

**ForSField™ SG-11R epoxy resin**

Version 1.4

Revision Date 2020-11-19

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

Product Name : ForSField™ SG-11R epoxy resin
Material : 1122878, 1117080, 1116119, 1116118

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

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
Eye irritation, Category 2A
Skin sensitization, Category 1
Germ cell mutagenicity, Category 2

Labeling

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- Symbol(s) : 
- Signal Word : Warning
- Hazard Statements : H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H341: Suspected of causing genetic defects.
- Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
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:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity:**IARC**

Group 2B: Possibly carcinogenic to humans

Titanium Dioxide 13463-67-7

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.

SECTION 3: Composition/information on ingredients

Component	CAS-No.	Weight %
Epoxy Phenol Novolac	28064-14-4	30 - 60
Aluminum Oxide	1344-28-1	25 - 35
o-Cresol Glycidyl Ether	2210-79-9	5 - 15

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Titanium Dioxide

13463-67-7

0.1 - 3

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SECTION 4: First aid measures

- General advice : Move out of dangerous area. 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 : Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
- If swallowed : Do not induce vomiting without medical advice. 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 : >93°C (>200°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.

SECTION 6: Accidental release measures

- Personal precautions : Use personal protective equipment.
- 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.

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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**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. 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.

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SECTION 8: Exposure controls/personal protection**Ingredients with workplace control parameters****US**

Components	Basis	Value	Control parameters	Note
Aluminum Oxide	OSHA Z-1	TWA	15 mg/m3	total dust
	OSHA Z-1	TWA	5 mg/m3	respirable fraction
	OSHA Z-1-A	TWA	10 mg/m3	Total dust
	OSHA Z-1-A	TWA	5 mg/m3	respirable dust fraction
Titanium Dioxide	ACGIH	TWA	1 mg/m3	A4, Respirable particulate matter
	OSHA Z-1	TWA	15 mg/m3	total dust
	OSHA Z-1-A	TWA	10 mg/m3	Total dust
	ACGIH	TWA	10 mg/m3	A4,

A4 Not classifiable as a human carcinogen

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 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: Air-Purifying Respirator for Organic Vapors. 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. Tightly fitting safety goggles.
- Skin and body protection** : Choose body protection according to the amount and concentration of the dangerous substance at the work place. Wear as appropriate: Personal protection through wearing a tightly closed chemical protection suit and a self-contained breathing apparatus. Remove and wash contaminated clothing before re-use. Footwear protecting against chemicals. Skin should be washed after contact.
- Hygiene measures** : When using do not eat or drink. When using do not smoke.

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Wash hands before breaks and at the end of workday.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties****Appearance**

Form : viscous
 Physical state : liquid
 Color : White
 Odor : Mild

Safety data

Flash point : >93°C (>200°F)
 Method: ASTM D 93

Lower explosion limit : No data available

Upper explosion limit : No data available

Thermal decomposition : No data available

Molecular weight : Not applicable

pH : Not applicable

Melting point/range : No data available

Pour point : No data available

Vapor pressure : < 2.00 MMHG
 at 20°C (68°F)

Density : 12.37 L/G

Water solubility : negligible

SECTION 10: Stability and reactivity

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.

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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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Acute oral toxicity : No data available

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Acute inhalation toxicity : No data available

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Acute dermal toxicity : No data available

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Skin irritation : Irritating to skin.

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Eye irritation : Irritating to eyes.

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Sensitization : Causes sensitization.

Genotoxicity in vitro

Aluminum Oxide : Test Type: Ames test
Metabolic activation: with and without metabolic activation
Result: negative

CMR effects

o-Cresol Glycidyl Ether : Mutagenicity: In vitro tests showed mutagenic effects

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Further information : No data available.

SECTION 12: Ecological information

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Toxicity to fish

Aluminum Oxide : NOEC: > 100 mg/l
Exposure time: 96 h

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Species: *Salmo salar* (Atlantic salmon)
 Method: OECD Test Guideline 203

o-Cresol Glycidyl Ether LC50: 2.8 - 5.1 mg/l
 Exposure time: 96 h
 Species: *Salmo gairdneri* (Rainbow trout)
 static test Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates

Aluminum Oxide : EC50: > 100 mg/l
 Exposure time: 48 h
 Species: *Daphnia magna* (Water flea)
 Method: OECD Test Guideline 202

o-Cresol Glycidyl Ether EC50: 2.8 mg/l
 Exposure time: 48 h
 Species: *Daphnia magna* (Water flea)
 static test Method: OECD Test Guideline 202

Toxicity to algae

Aluminum Oxide : NOEC: > 100 mg/l
 Exposure time: 72 h
 Species: *Selenastrum capricornutum* (algae)
 Method: OECD Test Guideline 201

o-Cresol Glycidyl Ether 5.1 mg/l
 Exposure time: 72 h
 Species: *Pseudokirchneriella subcapitata* (microalgae)
 Growth inhibition Method: OECD Test Guideline 201

Biodegradability : Taking into consideration the properties of several ingredients,
 the product is estimated not to be readily biodegradable
 according to OECD classification.

Elimination information (persistence and degradability)
 Additional ecological : Toxic to aquatic life with long lasting effects.
 information

Ecotoxicology Assessment

Short-term (acute) aquatic hazard
 Epoxy Phenol Novolac : Toxic to aquatic life.

o-Cresol Glycidyl Ether : Toxic to aquatic life.

Long-term (chronic) aquatic hazard
 Epoxy Phenol Novolac : Toxic to aquatic life with long lasting effects.

o-Cresol Glycidyl Ether : Toxic to aquatic life with long lasting effects.

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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)

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., (EPOXY PHENOL NOVOLAC), 9, III, (>93°C), MARINE POLLUTANT, (EPOXY PHENOL NOVOLAC)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (EPOXY PHENOL NOVOLAC), 9, III

ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (EPOXY PHENOL NOVOLAC), 9, III, ENVIRONMENTALLY HAZARDOUS, (EPOXY PHENOL NOVOLAC)

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (EPOXY PHENOL NOVOLAC), 9, III, ENVIRONMENTALLY HAZARDOUS, (EPOXY PHENOL NOVOLAC)

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ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (EPOXY PHENOL NOVOLAC), 9, III, ENVIRONMENTALLY HAZARDOUS, (EPOXY PHENOL NOVOLAC)

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
 Germ cell mutagenicity
 Skin corrosion or irritation
 Serious eye damage or eye irritation

EPCRA - EMERGENCY PLANNING COMMUNITY RIGHT - TO - KNOW

CERCLA Reportable Quantity : Calculated RQ exceeds reasonably attainable upper limit.
 1,3-Butadiene

SARA 302 Reportable Quantity : Calculated RQ exceeds reasonably attainable upper limit.
 Epichlorohydrin
 Acrylonitrile

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

This material does not contain any components with a section 302 EHS TPQ.

SARA 304 Reportable Quantity : Calculated RQ exceeds reasonably attainable upper limit.
 Epichlorohydrin 106-89-8 100 lbs
 Acrylonitrile 107-13-1 100 lbs

SARA 313 Components : The following components are subject to reporting levels established by SARA Title III, Section 313:

: Aluminum Oxide - 1344-28-1

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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).

US State Regulations

Pennsylvania Right To Know

: Epoxy Phenol Novolac - 28064-14-4
 Aluminum Oxide - 1344-28-1
 o-Cresol Glycidyl Ether - 2210-79-9
 Dioxotitanium -

California Prop. 65 Components

: WARNING: This product can expose you to chemicals including [listed below], which is [are] known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov/food.

Titanium Dioxide	13463-67-7
Epichlorohydrin	106-89-8
Acrylonitrile	107-13-1
Styrene	100-42-5
1,3-Butadiene	106-99-0

WARNING: This product can expose you to chemicals including [listed below], which is [are] known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Epichlorohydrin	106-89-8
1,3-Butadiene	106-99-0

Notification status

Europe REACH	: Not in compliance with the inventory
United States of America (USA) TSCA	: On or in compliance with the active portion of the TSCA inventory
Canada DSL	: All components of this product are on the Canadian DSL
Australia AICS	: On the inventory, or in compliance with the inventory
New Zealand NZIoC	: Not in compliance with the inventory
Japan ENCS	: Not in compliance with the inventory

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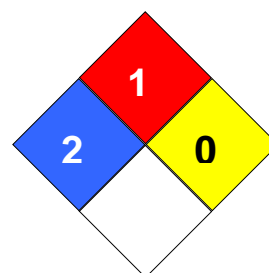
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Korea KECI	:	A substance(s) in this product was not registered, notified to be registered, or exempted from registration by CPChem according to K-REACH regulations. Importation or manufacture of this product is still permitted provided the Korean Importer of Record has themselves notified the substance or the exported amount does not exceed the minimum threshold quantity of the non-registered substance(s).
China IECSC	:	On the inventory, or in compliance with the inventory
Taiwan TCSI	:	Not in compliance with the inventory
Philippines PICCS	:	On the inventory, or in compliance with the inventory

SECTION 16: Other information

NFPA Classification : Health Hazard: 2
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	PRNT	Presumed Not Toxic

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	Values		
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%		