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

Product code: J579
Product name: Proppant Transport Additive J579
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

Main physical hazards: No classified physical hazards.
Main health hazards: No classifiable hazards known. May cause mechanical irritation. Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.
Main environmental hazards: None known.
Other Information: Dust.
Precautions: Keep away from heat, sparks, and flame. Avoid dust formation. Incompatible with oxidizing agents.

EMERGENCY OVERVIEW

Form: Fibers
Color: Off-white
Odor: None

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %- Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synthetic organic polymer</td>
<td>Proprietary</td>
<td>60-100</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

General advice: Consult a physician if necessary.
Eye contact: Rinse with water. Seek medical attention if irritation occurs.
Skin contact: Wash off with soap and water.
Ingestion: Rinse mouth. Never give anything by mouth to an unconscious person.
Inhalation: Move to fresh air.
5. FIRE-FIGHTING MEASURES

Fire hazard: Combustible material.
Flash point: Not applicable.
Autoignition temperature: No data available.
Flammability limits in air:
  Lower: Not applicable
  Upper: Not applicable
Oxidizing properties: None.

Suitable extinguishing media: Compatible with all types.

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

Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases:
Thermal decomposition can lead to release of irritating gases and vapors.

Special protective equipment for firefighters: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

NFPA rating:
  Health: 1
  Flammability: 1
  Instability: 0
  Special: None

6. ACCIDENTAL RELEASE MEASURES

Main physical hazards: No classified physical hazards.
Other Information: Dust.
Personal precautions: Wear suitable protective equipment.
Methods for cleaning up: Sweep up and shovel into suitable containers for disposal.
Environmental precautions: Keep out of waterways.

7. HANDLING AND STORAGE

Handling:
  Precautions: Keep away from heat, sparks, and flame. Avoid dust formation.
  Incompatible with oxidizing agents.
  Safe handling advice: Wear suitable protective equipment.
  Technical measures/
  storage conditions: No special storage conditions required.
  Packaging requirements: Polyethylene bag or drum with polyethylene liner.
  Incompatible products: Oxidizing agents.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure: Control the source.
Hygiene measures: Exercise reasonable care and cleanliness.
Respiratory protection: If dust or mist is generated use NIOSH approved respirator with dust and mist protection (3M 8210).

Eye protection: It is good practice to wear goggles when handling any chemical.

Hand protection: Cotton gloves.

Skin and body protection: No special precautions required.

### 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>Synthetic organic polymer</td>
<td>-</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

- **Chemical characterization:** Synthetic polymer.
- **Fire hazard:** Combustible material.
- **Form:** Fibers
- **Color:** Off-white
- **Odor:** None
  - **Odor threshold:** No information available.
- **pH:** Not applicable.
- **Boiling point/range:** Not applicable.
- **Flash point:** Not applicable.
- **Flammability limits in air:**
  - **Lower:** Not applicable
  - **Upper:** Not applicable
- **Bulk density:** Not applicable.
- **Melting point/range:** Decomposes
- **Decomposition temperature:** > 242 °C / 468 °F
- **Solubility:**
  - **Water solubility:** Insoluble
  - **Fat solubility:** Insoluble.
- **Partition coefficient (n-octanol/water):** Not applicable.
- **Relative density:** 1.2 (@ 25°C)
- **Vapor pressure:** Not applicable.
- **Vapor density:** Not applicable.
- **Viscosity:** Not applicable.
- **Evaporation rate:** Not applicable.
- **% Volatile (VOC):** None.

### 10. STABILITY AND REACTIVITY

- **Stability:** Stable.

- **Conditions to avoid:** Keep away from heat, sparks, and flame.
Incompatibility with other substances:
None known.

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

Hazardous polymerization:
Hazardous polymerization does not occur.

Other Information:
Dust.

11. TOXICOLOGICAL INFORMATION

PRODUCT TOXICOLOGICAL INFORMATION

Acute Health Hazard

Eye contact: May cause mechanical irritation.
Skin contact: May cause mechanical irritation.
Ingestion: This is an unlikely route of exposure. May cause mechanical irritation.
Inhalation: Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.
Sensitization - lung: Not known to cause allergic reaction.
Sensitization - skin: Not known to cause allergic reaction.
Toxicologically synergistic products: None known.

Chronic Health Hazard

Carcinogenic effects: None known.
Mutagenic effects: None known.
Teratogenic effects: None known.
Reproductive toxicity: None known.
Target organ effects: None known.

COMPONENT TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Component</th>
<th>Target Organ Effects</th>
<th>LD50 / LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synthetic organic polymer</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>IARC Group 1 or 2: ACGIH - Carcinogens:</th>
<th>OSHA Listed Carcinogens</th>
<th>NTP:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synthetic organic polymer</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

PRODUCT INFORMATION

Main environmental hazards: None known.
COMPONENT INFORMATION

Synthetic organic polymer

| Bioaccumulation: | Not likely to bioaccumulate because of high molecular weight |
| Persistence / degradability: | Partially biodegradable. |
| Crustacean toxicity: | 48h LC50 = >195 mg/l (Acartia tonsa) |

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products:
Dispose of by sanitary landfilling or other acceptable method in accordance with local regulations.

Contaminated packaging:
Dispose of in accordance with local regulations. Send empty bags to sanitary landfill. Render other types of containers unuseable by puncturing or crushing and sanitary landfill unless prohibited by local regulations.

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.

IMPORTS, USA: No import volume restrictions.

Canada, Domestic Substance List (DSL): This product complies with DSL requirements.

IMPORTS, Canada: No import volume restrictions.

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

Synthetic organic polymer

EPA, CERCLA Section 102a/103 Hazardous Substances (40 CFR 302.4): None
CERCLA/SARA - Hazardous Substances and their RQs: None
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.
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/m^3]

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: 8
Prepared by: Chemical Regulatory Compliance (CRC)
Revision date: 17 April 2010

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End of the Material Safety Data Sheet