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

1.1. Product identifier:
- Product name: GLACIER COOLANT RTU G12++

1.2. Relevant identified uses of the substance or mixture and uses advised against:
- Relevant identified uses: Cooling fluid (antifreeze)
  Ready to use
- Uses advised against: Use only as antifreeze.

1.3. Details of the supplier of the Safety Data Sheet:
- Supplier: North Sea Lubricants B.V.
  Loenhorst 25
  2402 LV - Alphen aan de Rijn - Nederland
  Tel: +31 651345369
  E-mail: support@northsealubricants.com
  website: www.northsealubricants.com

1.4. Emergency telephone number:
- Phone number(s): +31 (0)786527652

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture:
- Classification according to Directive: Classified as dangerous under EC criteria.
  1999/45/EC
  R22: Harmful if swallowed.

2.2. Label elements:
- Hazard symbols
- Indications of danger: Xn: Harmful.
- Risk phrases: R22: Harmful if swallowed.
- Safety advices: S2: Keep out of the reach of children. - S46: If swallowed seek medical advice immediately and show this container or label.

2.3. Other hazards: Combustible material.

2.4 Other information: This mixture does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

SECTION 3: Composition/information on ingredients

3.2. Mixtures:
- Description of the mixture: Mixture of ethylene glycol, additives and water.
  This product is considered to be hazardous and contains hazardous components.
- Composition of the mixture:

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Contents</th>
<th>CAS No</th>
<th>EC No</th>
<th>Annex No</th>
<th>Ref REACH</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>40 - 60 %</td>
<td>7732-18-5</td>
<td>231-791-2</td>
<td>......</td>
<td>......</td>
<td>Not classified (DS/DPh)</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>40 - 60 %</td>
<td>107-21-1</td>
<td>203-473-3</td>
<td>603-027-00-1</td>
<td>......</td>
<td>Xn; R22</td>
</tr>
<tr>
<td>Sodium-2-ethylhexanoate</td>
<td>1 - 5 %</td>
<td>19766-89-3</td>
<td>243-283-8</td>
<td>......</td>
<td>......</td>
<td>Xn; R22</td>
</tr>
</tbody>
</table>

Other information: For full text of all R-phrases: see SECTION 16.
SECTION 4: First aid measures

General advice: In case of accident or if you feel unwell, seek medical advice immediately (show the label when possible).

4.1. Description of first aid measures:

• After inhalation: Remove the casualty to fresh air. Allow the victim to rest. In case of respiratory arrest, administer artificial respiration. If you feel unwell, seek medical advice.

• After contact with skin: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Seek medical attention if ill effect or irritation develops.

• After contact with the eyes: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Remove contact lenses, if present and easy to do. Continue rinsing.

• After ingestion: Rinse mouth. Do not induce vomiting. Seek medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed:

• After exposure: Symptoms of ingestion include drowsiness, weakness, headache, dizziness, nausea, vomiting.

4.3. Indication of any immediate medical attention and special treatment needed:

• After exposure: If swallowed, seek medical advice immediately and show this container or label.

SECTION 5: Firefighting measures

5.1. Extinguishing media:

• Suitable extinguishing media: Water spray. Carbon dioxide. Alcohol resistant foam. Dry chemical product.

• Unsuitable extinguishing media: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture:

• In the event of a fire: Under fire conditions, hazardous fumes will be present.

5.3. Advice for firefighters:

• Protective actions: Evacuate unnecessary personnel. Avoid fire-fighting water to enter environment.

• Special protective equipment for fire-fighters: Do not enter fire area without proper protective equipment, including respiratory protection. Wear self-contained breathing apparatus, rubber boots and thick rubber gloves.

• Surrounding fires: Use water spray or fog for cooling exposed containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures:

• For non-emergency personnel: Evacuate unnecessary personnel.

• For emergency responders: Equip cleanup crew with proper protection. Avoid contact with skin and eyes. Wear suitable protective clothing and gloves. Remove ignition sources.

6.2. Environmental precautions:

• In case of accidental spills: Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up:

• Appropriate containment techniques: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

• Appropriate clean-up procedures: Collect spills and put it into appropriated container. Clean up any spills as soon as possible, using an absorbent material to collect it.

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SECTION 6: Accidental release measures (continued)

6.4. Reference to other sections: See also sections 8 & 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling:

- Measures to prevent fire, aerosol and dust generation: Provide local exhaust or general room ventilation.
- Measures to protect the environment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
- Advice on general occupational hygiene: When using, do not eat, drink or smoke. Where contact with eyes or skin is likely, wear suitable protection.

7.2. Conditions for safe storage, including any incompatibilities:

- Technical protective measures: Local exhaust and general ventilation must be adequate to meet exposure standards.
- Conditions of storage: Store in tightly closed, properly ventilated areas away from heat, sparks, open flame. Do not store near oxidizing agents or acidic material. Keep at temperature not exceeding 50°C. Keep away from food, drink and animal feeding stuffs.
- Specific designs for storage rooms or vessels: Store in accordance with local, regional, national or international regulation.

7.3. Specific end use(s):

- Recommendations: See Product Data Sheet for detailed information.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters:

- Occupational exposure limit values:
  - EU: EH40 Workplace exposure limit. Long-term exposure limit (8-hour TWA reference period) Ethane-1,2-diol, vapour; 20 ppm - 52 mg/m³ (skin)
  - USA: The American Conference of Governmental Industrial hygienists (ACGIH) assigns ethylene glycol a ceiling limit value of 50 ppm (127 mg/m³), which should not be exceeded during any part of the working exposure. [ACGIH 1993].
- Biological limit values: No data available.

8.2. Exposure controls:

- Appropriate engineering controls: Provide adequate ventilation to minimize dust and/or vapour concentrations.
- Individual protection measures, such as personal protective equipment:
  - Eye / face protection: Chemical goggles or safety glasses.(EN 166)
  - Skin protection: Wear suitable protective clothing. (EN 465, EN 466 or EN 467).
  - Hand protection: Wear suitable gloves resistant to chemical penetration. (EN 374)
  - Respiratory protection: Use adequate ventilation to keep vapour concentrations below applicable standard.
- Environmental exposure controls:
  - Measures to prevent exposure: Avoid release to the environment. See Heading 6.
SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties:

- **Appearance:**
  - Physical state: Liquid.
  - Colour: Red.
- **Odour:** Characteristic
- **pH value:** @ 20°C (40% in water) 8.2
- **Density @ 15°C (ASTM-D4052):** 1085 kg/m³
- **Solubility(ies):** Complete.

9.2. Other information: See Product Data Sheet for detailed information.

SECTION 10: Stability and reactivity

10.1 Reactivity: Stable under normal conditions.
10.2 Chemical stability: Stable under normal conditions.
10.3 Possibility of hazardous reactions:
  - Reacts with: Strong oxidizers. Strong bases.
10.4 Conditions to avoid: Extremely high or low temperatures.
10.5 Incompatible materials: Flammable materials. Acids.
10.6 Hazardous decomposition products: Toxic gases. Aldehydes, ketones.

SECTION 11: Toxicological information

11.1. Information on toxicological effects:

- **Acute toxicity:** No specific toxicity data on this product available.
- **Irritation:** Irritating to eyes and respiratory system.
- **Corrosivity:** No adverse health effects were noted.
- **Sensitisation:** No sensitization effects known.
- **Carcinogenicity:** This material or its emissions may cause damage to kidney and liver and/or aggravate existing disorders.
- **Mutagenicity:** Not expected to be mutagenetic.
- **Toxicity for reproduction:** Not expected to be toxic.

11.2. Information on likely routes of exposure:

- **After ingestion:** Ingestion may cause nausea, vomiting and diarrhoea.
- **After inhalation:** Inhalation of vapours may cause respiratory irritation.
- **After skincontact:** Not expected to present a significant skin hazard under anticipated conditions of normal use.
- **After eyecontact:** Contact with the eyes is likely to be irritating.

11.3. Symptoms related to the physical, chemical and toxicological characteristics:

- **General:** No adverse symptoms/effects were noted.

11.4. Delayed and immediate effects as well as chronic effects from short and long-term exposure:

- **General:** Substance may cause effects on the kidneys and central nervous system, resulting in renal failure and brain injury. Exposure could cause lowering of consciousness.

11.5. Other toxicological information:

- **General:** This product contains ethylene glycol (EG). EG is normally low toxicity by inhalation or skin contact at room temperature. The oral lethal dose for an adult is estimated at about 100 cc. Ethylene glycol oxidizes to oxalic acid with deposition of calciumoxalatokristallen due, especially in the brains and kidneys. The first signs and symptoms of an EG-poisoning resemble those of alcohol intoxication. In a next
SECTION 11: Toxicological information (continued)

stage, nausea, vomiting, abdominal and muscle pain, difficulty breathing and decreased urine output were observed. Chronic exposure to vapors of heated above 100°C EG were unconscious, an increased number of lymphocytes and a rapid jerky movement of the eyes observed.

SECTION 12: Ecological information

12.1. Toxicity:
- Acute (short-term) toxicity: No specific toxicity data on this product available.
- Chronic (long-term) toxicity: No specific toxicity data on this product available.

12.2. Persistence and degradability:
- Biodegradation: Biodegradable.

12.3. Bioaccumulative potential:
- Partition coefficient n-octanol/water (log Kow): No data available.
- Bioconcentration factor (BCF): No data available.

12.4. Mobility in soil: No data 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: None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods:
- Waste disposal: Dispose of this material and its container at hazardous or special waste collection point. Dispose in a safe manner in accordance with local/national regulations. See Directive 2001/118/EC.
- Waste Code European Waste List: 16 01 14 - antifreeze fluids containing dangerous substances. 15 01 10 - packaging containing residues of or contaminated by dangerous substances.

SECTION 14: Transport information

Not classified.

SECTION 15: Regulatory information

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

15.1.1 National regulations:
- Germany: Water Hazard Class: 1 - slightly hazardous to water

15.1.2 International Regulations:
- Europe: All components listed in the European Inventory of Existing Commercial Chemical Substances (EINECS)
- Australia: All components are in compliance with chemical notification requirements in Australia. (AICS)
SECTION 15: Regulatory information (continued)

- **Canada**: All components are in compliance with the Canadian Environmental Protection Act (CEPA) and are present on the Domestic Substances List.
- **USA**: All components of this material are on the US Toxic Substances Control Act (TSCA) inventory or are exempt.

15.2. Chemical safety assessment: No chemical safety assessment has been carried out for this mixture.

SECTION 16: Other information

- **Abbreviations and acronyms**:
  - ACGIH = American Conference of Industrial Hygienists
  - CAS = Chemical Abstract Service Number
  - CLP = Classification and Labelling of Substances and Preparations
  - EC = European Commission
  - EN = European Norm
  - EU = European Union
  - REACH = Registration Evaluation Authorisation and Restriction of Chemical substances.
  - TLV = Threshold Limit Value
  - TWA = Time Weighted Average

- **Key literature references and sources for data**: See information supplied by the manufacturer. ICSC: 0270
- **List of relevant R-phrases**
  - R22: Harmful if swallowed.
  - R63: Possible risk of harm to the unborn child.
- **Training advice**: See Product Data Sheet for detailed information.


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