1. Identification of the substance/preparation and of the company/undertaking

Product name: Crosslinker J604
Product code: J604
Company Identification: Schlumberger Oilfield Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
256 St. Georges Terrace, Perth WA 6000
Telephone Number 1-800-039-008 (24hr)
Use of the Substance/Preparation:
Used as a fracturing additive in oilfield applications.

2. Hazards Identification

Indication of danger T - Toxic.
Most Important Hazards
R-phrase(s): May impair fertility May cause harm to the unborn child Also toxic if swallowed
S-phrase(s): S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible) S53 - Avoid exposure - obtain special instructions before use.
Environmental hazard None known.

3. Composition/information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>EC-No.</th>
<th>Weight % - range</th>
<th>Classification (67/548)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>Listed</td>
<td></td>
<td>30-60</td>
<td>-</td>
</tr>
<tr>
<td>Ethane-1,2-diol</td>
<td>107-21-1</td>
<td>203-473-3</td>
<td>15-40</td>
<td>Xn; R22</td>
</tr>
<tr>
<td>Sodium tetraborate</td>
<td>1330-43-4</td>
<td>215-540-4</td>
<td>1- 5</td>
<td>Repr.Cat.2; R60-61</td>
</tr>
</tbody>
</table>

4. First aid measures

Inhalation
If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.
Skin contact: Wash off immediately with soap and plenty of water. Seek medical attention if irritation occurs.

Eye contact: Remove contact lenses. Immediately flush eye(s) with plenty of water. Seek medical attention.

Ingestion: Do NOT induce vomiting. Do not give anything by mouth to an unconscious person. If vomiting occurs spontaneously, minimize the risk of aspiration by properly positioning the affected person. Seek medical attention at once.

5. Fire-fighting measures

Suitable extinguishing media: Use extinguishing media appropriate for surrounding material. Water Fog, Alcohol Foam, CO2, Dry Chemical.

Extinguishing media which must not be used for safety reasons: None known.

Special protective equipment for firefighters: Wear protective fire fighting clothing and avoid breathing vapors. Use self-contained breathing apparatus in closed areas.

6. Accidental release measures

Personal precautions: Avoid contact with skin, eyes and inhalation of vapours. Wear suitable protective equipment. For personal protection see section 8.

Environmental precautions: The product should not be allowed to enter drains, water courses or the soil. Should not be released into the environment.

Methods for cleaning up: Dam up. Put into suitable containers for disposal. After cleaning, flush away traces with water.

7. Handling and Storage

Handling: Use only in area provided with appropriate exhaust ventilation. Keep airborne concentrations below exposure limits.
Safe handling advice: Wear suitable protective equipment. See also section 8. Avoid contact with skin and eyes. Avoid spills and splashing during use. Slick when wet.

Storage

Technical measures/Storage conditions: Store in well ventilated area out of direct sunlight.

Packaging requirements: Steel or high density polyethylene (HDPE) container.

Incompatible products: Oxidizing agents

8. Exposure controls/ personal protection

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

Engineering measures to reduce exposure: Control the source, Ensure adequate ventilation

Respiratory protection: No personal respiratory protective equipment normally required. In case of insufficient ventilation, wear suitable respiratory equipment. Use respirator with inorganic vapor/acid gas protection (E, yellow).

Hand protection Impervious gloves Rubber or plastic gloves

Eye protection Safety glasses with side-shields.

Skin and body protection Wear appropriate personal protective clothing to prevent skin contact. Eye wash and emergency shower must be available at the work place.

Environmental exposure controls

Exposure limit(s)

<table>
<thead>
<tr>
<th>Component</th>
<th>Australia - Occupational Exposure Standards - TWAs</th>
<th>Australia - Occupational Exposure Standards - STELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>Ethane-1,2-diol</td>
<td>10 mg/m³ TWA</td>
<td>40 ppm STEL</td>
</tr>
<tr>
<td></td>
<td>20 ppm TWA</td>
<td>104 mg/m³ STEL</td>
</tr>
<tr>
<td></td>
<td>52 mg/m³ TWA</td>
<td></td>
</tr>
<tr>
<td>Sodium tetraborate</td>
<td>1 mg/m³ TWA</td>
<td>none</td>
</tr>
</tbody>
</table>

9. Physical and chemical properties
General information

Physical State: Liquid
Odour: None
Colour: milky white

Important health, safety and environmental information

pH: neutral.
Boiling point/range: No data available
Flash Point: Does not flash.

Explosive properties:
- Explosion data - sensitivity to mechanical impact: None
- Explosion data - sensitivity to static discharge: None

Flammability limits in air
- lower: Not applicable
- upper: Not applicable

Oxidizing properties: None
Relative density: 1.35-1.39 (@ 24°C/75°F)
Bulk density: Not applicable

Solubility:
- Water solubility: dispersible
- Fat solubility: No information available

Partition coefficient (n-octanol/water): Not applicable
Viscosity: No data available
Vapor density: No data available
Vapor pressure: No data available
Evaporation Rate: No data available

Other information

Melting point/range: ~ -34

10. Stability and reactivity

Stability: Stable under recommended storage conditions.

Conditions to Avoid: Exposure to UV-rays.

Materials to avoid: Oxidizing agents

Hazardous decomposition products: When heated strongly or burned, oxides of carbon and harmful organic chemical fumes are released.

Hazardous polymerization: Hazardous polymerisation does not occur.

11. Toxicological information

Local effects

Skin: Harmful if absorbed through the skin; may cause illness.
Ecotoxicity

Component Information

Water

Bioaccumulation: not applicable
Persistence and degradability: not applicable

Ethane-1,2-diol

Bioaccumulation: Does not bioaccumulate
Persistence and degradability: READILY BIODEGRADABLE
Freshwater fish species data
6500 - 13000 mg/L EC50 (Pseudokirchneriella subcapitata) = 96 h

Freshwater fish species data
40761 mg/L LC50 (Oncorhynchus mykiss) = 96 h
40000 - 60000 mg/L LC50 (Pimephales promelas) = 96 h
16000 mg/L LC50 (Poecilia reticulata) = 96 h
27540 mg/L LC50 (Lepomis macrochirus) = 96 h
14 - 18 mL/L LC50 (Oncorhynchus mykiss) = 96 h
41000 mg/L LC50 (Oncorhynchus mykiss) = 96 h

Water flea data
46300 mg/L EC50 (Daphnia magna) = 48 h

Sodium tetraborate

Bioaccumulation: not applicable
Persistence and degradability: not applicable

12. Ecological Information
13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: Dispose of as special waste in compliance with local and national regulations

Contaminated packaging: Empty containers should be transported/delivered using a registered waste carrier for local recycling or waste disposal

14. Transport information

UN number: Not classified as dangerous in the meaning of transport regulations
Shipping name: Not regulated

ADR/RID
  Class: Not regulated

IMDG/IMO:
  Class or Div.: Not regulated

ICAO/IATA
  Class or Div.: Not regulated

15. REGULATORY INFORMATION

In accordance with the criteria of NOHSC

Indication of danger
• T - Toxic

R-phrase(s):
• R60 - May impair fertility
• R61 - May cause harm to the unborn child
• R25 - Also toxic if swallowed
S-phrase(s):
• S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
• S53 - Avoid exposure - obtain special instructions before use.

International inventories

| Australia (AICS) | Complies |

16. Other information

Text of R phrases mentioned in Section 3
• R22 - Harmful if swallowed
• R61 - May cause harm to the unborn child
• R60 - May impair fertility
• R25 - Also toxic if swallowed

Prepared by: Chemical Regulatory Compliance

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End of Safety Data Sheet