td>
<td>central nervous system (CNS), optic nerve</td>
</tr>
<tr>
<td></td>
<td>Category 3</td>
<td></td>
<td>Respiratory tract irritation</td>
</tr>
<tr>
<td></td>
<td>Category 3</td>
<td></td>
<td>Narcotic effects</td>
</tr>
</tbody>
</table>

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

Not available.

**Aspiration hazard**

Not available.

**Information on the likely routes of exposure**

Routes of entry anticipated: Oral, Dermal, Inhalation.

**Potential acute health effects**

**Eye contact**

Causes serious eye irritation.

**Inhalation**

Toxic if inhaled. Causes damage to organs following a single exposure if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

**Skin contact**

Toxic in contact with skin. Causes damage to organs following a single exposure in contact with skin. Causes skin irritation.

**Ingestion**

Toxic if swallowed. Causes damage to organs following a single exposure if swallowed. Can cause central nervous system (CNS) depression.

Date of issue: 06/30/2020
Section 11. Toxicological information

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

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

**Inhalation**
- Adverse symptoms may include the following:
  - respiratory tract irritation
  - coughing
  - nausea or vomiting
  - headache
  - drowsiness/fatigue
  - dizziness/vertigo
  - unconsciousness
  - reduced fetal weight
  - increase in fetal deaths
  - skeletal malformations

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

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

**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**
- **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**
  - May damage the unborn child.
- **Developmental effects**
  - No known significant effects or critical hazards.
- **Fertility effects**
  - No known significant effects or critical hazards.

**Numerical measures of toxicity**
- **Acute toxicity estimates**

**Date of issue:** 06/30/2020
### Section 11. Toxicological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Oral (mg/kg)</th>
<th>Dermal (mg/kg)</th>
<th>Inhalation (gases) (ppm)</th>
<th>Inhalation (vapors) (mg/l)</th>
<th>Inhalation (dusts and mists) (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giemsa Solution</td>
<td>250</td>
<td>750</td>
<td>N/A</td>
<td>3</td>
<td>N/A</td>
</tr>
<tr>
<td>Glycerol</td>
<td>12600</td>
<td>300</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Methanol</td>
<td>100</td>
<td>N/A</td>
<td>N/A</td>
<td>3</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Other information**: Adverse symptoms may include the following: blurred or double vision. Eye contact can result in corneal damage or blindness. Repeated or prolonged exposure to the substance can produce liver damage.

### Section 12. Ecological information

#### 12.1 Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>Acute LC50 54000 mg/l Fresh water Fish - Oncorhynchus mykiss Adult 96 hours 48 hours</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methanol</td>
<td>Acute LC50 2500000 µg/l Marine water Crustaceans - Crangon crangon - Adult 48 hours</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute LC50 3289 mg/l Fresh water Daphnia - Daphnia magna - Neonate 48 hours</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute LC50 290 mg/l Fresh water Fish - Danio rerio - Egg 96 hours</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 9.96 mg/l Marine water Algae - Ulva pertusa 96 hours</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 12.2 Persistence and degradability

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Dose</th>
<th>Inoculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>301D Ready Biodegradability - Closed Bottle Test</td>
<td>93 % - 30 days</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

#### 12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP&lt;sub&gt;ow&lt;/sub&gt;</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>-1.76</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Methanol</td>
<td>-0.77</td>
<td>&lt;10</td>
<td>low</td>
</tr>
</tbody>
</table>

#### 12.4 Mobility in soil

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

#### 12.5 Other adverse effects

: No known significant effects or critical hazards.
Section 13. Disposal considerations

13.1 Waste treatment methods

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. Vapor 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

United States - RCRA Toxic hazardous waste "U" List

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS #</th>
<th>Status</th>
<th>Reference number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methanol (I); Methyl alcohol (I)</td>
<td>67-56-1</td>
<td>Listed</td>
<td>U154</td>
</tr>
</tbody>
</table>

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

<table>
<thead>
<tr>
<th>UN number</th>
<th>DOT Classification</th>
<th>TDG Classification</th>
<th>Mexico Classification</th>
<th>IMDG</th>
<th>IATA</th>
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<tr>
<td>UN1230</td>
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<table>
<thead>
<tr>
<th>UN proper shipping name</th>
<th>Methanol solution</th>
<th>METHANOL solution</th>
<th>METANOL solution</th>
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Transport hazard class(es)  

<table>
<thead>
<tr>
<th>Packing group</th>
<th>Environmental hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>II</td>
<td>No.</td>
</tr>
</tbody>
</table>

Additional information

If shipped as part of a kit "UN3316 (Chemical kit), Class 9, PG II" can be used. Precondition: UN3316 must be allowed for the remaining vials in same kit too.
Section 14. Transport information

**DOT Classification**
- **Reportable quantity**: 12500 lbs / 5675 kg [1499.2 gal / 5675 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
- **Limited quantity**: Yes.
- **Quantity limitation**: Passenger aircraft/rail: 1 L. Cargo aircraft: 60 L.
- **Special provisions**: IB2, T7, TP2

**TDG Classification**
- Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3), 2.26-2.36 (Class 6).
- **Explosive Limit and Limited Quantity Index**: 1
- **Passenger Carrying Road or Rail Index**: 1
- **Special provisions**: 43

**Mexico Classification**
- **Special provisions**: 279

**IMDG**
- **Emergency schedules**: F-E, S-D
- **Special provisions**: 279

**IATA**
- **Special provisions**: A113

**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

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

**U.S. Federal regulations**
- **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)**
- Listed

**Clean Air Act Section 602 Class I Substances**
- Not listed

**Clean Air Act Section 602 Class II Substances**
- Not listed

**DEA List I Chemicals (Precursor Chemicals)**
- Not listed

**DEA List II Chemicals (Essential Chemicals)**
- Not listed

**SARA 302/304**
- **Composition/information on ingredients**: No products were found.

**SARA 304 RQ**
- Not applicable.

**SARA 311/312**

**Date of issue**: 06/30/2020
Section 15. Regulatory information

**Classification**

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>≥50 - ≤75</td>
<td>EYE IRRITATION - Category 2B</td>
</tr>
<tr>
<td>Methanol</td>
<td>≥25 - ≤50</td>
<td>FLAMMABLE LIQUIDS - Category 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACUTE TOXICITY (oral) - Category 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACUTE TOXICITY (dermal) - Category 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACUTE TOXICITY (inhalation) - Category 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SKIN IRRITATION - Category 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EYE IRRITATION - Category 2A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TOXIC TO REPRODUCTION - Category 1B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3</td>
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</tbody>
</table>

**Composition/information on ingredients**

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<th>Name</th>
<th>%</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
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<td>Glycerin</td>
<td>≥50 - ≤75</td>
<td>EYE IRRITATION - Category 2B</td>
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<tr>
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</table>

**SARA 313**

<table>
<thead>
<tr>
<th>Product name</th>
<th>CAS number</th>
<th>%</th>
</tr>
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<tbody>
<tr>
<td>Form R - Reporting requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methanol</td>
<td>67-56-1</td>
<td>≥25 - ≤50</td>
</tr>
</tbody>
</table>

| Supplier notification | Methanol | 67-56-1 | ≥25 - ≤50 |

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

**State regulations**

**Massachusetts**

The following components are listed: GLYCERINE MIST; METHANOL; METHYL ALCOHOL

**New York**

The following components are listed: Methanol

**New Jersey**

The following components are listed: GLYCERIN; 1,2,3-PROPANETRIOL; METHYL ALCOHOL; METHANOL

**Pennsylvania**

The following components are listed: 1,2,3-PROPANETRIOL; METHANOL

**California Prop. 65**

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

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>No significant risk level</th>
<th>Maximum acceptable dosage level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methanol</td>
<td>-</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**International regulations**

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

Not listed.

**Date of issue:** 06/30/2020
Section 15. Regulatory information

Montreal Protocol
Not listed.

Stockholm Convention on Persistent Organic Pollutants
Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)
Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals
Not listed.

Inventory list
Australia : All components are listed or exempted.
Canada : Not determined.
China : Not determined.
Europe : All components are listed or exempted.
Japan : Japan inventory (ENCS): Not determined.
Japan inventory (ISHL): Not determined.
New Zealand : Not determined.
Philippines : Not determined.
Republic of Korea : Not determined.
Taiwan : All components are listed or exempted.
Thailand : Not determined.
Turkey : Not determined.
United States : Not determined.
Viet Nam : Not determined.

Section 16. Other information

History
Date of issue : 06/30/2020
Date of previous issue : 10/31/2018
Version : 4

Key to abbreviations
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
N/A = Not available
UN = United Nations

Procedure used to derive the classification
## Section 16. Other information

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLAMMABLE LIQUIDS - Category 2</td>
<td>On basis of test data</td>
</tr>
<tr>
<td>ACUTE TOXICITY (oral) - Category 3</td>
<td>Calculation method</td>
</tr>
<tr>
<td>ACUTE TOXICITY (dermal) - Category 3</td>
<td>Calculation method</td>
</tr>
<tr>
<td>ACUTE TOXICITY (inhalation) - Category 3</td>
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» Indicates information that has changed from previously issued version.

**Notice to reader**

Disclaimer: The information contained in this document is based on Dako state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.