ForSField™ SG-11H hardener

Version 1.3 Revision Date 2020-11-17

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

Product information

Product Name	:	ForSField™ SG-11H hardener
Material	:	1122877, 1117079, 1116117, 1116116
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 irritation, Category 2
Serious eye damage, Category 1
Skin sensitization, Category 1

Labeling

Symbol(s) :

Signal Word : Danger

Hazard Statements : H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H318: Causes serious eye damage.

Precautionary Statements : **Prevention:**
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
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.
P362 Take off contaminated clothing and wash before reuse.

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.

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SECTION 3: Composition/information on ingredients

Synonyms : polyamide - polyamide blend

Component	CAS-No.	Weight %
Amine terminated polyamide oligomer	Proprietary	40 - 70
Natural oil-derived fatty alcohol	Proprietary	0 - 5
Trisubstituted phenol	Proprietary	0 - 5
meta-Xylenediamine	1477-55-0	0 - 1
Disubstituted phenol	Proprietary	0 - 1

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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	:	If skin irritation persists, call a physician. 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. 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 fire fighting	:	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.
Fire and explosion protection	:	Normal measures for preventive fire protection.

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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.

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SECTION 7: Handling and storage

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Handling

Advice on safe handling : 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. Electrical installations / working materials must comply with the technological safety standards.

Use : Coatings

SECTION 8: Exposure controls/personal protection

Ingredients with workplace control parameters

US

Components	Basis	Value	Control parameters	Note
Tetraethylenepentamine	US WEEL	TWA	5 mg/m3	DSEN,
meta-Xylenediamine	ACGIH	C	0.018 ppm,	Skin,
	OSHA Z-1-A	C	0.1 mg/m3	X,

DSEN Dermal Sensitization Notation
Skin Danger of cutaneous absorption
X Skin notation

Engineering measures

Adequate ventilation to control airborned 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 work place 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:. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, aerosolization, 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.

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.

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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

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SECTION 10: Stability and reactivity

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Reactivity : Stable under recommended storage conditions.

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

Possibility of hazardous reactions

Hazardous reactions : Further information: No decomposition if stored and applied as directed.

Conditions to avoid : No data available.

Thermal decomposition : No data available

Other data : No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

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ForSField™ SG-11H hardener

Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

Acute inhalation toxicity

Natural oil-derived fatty alcohol	:	No data available
Trisubstituted phenol		No data available
meta-Xylenediamine		LC50: 1.34 mg/l Exposure time: 4 h Species: Rat Sex: male and female Test atmosphere: dust/mist Method: OECD Test Guideline 403

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

ForSField™ SG-11H hardener
Skin irritation : Skin irritation

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

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Toxicity to fish

Natural oil-derived fatty alcohol	:	LL50: > 1,000 mg/l Exposure time: 96 h Species: Cyprinodon variegatus (sheepshead minnow) static test Method: OECD Test Guideline 203 Information given is based on data obtained from similar substances.
Trisubstituted phenol		LC50: > 100 mg/l Exposure time: 96 h Species: Cyprinus carpio (Carp) static test Method: OECD Test Guideline 203
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 oligomer	:	EC50: 4.79 mg/l Exposure time: 48 h Species: Daphnia pulex (Water flea) Method: QSAR modeled data
Natural oil-derived fatty alcohol		EL50: > 1,000 mg/l Exposure time: 48 h Species: Acartia tonsa (Marine Copepod) static test Method: ISO 14669 and PARCOM method Information given is based on data obtained from similar substances.
Trisubstituted phenol		EC50: > 100 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) static test Method: OECD Test Guideline 202
meta-Xylenediamine		EC50: 35.1 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) static test Method: OECD Test Guideline 202

Toxicity to algae

Natural oil-derived fatty alcohol	:	ErL50: 1,300 mg/l Exposure time: 72 h Species: Skeletonema costatum (marine diatom) Growth inhibition Method: ISO 10253 Information given is based on data obtained from similar substances.
Trisubstituted phenol		ErC50: 46.7 mg/l Exposure time: 72 h Species: Desmodesmus subspicatus (green algae) static test Method: OECD Test Guideline 201 Harmful to algae.
meta-Xylenediamine		ErC50: 33.3 mg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata (green algae) Growth inhibition Method: OECD Test Guideline 201 EbC50: 20.3 mg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata (green algae) Growth inhibition Method: OECD Test Guideline 201
Disubstituted phenol		84 mg/l Exposure time: 72 h Species: Desmodesmus subspicatus (green algae) static test Method: OECD Test Guideline 201 Harmful to algae.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

meta-Xylenediamine	:	NOEC: 4.70 mg/l

Exposure time: 21 d
Species: Daphnia magna (Water flea)
semi-static test
Method: OECD Test Guideline 211

Biodegradability

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
Trisubstituted phenol	:	aerobic Result: Not readily biodegradable. 4 % 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
Disubstituted phenol	:	This material is not expected to be readily biodegradable. Information given is based on data obtained from similar substances.

Bioaccumulation

Trisubstituted phenol	:	This material is not expected to bioaccumulate.

Mobility

Trisubstituted phenol	:	After release, disperses through ground water.

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.

Ecotoxicology Assessment

Short-term (acute) aquatic hazard

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

Long-term (chronic) aquatic hazard

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

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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)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (AMINE TERMINATED POLYAMIDE OLIGOMER), 9, III, (134°C), MARINE POLLUTANT, (AMINE TERMINATED POLYAMIDE OLIGOMER)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (AMINE

TERMINATED POLYAMIDE OLIGOMER), 9, III

ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))
UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (AMINE TERMINATED POLYAMIDE OLIGOMER), 9, III

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))
UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (AMINE TERMINATED POLYAMIDE OLIGOMER), 9, III

ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)
UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (AMINE TERMINATED POLYAMIDE OLIGOMER), 9, III

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	:	Respiratory or skin sensitization Skin corrosion or irritation Serious eye damage or eye irritation
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	:	This material does not contain any components with a section 302 EHS TPQ.
SARA 304 Reportable Quantity	:	This material does not contain any components with a section 304 EHS RQ.
SARA 313 Components	:	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).

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. This product is subject to Export Notification requirement under Section 12(b) of TSCA.
Canada DSL	:	This product contains one or several components that are not on the Canadian DSL nor 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	:	Not in compliance with the inventory
Taiwan TCSI	:	Not in compliance with the inventory

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SECTION 16: Other information

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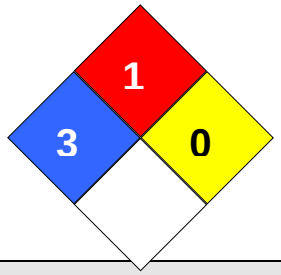
NFPA Classification : Health Hazard: 3
Fire Hazard: 1
Reactivity Hazard: 0



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