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Section 5 Fire Fighting Measures

- **Extinguishing Media**
  - **Suitable Extinguishing Media**
    - Dry chemical, carbon dioxide or alcohol-resistant foam.
  - **Unsuitable Extinguishing Media**
    - Do not use a solid water stream as it may scatter or spread fire.

- **Specific Hazards Arising from the Substance or Mixture**
  - Will form explosive mixtures with air.
  - Be exposed containers may emit contents through pressure relief valves thereby increasing fire intensity and/or vapour concentration.
  - Spontaneous ignition and/or flash back.
  - Liquid and vapour are flammable.
  - Containers may explode when heated.
  - Fire exposed containers may emit contents through pressure relief valves.
  - May expansion or decompose explosively when heated or involved in fire.

- **Advice for Firefighters**
  - In an fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and protective gear.
  - Light a safe distance, with adequate cover.
  - Prevent fire extinguishing water from contaminating surface water or the ground water system.

Section 6 Accidental Release Measures

- **Personal Precautions, Protective Equipment and Emergency Procedures**
  - Avoid breathing vapors and contacting with skin and eye.
  - Ensure vapors accumulate to form explosive concentrations.
  - Vapors can accumulate in low areas.
  - Emergency personnel wear positive pressure self-contained breathing apparatus. Wear protective and anti-static clothing. Wear chemical impermeable gloves.
  - Ensure adequate ventilation. Remove all sources of ignition.
  - Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
  - Use personal protective equipment. Avoid breathing vapors, mist, gas or dust.

- **Environmental Precautions**

Section 7 Handling and Storage

- **Precautions for Handling**
  1. Avoid inhalation of vapors.
  2. Use only non-sparking tools.
  3. To prevent fire caused by electrostatic discharge steam equipment on all metal parts should be grounded.
  4. Use explosion-proof equipment.
  5. Handling is performed in a well ventilated place.
  6. Wear suitable protective equipment.
  7. Avoid contact with skin and eyes.
  8. Keep away from heat/sparks/open flames/ hot surfaces.
  9. Take precautionary measures against static discharges.

- **Precautions for Storage**
  1. Keep containers tightly closed.
  2. Keep containers in a cool, dry and well-ventilated place.
  3. Keep away from heat/sparks/open flames/ hot surfaces.
  4. Store away from incompatible materials and foodstuff containers.

Section 8 Exposure Controls/Personal Protection

- **Control Parameters**
  - **Occupational Exposure Limit Values**
    - **Component**
    - **Country/Region**
    - **Limit Value - Eight Hours**
    - **Limit Value - Short Term**

    - **Ethanol**
      - USA - OSHA: 1000 ppm, 1000 mg/m³
      - South Korea: 1000 ppm, 1000 mg/m³
      - Ireland: 1000 ppm, 1000 mg/m³
      - Germany (AGS): 1000 ppm, 1000 mg/m³
      - Denmark: 1000 ppm, 1000 mg/m³
      - Australia: 1000 ppm, 1000 mg/m³
      - Switzerland: 5 ppm, 5 mg/m³
      - Sweden: 0.8 ppm, 2 ppm
      - Ireland: 5 ppm, 5 mg/m³

- **Other Information**

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Section 9 Physical and Chemical Properties

Appearance: Colourless transparent liquid
Odor Threshold: No information available
Melting Point/Freezing Point (°C): No information available
Flash Point (°C) Closed Cup: 21
Flammability: Not applicable
Vapor Pressure (KPa): No information available
Relative Density (Water = 1): No information available
Octanol/Water Partition Coefficient: No information available
Decomposition Temperature (°C): No information available
Particle characteristics: Not applicable

毒性: 难以确定

Section 10 Stability and Reactivity

Reactivity: Contact with incompatible substances can cause decomposition or other chemical reactions.

毒性: 难以确定

Section 11 Toxicological Information

Acute Toxicity

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>LD50 (Oral)</th>
<th>LD50 (Dermal)</th>
<th>LC50 (Inhalation, 4h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrylic acid Polymers</td>
<td>9003-01-4</td>
<td>2500 mg/kg (Rat)</td>
<td>No information available</td>
<td>No information available</td>
</tr>
<tr>
<td>Tetrabrom</td>
<td>102-71-6</td>
<td>546 mg/kg (Rat)</td>
<td>No information available</td>
<td>No information available</td>
</tr>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>7060 mg/kg (Rat)</td>
<td>No information available</td>
<td>57 mg/l (Mouse)</td>
</tr>
</tbody>
</table>

Skin Corrosion/ Irritation
No information available

Serious Eye Damage/Irritation
No information available

Skin Sensitization
No information available

Respiratory Sensitization
No information available

Genotoxicity
No information available

Carcinogenicity

<table>
<thead>
<tr>
<th>ID</th>
<th>CAS No.</th>
<th>Component</th>
<th>IARC</th>
<th>NTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>64-17-5</td>
<td>Ethanol</td>
<td>Category 1</td>
<td>Not Listed</td>
</tr>
<tr>
<td>2</td>
<td>9003-01-4</td>
<td>Acrylic acid Polymers</td>
<td>Category 3</td>
<td>Not Listed</td>
</tr>
<tr>
<td>3</td>
<td>102-71-6</td>
<td>Tetrabrom</td>
<td>Category 3</td>
<td>Not Listed</td>
</tr>
<tr>
<td>4</td>
<td>7712-18-5</td>
<td>Water</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

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Section 12 Ecological Information

- Acute Aquatic Toxicity
  - Component: CAS No. 102-71-6
  - Fish LC50: 11800mg/L (96hr)
  - Crustaceans EC50: 410mg/L (48hr)
  - Algae No information available

- Chronic Aquatic Toxicity
  - No information available

- Others
  - Persistence and Degradability: No information available
  - Bioaccumulative Potential: No information available
  - Mobility in Soil: No information available

- Results of PBT and vPvB Assessment
  - Toluene does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.
  - Acrylonitrile Polymer does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.

Section 13 Disposal Considerations

- Waste Chemicals
  - Before disposal should refer to the relevant national and local laws and regulations. Recommend the use of incineration disposal.

- Contaminated Packaging
  - Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible.

Section 14 Transport Information

- Transporting Label
  - None

- UN Number
  - 1170

- UN Proper Shipping Name
  - ETHYL ALCOHOL SOLUTION (ETHYL ALCOHOL SOLUTION)

- Transport Hazard Class
  - 3

- Packing Group
  - II

Section 15 Regulatory Information

- International Chemical Inventory
  - Component
    - Ethyl Alcohol: TSCA, BRL, IECS, NZIoC, PICCS, KECI, AICS, ENCIS
  - Toluene: TSCA, BRL, IECS, NZIoC, PICCS, KECI, AICS, ENCIS

- Notes
  - "X" indicates that the substance included in the regulations
  - "*" That no data or included in the regulations

Section 16 Additional Information

- Creation Date: 2020/03/04
- Revision Date: 2020/03/04
- Reason for Revision: -
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