SAFETY DATA SHEET
QuikHyb Hybridization Solution, Part Number 201220

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

1.1 Product identifier
   Product name: QuikHyb Hybridization Solution, Part Number 201220
   Part no.: 201220

1.2 Relevant identified uses of the substance or mixture and uses advised against
   Material uses: Analytical reagent. 250 ml QuikHyb 201220-21

1.3 Details of the supplier of the safety data sheet
   Agilent Technologies LDA UK Ltd.
   5500 Lakesides Cheadle Royal Business Park,
   Cheadle, Cheshire, SK8 3GR
   United Kingdom
   Tel: +44 (0) 345 712 5292
   e-mail address of person responsible for this SDS: pdl-msds_author@agilent.com

1.4 Emergency telephone number
   Emergency telephone number (with hours of operation): CHEMTREC®: +(44)-870-8200418

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]
   - H315 SKIN CORROSION/IRRITATION Category 2
   - H319 SERIOUS EYE DAMAGE/EYE IRRITATION Category 2
   - H335 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) Category 3

2.2 Label elements
   Hazard pictograms:
   !
   Signal word: Warning
   Hazard statements:
   - H315 - Causes skin irritation.
   - H319 - Causes serious eye irritation.
   - H335 - May cause respiratory irritation.

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SECTION 2: Hazards identification

Precautionary statements


Response: P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell.

Storage: P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

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

Hazardous ingredients: Dextran sulfate sodium

Supplemental label elements: Contains 2,4,7,9-Tetramethyldec-5-yne-4,7-diol, ethoxylated. May produce an allergic reaction.

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

Special packaging requirements: Tactile warning of danger: Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>%</th>
<th>Regulation (EC) No. 1272/2008 [CLP]</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium chloride</td>
<td>EC: 231-598-3 CAS: 7647-14-5</td>
<td>≤3</td>
<td>Eye Dam. 1, H318 Skin Sens. 1B, H317 Aquatic Chronic 3, H412</td>
<td>[1]</td>
</tr>
<tr>
<td>2,4,7,9-Tetramethyldec-5-yne-4,7-diol, ethoxylated</td>
<td>EC: 500-022-5 CAS: 9014-85-1</td>
<td>&lt;1</td>
<td>See Section 16 for the full text of the H statements declared above.</td>
<td>[1]</td>
</tr>
</tbody>
</table>

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, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

QuikHyb Hybridization Solution, Part Number 201220

SECTION 3: Composition/information on ingredients

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[5] Substance of equivalent concern
[6] Additional disclosure due to company policy

SECTION 4: First aid measures

4.1 Description of first aid measures

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

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

Skin contact: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion: Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

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.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact: Causes serious eye irritation.
Inhalation: May cause respiratory irritation.
Skin contact: Causes skin irritation.
Ingestion: No known significant effects or critical hazards.

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

Skin contact: Adverse symptoms may include the following:
- irritation
- redness

Ingestion: No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

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SECTION 4: First aid measures

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

Specific treatments: No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media: None known.

5.2 Special hazards arising from the substance or mixture
Hazards from the substance or mixture: In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous combustion products: Decomposition products may include the following materials:
- sulfur oxides
- halogenated compounds
- metal oxide/oxides

5.3 Advice for firefighters
Special precautions 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. 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
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 spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: 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
Methods for cleaning up: 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.

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

7.1 Precautions for safe handling

Protective measures: 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. 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.

7.2 Conditions for safe storage, including any incompatibilities

Storage: 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 unlabelled 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 available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

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

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Type</th>
<th>Exposure</th>
<th>Value</th>
<th>Population</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium chloride</td>
<td>DNEL</td>
<td>Short term Oral 126.65 mg/ kg bw/day</td>
<td>General population</td>
<td>Systemic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Oral 126.65 mg/ kg bw/day</td>
<td>General population</td>
<td>Systemic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Short term Dermal 126.65 mg/ kg bw/day</td>
<td>General population</td>
<td>Systemic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Dermal 126.65 mg/ kg bw/day</td>
<td>General population</td>
<td>Systemic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Short term Dermal 295.52 mg/ kg bw/day</td>
<td>Workers</td>
<td>Systemic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Dermal 295.52 mg/ kg bw/day</td>
<td>Workers</td>
<td>Systemic</td>
<td></td>
</tr>
</tbody>
</table>

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**SECTON 8: Exposure controls/personal protection**

<table>
<thead>
<tr>
<th>Substance</th>
<th>DNEL</th>
<th>Exposure Pathway</th>
<th>Concentration</th>
<th>Population</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4,7,9-Tetramethyldec-5-yn-4,7-diol, ethoxylated</td>
<td></td>
<td>Short term Inhalation</td>
<td>443.28 mg/m³</td>
<td>General population</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long term Inhalation</td>
<td>443.28 mg/m³</td>
<td>General population</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Short term Inhalation</td>
<td>2068.62 mg/m³</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long term Inhalation</td>
<td>2068.62 mg/m³</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long term Oral</td>
<td>0.25 mg/kg bw/day</td>
<td>General population</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long term Dermal</td>
<td>0.25 mg/kg bw/day</td>
<td>General population</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long term Inhalation</td>
<td>0.43 mg/m³</td>
<td>General population</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long term Dermal</td>
<td>0.5 mg/kg bw/day</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Short term Oral</td>
<td>0.75 mg/kg bw/day</td>
<td>General population</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Short term Dermal</td>
<td>0.75 mg/kg bw/day</td>
<td>General population</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Short term Inhalation</td>
<td>1.29 mg/m³</td>
<td>General population</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Short term Dermal</td>
<td>1.5 mg/kg bw/day</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long term Inhalation</td>
<td>1.76 mg/m³</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Short term Inhalation</td>
<td>5.28 mg/m³</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
</tbody>
</table>

**PNECs**

No PNECs available

**8.2 Exposure controls**

**Appropriate engineering controls**

- Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**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.
SECTION 8: Exposure controls/personal protection

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.

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

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

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Appearance</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid.</td>
<td></td>
</tr>
<tr>
<td>Colour</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Odour</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>Not available.</td>
<td></td>
</tr>
</tbody>
</table>

| Flammability (solid, gas) | Not applicable. | |
| Upper/lower flammability or explosive limits | Not available. | |

Flash point:

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Closed cup</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>°C</td>
<td>°F</td>
<td>Method</td>
<td>°C</td>
<td>°F</td>
</tr>
<tr>
<td>Edetic acid</td>
<td>&gt;100</td>
<td>&gt;212</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,4,7,9-Tetramethyldec-5-yne-4,7-diol, ethoxylated</td>
<td>&gt;110</td>
<td>&gt;230</td>
<td>DIN 51758</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Auto-ignition temperature:

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>°C</th>
<th>°F</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4,7,9-Tetramethyldec-5-yne-4,7-diol, ethoxylated</td>
<td>335 to 338</td>
<td>635 to 640.4</td>
<td></td>
</tr>
<tr>
<td>Edetic acid</td>
<td>&gt;400</td>
<td>&gt;752</td>
<td>VDI 2263</td>
</tr>
</tbody>
</table>

Decomposition temperature: Not available.

pH: Not available.

Viscosity: Not available.

Solubility(ies): Soluble in the following materials: cold water and hot water.

Miscible with water: Yes.

Partition coefficient: n-octanol/water: Not applicable.

Vapour pressure:

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Vapour Pressure at 20°C</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mm Hg</td>
<td>kPa</td>
<td>Method</td>
<td>mm Hg</td>
<td>kPa</td>
</tr>
<tr>
<td>Water</td>
<td>23.8</td>
<td>3.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,4,7,9-Tetramethyldec-5-yne-4,7-diol, ethoxylated</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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SECTION 9: Physical and chemical properties

- **Evaporation rate**: Not available.
- **Relative density**: Not available.
- **Vapour density**: Not available.
- **Oxidising properties**: Not available.
- **Particle characteristics**
  - **Median particle size**: Not applicable.

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
- No specific data.

10.5 Incompatible materials
- May react or be incompatible with oxidising 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>Dextran sulfate sodium</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>20600 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>3000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>2,4,7,9-Tetramethyldec-5-yne-4,7-diol, ethoxylated</td>
<td>LD50 Dermal</td>
<td>Rat - Male, Female</td>
<td>&gt;2000 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

**Acute toxicity estimates**

<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 (vapours) (mg/l)</th>
<th>Inhalation (dusts and mists) (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dextran sulfate sodium</td>
<td>20600</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>3000</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Irritation/Corrosion**

<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>Sodium chloride</td>
<td>Eyes - Moderate</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 100 mg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Moderate</td>
<td>Rabbit</td>
<td>-</td>
<td>10 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>
</tbody>
</table>

**Sensitiser**
- **Conclusion/Summary**: Not available.

**Mutagenicity**
- **Conclusion/Summary**: Not available.
SECTION 11: Toxicological information

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>Product/ingredient name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dextran sulfate sodium</td>
<td>Category 3</td>
<td>-</td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>

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 : May cause respiratory irritation.
Ingestion : No known significant effects or critical hazards.
Skin contact : Causes skin irritation.
Eye contact : Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : Adverse symptoms may include the following: respiratory tract irritation, coughing.
Ingestion : No specific data.
Skin contact : Adverse symptoms may include the following: irritation, redness.
Eye contact : Adverse symptoms may include the following: pain or irritation, watering, redness.

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

General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Reproductive toxicity : No known significant effects or critical hazards.
## 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>Sodium chloride</td>
<td>Acute EC50 4.74 g/L Fresh water</td>
<td>Algae - Chlamydomonas reinhardtii</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 519.6 mg/l Fresh water</td>
<td>Crustaceans - Cypris subglobosa</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 6.87 g/L Fresh water</td>
<td>Aquatic plants - Lemna minor</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 10 000 000 μg/l Fresh water</td>
<td>Fish - Morone saxatilis - Larvae</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic LC10 781 mg/l Fresh water</td>
<td>Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)</td>
<td>3 weeks</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 6 g/L Fresh water</td>
<td>Aquatic plants - Lemna minor</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 0.314 g/L Fresh water</td>
<td>Daphnia - Daphnia pulex</td>
<td>21 days</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 100 mg/l Fresh water</td>
<td>Fish - Gambusia holbrooki - Adult</td>
<td>8 weeks</td>
</tr>
<tr>
<td>2,4,7,9-Tetramethyldec-5-yne-4,7-diol, ethoxylated</td>
<td>Acute EC50 82 mg/l Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 91 mg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 42 mg/l Fresh water</td>
<td>Fish - Cyprinus carpio</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute NOEC 43 mg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute NOEC 10 mg/l Fresh water</td>
<td>Fish - Cyprinus carpio</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>chronic LC50 1000000 μg/l Fresh water</td>
<td>Fish - Cyprinus carpio</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute NOEC 10 mg/l Fresh water</td>
<td>Fish - Cyprinus carpio</td>
<td>96 hours</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>2,4,7,9-Tetramethyldec-5-yne-4,7-diol, ethoxylated</td>
<td>OECD 302B Inherent Biodegradability: Zahn-Wellens/ EMPA Test</td>
<td>6 % - Not readily - 28 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>2,4,7,9-Tetramethyldec-5-yne-4,7-diol, ethoxylated</td>
<td>1.8 to 2.5</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

### 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

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

### 12.6 Other adverse effects

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

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

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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

<table>
<thead>
<tr>
<th>14.1 UN number</th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
</table>

14.2 UN proper shipping name

- No indication.

14.3 Transport hazard class(es)

- No indication.

14.4 Packing group

- No indication.

14.5 Environmental hazards

No.

Additional information

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 IMO instruments: 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 authorisation

Annex 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
SECTION 15: Regulatory information

Label : Not applicable.

Other EU regulations

Ozone depleting substances (1005/2009/EU)
Not listed.

Prior Informed Consent (PIC) (649/2012/EU)
Not listed.

Persistent Organic Pollutants
Not listed.

Seveso Directive
This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals
Not listed.

Montreal Protocol
Not listed.

Stockholm Convention on Persistent Organic Pollutants
Not listed.

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

UNEP Aarhus Protocol on POPs and Heavy Metals
Not listed.

Inventory list

Australia : Not determined.
Canada : At least one component is not listed in DSL but all such components are listed in NDSL.
China : All components are listed or exempted.
Europe : All components are listed or exempted.
New Zealand : All components are listed or exempted.
Philippines : Not determined.
Republic of Korea : All components are listed or exempted.
Taiwan : All components are listed or exempted.
Thailand : Not determined.
Turkey : Not determined.
United States : All components are active or exempted.
Viet Nam : Not determined.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments might still be 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]
- DMEL = Derived Minimal Effect Level
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- N/A = Not available
- PBT = Persistent, Bioaccumulative and Toxic
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number
- vPvB = Very Persistent and Very Bioaccumulative

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

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Irrit. 2, H315</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Eye Irrit. 2, H319</td>
<td>Calculation method</td>
</tr>
<tr>
<td>STOT SE 3, H335</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

Full text of abbreviated H statements

- **H315**: Causes skin irritation.
- **H317**: May cause an allergic skin reaction.
- **H318**: Causes serious eye damage.
- **H319**: Causes serious eye irritation.
- **H335**: May cause respiratory irritation.
- **H412**: Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

<table>
<thead>
<tr>
<th>Aquatic Chronic 3</th>
<th>LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Dam. 1</td>
<td>SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1</td>
</tr>
<tr>
<td>Eye Irrit. 2</td>
<td>SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>SKIN CORROSION/IRRITATION - Category 2</td>
</tr>
<tr>
<td>Skin Sens. 1B</td>
<td>SKIN SENSITISATION - Category 1B</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3</td>
</tr>
</tbody>
</table>

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Date of previous issue : 22/03/2021
Version : 3.1

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