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

### Product information

<table>
<thead>
<tr>
<th>Product Name</th>
<th>ForSField™ SG-11H hardener</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>1117079, 1116117, 1116116</td>
</tr>
</tbody>
</table>

### Use

Coatings

### Company

Chevron Phillips Chemical Company LP  
10001 Six Pines Drive  
The Woodlands, TX 77380

### Emergency telephone:

**Health:**  
866.442.9628 (North America)  
1.832.813.4984 (International)

**Transport:**  
CHEMTREC 800.424.9300 or 703.527.3887(int'l)  
Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090  
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
Mexico CHEMTREC 01-800-681-9531 (24 hours)  
South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600  
Argentina: +(54)-1159839431

### Responsible Department

Product Safety and Toxicology Group

### E-mail address

SDS@CPChem.com

### Website

www.CPChem.com

This product is for experimental uses only. The product has not been completely analyzed and all of the hazards may not be known. Please use caution while handling this product.

## SECTION 2: Hazards identification

### Classification of the substance or mixture

This product has been classified in accordance with the hazard communication standard 29 CFR 1910.1200; the SDS and labels contain all the information as required by the standard.

**Classification**

- Skin corrosion, Category 1B  
- Serious eye damage, Category 1  
- Skin sensitization, Category 1

**Labeling**

SDS Number:100000013997
Symbol(s): 

Signal Word: Danger

Hazard Statements:  
H314: Causes severe skin burns and eye damage.  
H317: May cause an allergic skin reaction.

Precautionary Statements:  
Prevention:  
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.  
P264 Wash skin thoroughly after handling.  
P272 Contaminated work clothing must not be allowed out of the workplace.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
Response:  
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P304 + P340 + P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.  
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P363 Wash contaminated clothing before reuse.  
Storage:  
P405 Store locked up.  
Disposal:  
P501 Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity:  
IARC  
No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.  
NTP  
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

This product is for experimental uses only. The product has not been completely analyzed and all of the hazards may not be known. Please use caution while handling this product.

SECTION 3: Composition/information on ingredients  
Synonyms: polyamide - polyamide blend
ForSField™ SG-11H hardener

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<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amine terminated polyamide oligomer</td>
<td>Proprietary</td>
<td>40 - 70</td>
</tr>
<tr>
<td>Natural oil-derived fatty alcohol</td>
<td>Proprietary</td>
<td>0 - 5</td>
</tr>
<tr>
<td>meta-Xylenediamine</td>
<td>1477-55-0</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Trisubstituted phenol</td>
<td>Proprietary</td>
<td>0 - 5</td>
</tr>
<tr>
<td>Disubstituted phenol</td>
<td>Proprietary</td>
<td>0 - 1</td>
</tr>
</tbody>
</table>

This product is for experimental uses only. The product has not been completely analyzed and all of the hazards may not be known. Please use caution while handling this product.

SECTION 4: First aid measures

This product is for experimental uses only. The product has not been completely analyzed and all of the hazards may not be known. Please use caution while handling this product.

General advice: Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance.

If inhaled: If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.

In case of skin contact: Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact: Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

If swallowed: Keep respiratory tract clear. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

SECTION 5: Firefighting measures

Flash point: 134 °C (273 °F)
Method: ASTM D 93

Unsuitable extinguishing media: High volume water jet.

Specific hazards during firefighting: Do not allow run-off from fire fighting to enter drains or water courses.

Special protective equipment for fire-fighters: Wear self-contained breathing apparatus for firefighting if necessary.

Further information: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SDS Number: 100000013997
Fire and explosion protection
This product is for experimental uses only. The product has not been completely analyzed and all of the hazards may not be known. Please use caution while handling this product.

SECTION 6: Accidental release measures

Personal precautions: Use personal protective equipment. Avoid dust formation. Avoid breathing dust.

Environmental precautions: Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods for cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

This product is for experimental uses only. The product has not been completely analyzed and all of the hazards may not be known. Please use caution while handling this product.

SECTION 7: Handling and storage

This product is for experimental uses only. The product has not been completely analyzed and all of the hazards may not be known. Please use caution while handling this product.

Handling

Advice on safe handling: Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. WARNING! For industrial/commercial use only. Mixture, use and application of the ForSField™ SG-11R epoxy resin with the ForSField™ SG-11H hardener must be performed by trained personnel only. Equipment used must include an appropriate plural component sprayer. Employ appropriate ventilation, and do not mix the epoxy resin with the hardener in a confined space. Avoid breathing fumes. Do not dispose of the mixed epoxy until the reaction is completed and the mixed epoxy has cooled.

HEAT WARNING! Curing epoxy generates significant heat. Never handmix the ForSField™ SG-11R epoxy resin with the ForSField™ SG-11H hardener. Doing so will generate significant heat and the combined materials may reach temperatures which can cause severe burns to skin, melt plastic and foam, and ignite combustible materials (potentially as much as 300°F or higher). Do not mix the epoxy resin with the hardener in containers made of materials such as plastic, foam or glass. If a container of mixed epoxy resin and hardener starts to exotherm (heat up) take precautions to move the container to a safe location.
Advice on protection against fire and explosion: Normal measures for preventive fire protection.

Storage:
Requirements for storage areas and containers: Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

SECTION 8: Exposure controls/personal protection

Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Basis</th>
<th>Value</th>
<th>Control parameters</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>meta-Xylenediamine</td>
<td>ACGIH</td>
<td>C</td>
<td>0.1 mg/m³</td>
<td>eye ir, skin ir, GI irr, Skin.</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>C</td>
<td>0.1 mg/m³</td>
<td>X</td>
</tr>
</tbody>
</table>

**Engineering measures**
Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the workplace when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

**Personal protective equipment**

Respiratory protection: Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as: Air-Purifying Respirator for Dusts and Mists. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.

Hand protection: The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
ForSField™ SG-11H hardener

Eye protection : Eye wash bottle with pure water.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate: Remove and wash contaminated clothing before re-use. Skin should be washed after contact. Complete head face and neck protection. Rubber apron. Footwear protecting against chemicals.

Hygiene measures : When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

This product is for experimental uses only. The product has not been completely analyzed and all of the hazards may not be known. Please use caution while handling this product.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance
Form : Liquid, Mist
Physical state : Liquid
Color : Yellow, Amber

Safety data
Flash point : 134 °C (273 °F)
Method: ASTM D 93
Thermal decomposition : No data available
Boiling point/boiling range : > 110 °C (> 230 °F)
Density : 8.2 L/G

This product is for experimental uses only. The product has not been completely analyzed and all of the hazards may not be known. Please use caution while handling this product.

SECTION 10: Stability and reactivity

This product is for experimental uses only. The product has not been completely analyzed and all of the hazards may not be known. Please use caution while handling this product.

Chemical stability : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Possibility of hazardous reactions
Conditions to avoid : No data available.
Thermal decomposition : No data available

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ForSField™ SG-11H hardener

SECTION 11: Toxicological information

This product is for experimental uses only. The product has not been completely analyzed and all of the hazards may not be known. Please use caution while handling this product.

ForSField™ SG-11H hardener
Acute oral toxicity: Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

ForSField™ SG-11H hardener
Acute inhalation toxicity: Acute toxicity estimate: > 10 mg/l
Test atmosphere: dust/mist
Method: Calculation method

ForSField™ SG-11H hardener
Acute dermal toxicity: Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

ForSField™ SG-11H hardener
Skin irritation: Extremely corrosive and destructive to tissue.

ForSField™ SG-11H hardener
Eye irritation: May cause irreversible eye damage.

ForSField™ SG-11H hardener
Sensitization: Causes sensitization.

ForSField™ SG-11H hardener
Further information: No data available.

SECTION 12: Ecological information

This product is for experimental uses only. The product has not been completely analyzed and all of the hazards may not be known. Please use caution while handling this product.

Toxicity to fish

Natural oil-derived fatty alcohol: LL50: > 1,000 mg/l
Exposure time: 96 h
Species: Cyprinodon variegatus (sheephead minnow)
static test Method: OECD Test Guideline 203
Information given is based on data obtained from similar substances.

meta-Xylenediamine: LC50: 87.6 mg/l
Exposure time: 96 h
Species: Oryzias latipes (Orange-red killifish)
semi-static test Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates

Amine terminated polyamide: EC50: 4.79 mg/l
**ForSField™ SG-11H hardener**

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Revision Date 2017-07-11

<table>
<thead>
<tr>
<th>Substance</th>
<th>Effect</th>
<th>Concentration</th>
<th>Exposure time</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>oligomer</td>
<td></td>
<td></td>
<td>48 h</td>
<td>Daphnia pulex (Water flea)</td>
<td>QSAR modeled data</td>
</tr>
<tr>
<td>Natural oil-derived fatty alcohol</td>
<td>EL50: &gt; 1,000 mg/l</td>
<td></td>
<td>48 h</td>
<td>Acartia tonsa (Marine Copepod)</td>
<td>ISO 14669 and PARCOM method</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Information given is based on data obtained from similar substances.</td>
</tr>
<tr>
<td>meta-Xylenediamine</td>
<td>EC50: 35.1 mg/l</td>
<td></td>
<td>48 h</td>
<td>Daphnia magna (Water flea)</td>
<td>OECD Test Guideline 202</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Toxicity to algae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural oil-derived fatty alcohol</td>
<td>ErL50: 1,300 mg/l</td>
<td></td>
<td>72 h</td>
<td>Skeletonema costatum (marine diatom)</td>
<td>Growth inhibition Method: ISO 10253</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Information given is based on data obtained from similar substances.</td>
</tr>
<tr>
<td>meta-Xylenediamine</td>
<td>ErC50: 33.3 mg/l</td>
<td></td>
<td>72 h</td>
<td>Pseudokirchneriella subcapitata (green algae)</td>
<td>OECD Test Guideline 201</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trisubstituted phenol</td>
<td>84 mg/l</td>
<td></td>
<td>72 h</td>
<td>Desmodesmus subspicatus (green algae)</td>
<td>OECD Test Guideline 201</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Harmful to algae.</td>
</tr>
<tr>
<td>Disubstituted phenol</td>
<td>84 mg/l</td>
<td></td>
<td>72 h</td>
<td>Desmodesmus subspicatus (green algae)</td>
<td>OECD Test Guideline 201</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Harmful to algae.</td>
</tr>
<tr>
<td><strong>Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>meta-Xylenediamine</td>
<td>NOEC: 4.70 mg/l</td>
<td></td>
<td>21 d</td>
<td>Daphnia magna (Water flea)</td>
<td>OECD Test Guideline 211</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>semi-static test</td>
<td></td>
</tr>
</tbody>
</table>

**Biodegradability**

SDS Number: 100000013997  
8/13
Amine terminated polyamide oligomer: This material is not expected to be readily biodegradable.
Natural oil-derived fatty alcohol: Result: Readily biodegradable.
   96 %
   Testing period: 28 d
   Method: OECD Test Guideline 301D

meta-Xylenediamine: aerobic
   Result: Not readily biodegradable.
   49 %
   Testing period: 28 d
   Method: OECD Test Guideline 301B

Trisubstituted phenol: aerobic
   Result: Not readily biodegradable.
   4 %
   Testing period: 28 d
   Method: OECD Test Guideline 301D

Disubstituted phenol: This material is not expected to be readily biodegradable.

Information given is based on data obtained from similar substances.

Ecotoxicology Assessment

Acute aquatic toxicity
Amine terminated polyamide oligomer: Toxic to aquatic life.
meta-Xylenediamine: Harmful to aquatic life.
Trisubstituted phenol: Harmful to aquatic life.
Disubstituted phenol: Harmful to aquatic life.

Chronic aquatic toxicity
Amine terminated polyamide oligomer: Toxic to aquatic life with long lasting effects.
meta-Xylenediamine: Harmful to aquatic life with long lasting effects.
Trisubstituted phenol: Harmful to aquatic life with long lasting effects.
Disubstituted phenol: Harmful to aquatic life with long lasting effects.

Results of PBT assessment
Natural oil-derived fatty alcohol: Non-classified PBT substance, Non-classified vPvB substance
Trisubstituted phenol: Non-classified PBT substance, Non-classified vPvB substance
Additional ecological information: Toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

The information in this SDS pertains only to the product as shipped.
Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

Product : The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

This product is for experimental uses only. The product has not been completely analyzed and all of the hazards may not be known. Please use caution while handling this product.

SECTION 14: Transport information

The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the SDS and the bill of lading.

US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)
UN1760, CORROSIVE LIQUIDS, N.O.S., (TRISUBSTITUTED PHENOL, META-XYLENEDIAMINE), 8, II

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)
UN1760, CORROSIVE LIQUID, N.O.S., (TRISUBSTITUTED PHENOL, META-XYLENEDIAMINE), 8, II, (134 °C), MARINE POLLUTANT, (AMINE TERMINATED POLYAMIDE Oligomer)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)
UN1760, CORROSIVE LIQUID, N.O.S., (TRISUBSTITUTED PHENOL, META-XYLENEDIAMINE), 8, II

ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))
UN1760, CORROSIVE LIQUID, N.O.S., (TRISUBSTITUTED PHENOL, META-XYLENEDIAMINE), 8, II, (E), ENVIRONMENTALLY HAZARDOUS, (AMINE TERMINATED POLYAMIDE OLIGOMER)

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))
UN1760, CORROSIVE LIQUID, N.O.S., (TRISUBSTITUTED PHENOL, META-XYLENEDIAMINE), 8, II, ENVIRONMENTALLY HAZARDOUS, (AMINE TERMINATED POLYAMIDE OLIGOMER)

ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE)
SDS Number:100000013997 10/13
OF DANGEROUS GOODS BY INLAND WATERWAYS)
UN1760, CORROSIVE LIQUID, N.O.S., (TRISUBSTITUTED PHENOL, META-
XYLENEDIAMINE), 8, II, ENVIRONMENTALLY HAZARDOUS, (AMINE TERMINATED
POLYAMIDE OLIGOMER)

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information

National legislation

SARA 311/312 Hazards : Acute Health Hazard

CERCLA Reportable Quantity : This material does not contain any components with a CERCLA RQ.

SARA 302 Reportable Quantity : This material does not contain any components with a SARA 302 RQ.

SARA 302 Threshold Planning Quantity : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 304 Reportable Quantity : This material does not contain any components with a section 304 EHS RQ.

SARA 313 Ingredients : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

Ozone-Depletion Potential : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

**US State Regulations**

Pennsylvania Right To Know

: meta-Xylenediamine - 1477-55-0

New Jersey Right To Know

: meta-Xylenediamine - 1477-55-0

California Prop. 65 Ingredients

: This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

**Notification status**

Europe REACH

: Not in compliance with the inventory

United States of America (USA) TSCA

: On TSCA Inventory This product is subject to a Significant New Use Rule (SNUR) under Section 5(a) of TSCA.

Canada NDSL

: This product contains one or several components listed in the Canadian NDSL.

Australia AICS

: Not in compliance with the inventory

New Zealand NZIoC

: Not in compliance with the inventory

Japan ENCS

: Not in compliance with the inventory

Korea KECI

: Not in compliance with the inventory

Philippines PICCS

: Not in compliance with the inventory

China IECSC

: On the inventory, or in compliance with the inventory

This product is for experimental uses only. The product has not been completely analyzed and all of the hazards may not be known. Please use caution while handling this product.

**SECTION 16: Other information**

This product is for experimental uses only. The product has not been completely analyzed and all of the hazards may not be known. Please use caution while handling this product.

**NFPA Classification**

: Health Hazard: 3

: Fire Hazard: 1

: Reactivity Hazard: 0

**Further information**

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.
The information in this SDS pertains only to the product as shipped. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

### Key or legend to abbreviations and acronyms used in the safety data sheet

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Government Industrial Hygienists</td>
</tr>
<tr>
<td>AICS</td>
<td>Australia, Inventory of Chemical Substances</td>
</tr>
<tr>
<td>DSL</td>
<td>Canada, Domestic Substances List</td>
</tr>
<tr>
<td>NDSL</td>
<td>Canada, Non-Domestic Substances List</td>
</tr>
<tr>
<td>CNS</td>
<td>Central Nervous System</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstract Service</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration 50%</td>
</tr>
<tr>
<td>EOSCA</td>
<td>European Oilfield Specialty Chemicals Association</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Chemical Substances</td>
</tr>
<tr>
<td>MAK</td>
<td>Germany Maximum Concentration Values</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized System</td>
</tr>
<tr>
<td>&gt;=</td>
<td>Greater Than or Equal To</td>
</tr>
<tr>
<td>IC50</td>
<td>Inhibition Concentration 50%</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>IECSC</td>
<td>Inventory of Existing Chemical Substances in China</td>
</tr>
<tr>
<td>ENCS</td>
<td>Japan, Inventory of Existing and New Chemical Substances</td>
</tr>
<tr>
<td>KECI</td>
<td>Korea, Existing Chemical Inventory</td>
</tr>
<tr>
<td>&lt;=</td>
<td>Less Than or Equal To</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal Concentration 50%</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal Dose 50%</td>
</tr>
<tr>
<td>LOAEL</td>
<td>Lowest Observed Adverse Effect Level</td>
</tr>
<tr>
<td>NFPA</td>
<td>National Fire Protection Agency</td>
</tr>
<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety &amp; Health</td>
</tr>
<tr>
<td>NTP</td>
<td>National Toxicology Program</td>
</tr>
<tr>
<td>NZIoC</td>
<td>New Zealand Inventory of Chemicals</td>
</tr>
<tr>
<td>NOAEL</td>
<td>No Observable Adverse Effect Level</td>
</tr>
<tr>
<td>NOEC</td>
<td>No Observed Effect Concentration</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety &amp; Health Administration</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>PICCS</td>
<td>Philippines Inventory of Commercial Chemical Substances</td>
</tr>
<tr>
<td>PRNT</td>
<td>Presumed Not Toxic</td>
</tr>
<tr>
<td>RCRA</td>
<td>Resource Conservation Recovery Act</td>
</tr>
<tr>
<td>STEL</td>
<td>Short-term Exposure Limit</td>
</tr>
<tr>
<td>SARA</td>
<td>Superfund Amendments and Reauthorization Act.</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>TWA</td>
<td>Time Weighted Average</td>
</tr>
<tr>
<td>TSCA</td>
<td>Toxic Substance Control Act</td>
</tr>
<tr>
<td>UVCB</td>
<td>Unknown or Variable Composition, Complex Reaction Products, and Biological Materials</td>
</tr>
<tr>
<td>WHMIS</td>
<td>Workplace Hazardous Materials Information System</td>
</tr>
</tbody>
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