1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product Code: B317
Product Name: Scale Inhibitor B317
Company Identification: Schlumberger Technology Corporation
110 Schlumberger Drive
Sugar Land, Texas 77478, USA
Telephone: 1-281-285-7873
Emergency Telephone Number: USA: +1-281-595-3518 (24hr)

2. HAZARDS IDENTIFICATION

Principle routes of exposure:
- Eye contact.
- Skin contact.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight % - Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trisodium ortho phosphate</td>
<td>7601-54-9</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Ethane-1,2-diol</td>
<td>107-21-1</td>
<td>1 - 5</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Eye contact: Immediately flush eyes with water for 5 minutes while holding eyelids open. Seek medical attention if irritation occurs.

Skin contact: Rinse with water. If symptoms persist, call a physician.

Ingestion: Do not induce vomiting without medical advice. Obtain medical attention.

Inhalation: Move to fresh air in case of accidental inhalation of vapors. Consult a physician if necessary.

5. FIRE-FIGHTING MEASURES

Flash point: >100 °C / >212 °F
Method: Pensky-Martens CC
Autoignition temperature: No data available.
Flammability limits in air:
   Lower: No information available.
   Upper: No information available.
Oxidizing properties: No data available

Suitable extinguishing media:
Use extinguishing media appropriate for surrounding material.

Extinguishing media which must not be used for safety reasons:
Not applicable.

Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases:
Carbon oxides.

Special protective equipment for firefighters:
Wear self-contained breathing apparatus and protective suit.

NFPA rating:

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>1</td>
</tr>
<tr>
<td>Flammability</td>
<td>0</td>
</tr>
<tr>
<td>Instability</td>
<td>0</td>
</tr>
<tr>
<td>Special</td>
<td>None</td>
</tr>
</tbody>
</table>

6. ACCIDENTAL RELEASE MEASURES

Main physical hazards: No classified physical hazards.
Personal precautions: Avoid contact with skin and eyes. Wear suitable protective equipment.
Methods for cleaning up: Dam up. Put into suitable containers for disposal.
Environmental precautions: Prevent product from entering drains. Prevent entry into sewage.

7. HANDLING AND STORAGE

Handling:
Precautions: Avoid contact with the skin and the eyes. Wear suitable protective equipment. Keep container tightly closed.
Safe handling advice: Wear suitable protective equipment.
Technical measures/
storage conditions: Keep away from direct sunlight. Keep container tightly closed.
Packaging requirements: Keep in properly labelled containers.
Incompatible products: No information available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures
to reduce exposure: Control the source. Enclosure of the process. Other suitable methods.
Hygiene measures: Avoid prolonged or repeated contact with skin. Wear suitable protective equipment.
Respiratory protection: None normally needed
Eye protection: Tightly fitting safety goggles.
Skin and body protection: Chemical resistant apron.
### Occupational Exposure Limits

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH - TLVs</th>
<th>OSHA - PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TWA / Ceiling</td>
<td>STEL</td>
</tr>
<tr>
<td>Trisodium ortho phosphate</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Ethane-1,2-diol</td>
<td>100 mg/m³ C</td>
<td></td>
</tr>
</tbody>
</table>

**Particles Not Otherwise Regulated/Specified [PNOR or PNOS] (insoluble or poorly soluble):**
- OSHA PEL’s for Inert or Nuisance Dust are covered by PNOR limits: respirable fraction: 5 mg/m³, total dust 15 mg/m³.
- ACGIH PNOS Recommendations: airborne concentrations should be kept below 3 mg/m³, respirable particulate, and 10 mg/m³, inhalable particles.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Form:** Liquid
**Color:** Clear to hazy yellow
**Odor:** None
**Odor threshold:** No information available.
**pH:** 4
**Boiling point/range:** No data available.
**Flash point:** >100 °C / >212 °F
**Method:** Pensky-Martens CC.
**Flammability limits in air:**
  - Lower: No information available.
  - Upper: No information available.
**Bulk density:** Not applicable.
**Melting point/range:** No data available.
**Decomposition temperature:** No data available.
**Solubility:**
  - Water solubility: Soluble.
  - Fat solubility: No information available.
**Partition coefficient (n-octanol/water):** Not applicable.
**Relative density:** No information available
**Vapor pressure:** Similar to water.
**Vapor density:** No data available.
**Viscosity:** No data available.
**Evaporation rate:** Similar to water.
**% Volatile (VOC):** No data available.

### 10. STABILITY AND REACTIVITY

**Stability:**
Stable under recommended storage conditions.

**Conditions to avoid:**
Freezing.

**Incompatibility with other substances:**
None known.

**Hazardous decomposition products:**
Carbon oxides.
11. TOXICOLOGICAL INFORMATION

PRODUCT TOXICOLOGICAL INFORMATION

Information given is based on data on the components and the toxicology of similar products.

Acute Health Hazard

**Eye contact:** May be mildly irritating.
**Skin contact:** Prolonged skin contact may cause skin irritation.
**Ingestion:** Swallowing large amounts may be harmful.
**Inhalation:** No effect expected.
**Sensitization - lung:** Not known to cause allergic reaction.
**Sensitization - skin:** Not known to cause allergic reaction.

Chronic Health Hazard

**Carcinogenic effects:** Not listed by IARC, USA NTP, or USA OSHA.
**Mutagenic effects:** See COMPONENT TOXICOLOGICAL INFORMATION below.
**Teratogenic effects:** Not known to cause birth defects or have a deleterious effect on a developing fetus.
**Reproductive toxicity:** Not known to adversely affect reproductive functions and organs.
**Target organ effects:** See COMPONENT TOXICOLOGICAL INFORMATION below.

COMPONENT TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Component</th>
<th>Target Organ Effects</th>
<th>LD50 / LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trisodium ortho phosphate</td>
<td>-</td>
<td>&gt; 2000 mg/kg (Oral LD50; Rat)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>= 2.16 mg/L (Inhalation LC50; Rat) 1 h</td>
</tr>
<tr>
<td></td>
<td></td>
<td>= 2 mg/kg (Dermal LD50; Rabbit)</td>
</tr>
<tr>
<td>Ethane-1,2-diol</td>
<td>respiratory system, skin, eyes, CNS</td>
<td>= 4000 mg/kg (Oral LD50; Rat)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>= 9530 µL/kg (Dermal LD50; Rabbit)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>IARC Group 1 or 2:</th>
<th>ACGIH - Carcinogens:</th>
<th>OSHA Listed Carcinogens</th>
<th>NTP:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trisodium ortho phosphate</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ethane-1,2-diol</td>
<td>-</td>
<td>A4 - Not Classifiable as a Human Carcinogen (aerosol)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

OTHER TOXICOLOGICAL INFORMATION

**Ethane-1,2-diol**
Mutagen - somatic cells. Long term exposure by inhalation in controlled animal studies showed sense organ effect, especially eyes, with corneal damage. Large oral doses caused liver, kidney, ureter and bladder effects in animal studies. Fetotoxic and teratogenic effects observed in controlled animal studies. Skin sensitivity: two cases of sensitization to ethylene glycol in occupational setting have been reported. Central nervous system (CNS) depressant.

12. ECOLOGICAL INFORMATION

PRODUCT INFORMATION
COMPONENT INFORMATION

Ethane-1,2-diol

- **Bioaccumulation:** Does not bioaccumulate
- **Persistence / degradability:** Readily biodegradable.

**Freshwater Fish Species Data**
- EC₅₀ 96 h (Selenastrum capricornutum) = 6500 - 13000 mg/L

**Water Flea Data**
- EC₅₀ 48 h (water flea) = 46300 mg/L

- **Other information:** Listed on PLONOR list of OSPAR

13. DISPOSAL CONSIDERATIONS

**Waste from residues / unused products:**
Dispose of in accordance with local regulations.

**Contaminated packaging:**
If reusable containers are used, send them back to the product supplier, after the required rinsing.

**EPA RCRA Hazardous Waste Code:**
None

14. TRANSPORT INFORMATION

**DOT:**
- **CERCLA RQ:** None
- **Hazard class:** Not regulated.
- **Proper shipping name:** Not regulated
- **Label(s):** None required.

**IMDG/IMO**
- **Shipping name:** Not regulated.
- **UN number:** None

**ICAO/IATA**
- **Shipping name:** Not regulated.
- **UN number:** None

**TDG (Canada):**
- **Shipping name:** Not regulated.
- **PIN:** None
Note 1:
For the applicable placard selection refer to the appropriate transport regulations; the selection may vary depending on the cargo size and categories of other hazardous materials in the cargo.

## 15. REGULATORY INFORMATION

### International Chemical Inventories

- **USA, Toxic Substances Control Act inventory (TSCA):** This product complies with TSCA requirements.
- **Canada, Domestic Substance List (DSL):** This product complies with DSL requirements.

### U.S.A. Regulations

- **OSHA Hazard Communication Standard:** (Complies with USA OSHA 29 CFR 1910.1200 and ANSI Z 400.1)
- **EPA RCRA Hazardous Waste Code:** None
- **EPA, Sections 311 and 312 - Material Safety Data Sheet Requirements (40 CFR 370):**
  - Immediate (Acute) Health Hazard: None
  - Delayed (Chronic) Health Hazard: None
  - Fire Hazard: None
  - Sudden Release or Pressure Hazard: None
  - Reactive Hazard: None

### EPA, Sections 313 - List of Toxic Chemicals (40 CFR 372):
This product contains the following substance(s), which appear(s) on the List of Toxic Chemicals:

### Additional Regulatory Information

- **Trisodium ortho phosphate**
  - **EPA, CERCLA Section 102a/103 Hazardous Substances (40 CFR 302.4):** None
  - **CERCLA/SARA - Hazardous Substances and their RQs:** 2270 kg final RQ 5000 lb final RQ
  - **EPA, SARA TITLE III Section 304, Extremely Hazardous Substances (40 CFR 355.40):** None
  - **California Proposition 65:** None

- **Ethane-1,2-diol**
  - **EPA, CERCLA Section 102a/103 Hazardous Substances (40 CFR 302.4):** Listed
  - **CERCLA/SARA - Hazardous Substances and their RQs:** 2270 kg final RQ 5000 lb final RQ
  - **EPA, SARA TITLE III Section 304, Extremely Hazardous Substances (40 CFR 355.40):** None
  - **California Proposition 65:** None

### International Hazard Class

- **WHMIS Hazard Class:**
  - Non-controlled product.
16. OTHER INFORMATION

Current references:
1. Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices. 
   American Conference of Governmental Industrial Hygienists, Cincinnati OH.
   Services, Public Health Service.
4. NIOSH Registry of Toxic Effects of Chemical Substances (RTECS). National Institute for Occupational safety 
   and Health. Cincinnati, OH.
5. LOLI Database.

Explanation of terms:
ACGIH: American Conference of Governmental Industrial Hygienist
ACGIH-TL: Threshold Limit Value
DSL: Domestic Substance List
HMIRC: Hazardous Materials Information Review Commission
IARC: International Agency for Research on Cancer
NTP: National Toxicology Program
NIOSH: National Institute of Occupational Safety & Health
NIOSH-REL: Recommended Exposure Limit
OSHA: Occupational Safety & Health Administration
OSHA-PEL: Permissible Exposure Limit
TSCA: Toxic Substance Control Act (Inventory)

Occupational Exposure Limits indicators: TWA - Time Weighted Average; STEL - Short Term Limit; C - Ceiling
Limit [units: [mg/m³]]

ACGIH Notations:
“Skin” refers to the potential significant contribution to the overall exposure by the cutaneous route, including
mucous membranes and the eyes, either by contact with vapors or by direct skin contact with the substance.
“A” notation indicates carcinogenicity as follows:
ACGIH classification: A1 - Confirmed Human Carcinogen; A2 - Suspected Human Carcinogen; A3 - Confirmed
Animal Carcinogen with Unknown Relevance to Humans; A4 - Not Classifiable as a Human Carcinogen; A5 - Not
suspected as a Human Carcinogen.
“SEN” refers to the potential for an agent to produce sensitization as confirmed by human and animal data.

Section(s) revised: 2, 4, 11

Prepared by: Chemical Regulatory Compliance (CRC)

Revision date: 18 August 2010

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End of the Material Safety Data Sheet