


**ForSField™ G-121R epoxy resin**

Version 1.1

Revision Date 2022-10-20

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

Product Name : ForSField™ G-121R epoxy resin  
 Material : 1122875, 1121345, 1121343, 1121342

**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  
 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  
 EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
 Austria: VIZ +43 1 406 43 43 (24 hours/day, 7 days/week)  
 Belgium: 070 245 245 (24 hours/day, 7 days/week)  
 Bulgaria: +359 2 9154 233  
 Croatia: +3851 2348 342 (24 hours/day, 7 days/week)  
 Cyprus: 1401  
 Czech Republic: Toxicological Information Center +420 224 919 293, +420 224 915 402  
 Denmark: Danish Poison Center (Gifflinjen): +45 8212 1212  
 Estonia: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
 Finland: 0800 147 111 09 471 977 (24 hours/day)  
 France: ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (24 hours/day, 7 days/week)  
 Germany: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
 Greece: (0030) 2107793777 (24 hours/day, 7 days/week)  
 Hungary: +36-80-201-199 (24 hours/day, 7 days/week)  
 Iceland: 543 2222 (24 hours/day, 7 days/week)  
 Ireland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
 Italy: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
 Latvia: State Fire and Rescue Service, phone number: 112; Toxicology and Sepsis Clinic  
 Poisoning and Drug Information Center, Hipokrāta 2, Riga, Latvia, LV-1038, phone number +371  
 67042473. (24 hours.)  
 Liechtenstein: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
 Lithuania: +370 (85) 2362052

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Luxembourg: (+352) 8002 5500 (24 hours/day, 7 days/week)  
 Malta: +356 2395 2000  
 The Netherlands: NVIC: +31 (0)88 755 8000  
 Norway: 22 59 13 00 (24 hours/day, 7 days/week)  
 Poland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
 Portugal: CIAV phone number: +351 800 250 250  
 Romania: +40213183606  
 Slovakia: +421 2 5477 4166  
 Slovenia: Phone number: 112  
 Spain: National Emergency Telephone Number of Spanish Poison Centre: +34 91 562 04 20 (24 hours/day, 7 days/week)  
 Sweden: 112 – ask for Poisons Information

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  
 Carcinogenicity, Category 2

**Labeling**

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.  
 H351: Suspected of causing cancer.

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.

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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

Ethylbenzene 100-41-4

Carbon Black 1333-86-4

**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	42 - 50
Aluminum Oxide	1344-28-1	20 - 35
o-Cresol Glycidyl Ether	2210-79-9	5 - 12
Titanium Dioxide	13463-67-7	1 - 4
Bisphenol A Type Resin	25068-38-6	0 - 1
Ethylbenzene	100-41-4	0 - 0.2
Carbon Black	1333-86-4	0 - 0.2
(C12-14) Alkylglycidyl Ether	68609-97-2	0 - 0.2

**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.

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If swallowed : Induce vomiting immediately and call a physician. Keep respiratory tract clear. 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**

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.

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.

**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.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

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**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****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,
Ethylbenzene	OSHA Z-1	TWA	100 ppm, 435 mg/m3	
	OSHA Z-1-A	TWA	100 ppm, 435 mg/m3	
	OSHA Z-1-A	STEL	125 ppm, 545 mg/m3	
	ACGIH	TWA	20 ppm,	A3,
Carbon Black	OSHA Z-1	TWA	3.5 mg/m3	
	OSHA Z-1-A	TWA	3.5 mg/m3	
	ACGIH	TWA	3 mg/m3	A3, Inhalable particulate matter

A3 Confirmed animal carcinogen with unknown relevance to humans

A4 Not classifiable as a human carcinogen

**Immediately Dangerous to Life or Health Concentrations (IDLH)**

Substance name	CAS-No.	Control parameters	Update
Titanium Dioxide	13463-67-7	Immediately Dangerous to Life or Health Concentration Value 5000 mg/m <sup>3</sup>	2017-09-01
Ethylbenzene	100-41-4	Immediately Dangerous to Life or Health Concentration Value 800 parts per million	1995-03-01
Carbon Black	1333-86-4	Immediately Dangerous to Life or Health Concentration Value 1750 mg/m <sup>3</sup>	1995-03-01

**Biological exposure indices****US**

Substance name	CAS-No.	Control parameters	Sampling time	Update
Ethylbenzene	100-41-4	Sum of mandelic acid and phenyl glyoxylic acid: 0.15 g/g creatinine Nonspecific (Urine)	End of shift (As soon as possible after exposure ceases)	2016-03-01

**Engineering measures**

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits.

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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** : If ventilation or other engineering controls are not adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure, a supplied-air NIOSH approved respirator may be appropriate. If exposure to harmful levels of airborne material may occur, a NIOSH approved respirator that provides protection may be appropriate, such as: A positive pressure, air-supplying respirator may be appropriate 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 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. 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.

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

- Form : liquid  
 Physical state : liquid  
 Odor : Mild

**Safety data**

- Molecular weight : Mixture  
 Freezing point : <15°C (<59°F)  
 Boiling point/boiling range : 300°C (572°F)

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Vapor pressure	: < 1.00 MMHG
Density	: 1.47 g/cm <sup>3</sup>
Water solubility	: Insoluble
Viscosity, dynamic	: 11,000 cP at 25°C (77°F)

**SECTION 10: Stability and reactivity**

<b>Reactivity</b>	: Stable under recommended storage conditions.
<b>Chemical stability</b>	: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
<b>Possibility of hazardous reactions</b>	
<b>Hazardous reactions</b>	: Further information: No decomposition if stored and applied as directed.
<b>Conditions to avoid</b>	: No data available.
<b>Other data</b>	: No decomposition if stored and applied as directed.

**SECTION 11: Toxicological information****Acute oral toxicity**

Aluminum Oxide	: LD50: > 10,000 mg/kg Species: Rat Method: OECD Test Guideline 401
Bisphenol A Type Resin	: LD50: > 2,000 mg/kg Species: Rat Sex: female Method: OECD Test Guideline 420
Ethylbenzene	: LD50: 3,500 mg/kg Species: Rat
(C12-14) Alkylglycidyl Ether	: LD50: 26,800 mg/kg Species: Rat Sex: male

**Acute inhalation toxicity**

Aluminum Oxide	: LC50: > 2.3 mg/l Exposure time: 4 h
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Species: Rat  
 Test atmosphere: dust/mist  
 Method: OECD Test Guideline 403  
 Information given is based on data obtained from similar substances.

Bisphenol A Type Resin LC0: > 0.000008 mg/l  
 Exposure time: 5 h  
 Species: Rat  
 Sex: male  
 Test atmosphere: vapor  
 An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.

Ethylbenzene LC50: 17.4 mg/l  
 Exposure time: 4 h  
 Species: Rat  
 Test atmosphere: vapor

**Acute dermal toxicity**

Aluminum Oxide : LD50: > 2,000 mg/kg  
 Species: Rabbit  
 Information given is based on data obtained from similar substances.

Ethylbenzene LD50: 15,415 mg/kg  
 Species: Rabbit

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**Skin irritation** : Skin irritation

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**Eye irritation** : Eye irritation

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**Sensitization** : Causes sensitization.

**Repeated dose toxicity**

Ethylbenzene : Species: Rat, male  
 Sex: male  
 Application Route: Inhalation  
 Dose: 200, 400, 600, 800 ppm  
 Exposure time: 13 weeks  
 Number of exposures: 6 hours/day, 6 days/week  
 NOEL: 200 ppm  
 Test substance: yes  
 Target Organs: Ototoxicity

**Genotoxicity in vitro**

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



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Ethylbenzene

Test Type: Ames test  
Result: negativeTest Type: Unscheduled DNA synthesis assay  
Result: negative**Genotoxicity in vivo**

Ethylbenzene

: Test Type: Mouse micronucleus assay  
Species: Mouse  
Result: negative**ForSField™ G-121R epoxy resin****Aspiration toxicity** : No aspiration toxicity classification.**CMR effects**

o-Cresol Glycidyl Ether

: Mutagenicity: In vitro tests showed mutagenic effects

Ethylbenzene

Carcinogenicity: Weight of evidence does not support classification as a carcinogen  
Mutagenicity: In vivo tests did not show mutagenic effects  
Teratogenicity: Did not show teratogenic effects in animal experiments.  
Reproductive toxicity: No toxicity to reproduction

Carbon Black

Carcinogenicity: Limited evidence of carcinogenicity in animal studies

**ForSField™ G-121R epoxy resin****Further information** : No data available.**SECTION 12: Ecological information****Toxicity to fish**

Aluminum Oxide

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

Bisphenol A Type Resin

LC50: 1.2 mg/l  
Exposure time: 96 h  
Species: Oncorhynchus mykiss (rainbow trout)  
semi-static test Method: OECD Test Guideline 203

Ethylbenzene

LC50: 4.3 mg/l  
Exposure time: 96 h  
Species: Marone saxatilis (striped bass)

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(C12-14) Alkylglycidyl Ether      LC50: > 1,800 mg/l  
Exposure time: 96 h  
Species: Lepomis macrochirus (Bluegill sunfish)  
static test

**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

Bisphenol A Type Resin              LC50: 2.7 mg/l  
Exposure time: 48 h  
Species: Daphnia magna (Water flea)  
static test Method: EPA-660/3-75-009

Ethylbenzene                          LC50: 2.6 mg/l  
Exposure time: 96 h  
Species: Mysidopsis bahia (mysid shrimp)

EC50: 2.2 mg/l  
Exposure time: 48 h  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 202

**Toxicity to algae**

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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
Bisphenol A Type Resin	ErC50: > 11 mg/l Exposure time: 72 h Species: Scenedesmus capricornutum (fresh water algae) static test EbC50: 9.4 mg/l Exposure time: 72 h Species: Scenedesmus capricornutum (fresh water algae) static test
Ethylbenzene	ErC50: 5.0 mg/l Exposure time: 96 h Species: Selenastrum capricornutum (algae)  ErC50: 7.7 mg/l Exposure time: 72 h Species: Skeletonema costatum (Marine Algae)

**Toxicity to bacteria**

Bisphenol A Type Resin	: > 100 mg/l Exposure time: 3 h Species: Natural microorganism Growth inhibition
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**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)**

Bisphenol A Type Resin	: NOEC: 0.3 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) semi-static test Method: OECD Test Guideline 211
Ethylbenzene	: NOEC: 1 mg/l Exposure time: 7 d Species: Daphnia pulex (Water flea) semi-static test Analytical monitoring: yes

**Biodegradability**

Aluminum Oxide	: The methods for determining biodegradability are not applicable to inorganic substances.
o-Cresol Glycidyl Ether	: aerobic Result: Not readily biodegradable. 17 % Testing period: 28 d

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	Method: OECD Test Guideline 301B
Bisphenol A Type Resin	: aerobic Result: Not readily biodegradable. 5 % Method: OECD Test Guideline 301F
Ethylbenzene	: This material is expected to be readily biodegradable.
(C12-14) Alkylglycidyl Ether	: aerobic 87 % Testing period: 28 d Method: OECD Test Guideline 301 Readily biodegradable, according to appropriate OECD test.
Bioaccumulation	
Aluminum Oxide	: This material is not expected to bioaccumulate.
Ethylbenzene	: Bioconcentration factor (BCF): 110
Mobility	
Aluminum Oxide	: No data available
Ethylbenzene	: Method: Calculation, Mackay Level I Fugacity Model Disperses rapidly in air.
Results of PBT assessment	
Ethylbenzene	: Non-classified vPvB substance, Non-classified PBT substance
Additional ecological information	: Toxic to aquatic life with long lasting effects.
<b>Ecotoxicology Assessment</b>	
Short-term (acute) aquatic hazard	: Toxic to aquatic life.
Long-term (chronic) aquatic hazard	: 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.

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Do not re-use empty containers.

**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, O-CRESOL GLYCIDYL ETHER), 9, III, MARINE POLLUTANT, (EPOXY PHENOL NOVOLAC, O-CRESOL GLYCIDYL ETHER)

**IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)**

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

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

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

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

90, UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (EPOXY PHENOL NOVOLAC, O-CRESOL GLYCIDYL ETHER), 9, III

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

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

**Maritime transport in bulk according to IMO instruments**

**SECTION 15: Regulatory information****National legislation**

**SARA 311/312 Hazards** : Respiratory or skin sensitization

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

CERCLA Reportable Quantity : 20000 lbs  
 Xylenes

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

SARA 302 Threshold Planning Quantity : 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  
 Ethylbenzene - 100-41-4

**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 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

**US State Regulations**

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## Pennsylvania Right To Know

: Epoxy Phenol Novolac - 28064-14-4  
 Aluminum Oxide - 1344-28-1  
 o-Cresol Glycidyl Ether - 2210-79-9  
 Dioxotitanium -  
 Xylenes - 1330-20-7  
 n-butyl acetate - 123-86-4  
 Ethylbenzene - 100-41-4

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](http://www.P65Warnings.ca.gov/food).

Titanium Dioxide	13463-67-7
Ethylbenzene	100-41-4
Carbon Black	1333-86-4
Epichlorohydrin	106-89-8
Acrylonitrile	107-13-1
Styrene	100-42-5
1,3-Butadiene	106-99-0
Benzene	71-43-2

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](http://www.P65Warnings.ca.gov).

Epichlorohydrin	106-89-8
1,3-Butadiene	106-99-0
Toluene	108-88-3
Benzene	71-43-2

**Notification status**

Europe REACH	: Not in compliance with the inventory
Switzerland CH INV	: 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 NDSL	: This product contains one or several components listed in the Canadian NDSL.
Other AIIIC	: 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
Taiwan TCSI	: Not in compliance with the inventory
China IECSC	: On the inventory, or in compliance with the inventory

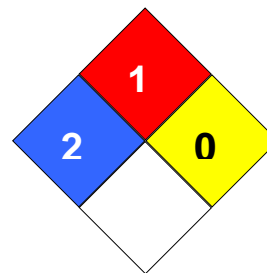
**ForSField™ G-121R epoxy resin**

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**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 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



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			Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		

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

Product Name : ForSField™ G-121H hardener  
Material : 1122874, 1121298, 1121297, 1121296

**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  
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  
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
Austria: VIZ +43 1 406 43 43 (24 hours/day, 7 days/week)  
Belgium: 070 245 245 (24 hours/day, 7 days/week)  
Bulgaria: +359 2 9154 233  
Croatia: +3851 2348 342 (24 hours/day, 7 days/week)  
Cyprus: 1401  
Czech Republic: Toxicological Information Center +420 224 919 293, +420 224 915 402  
Denmark: Danish Poison Center (Gifftlinjen): +45 8212 1212  
Estonia: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
Finland: 0800 147 111 09 471 977 (24 hours/day)  
France: ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (24 hours/day, 7 days/week)  
Germany: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
Greece: (0030) 2107793777 (24 hours/day, 7 days/week)  
Hungary: +36-80-201-199 (24 hours/day, 7 days/week)  
Iceland: 543 2222 (24 hours/day, 7 days/week)  
Ireland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
Italy: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
Latvia: State Fire and Rescue Service, phone number: 112; Toxicology and Sepsis Clinic  
Poisoning and Drug Information Center, Hipokrāta 2, Riga, Latvia, LV-1038, phone number +371  
67042473. (24 hours.)  
Liechtenstein: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
Lithuania: +370 (85) 2362052

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Luxembourg: (+352) 8002 5500 (24 hours/day, 7 days/week)  
 Malta: +356 2395 2000  
 The Netherlands: NVIC: +31 (0)88 755 8000  
 Norway: 22 59 13 00 (24 hours/day, 7 days/week)  
 Poland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
 Portugal: CIAV phone number: +351 800 250 250  
 Romania: +40213183606  
 Slovakia: +421 2 5477 4166  
 Slovenia: Phone number: 112  
 Spain: National Emergency Telephone Number of Spanish Poison Centre: +34 91 562 04 20 (24 hours/day, 7 days/week)  
 Sweden: 112 – ask for Poisons Information

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**

: Acute toxicity, Category 4, Oral  
 Acute toxicity, Category 4, Inhalation  
 Acute toxicity, Category 4, Dermal  
 Skin corrosion, Category 1A  
 Serious eye damage, Category 1  
 Skin sensitization, Category 1

**Labeling**

Symbol(s)



Signal Word

: Danger

Hazard Statements

: H302 + H312 + H332: Harmful if swallowed, in contact with skin or if inhaled.  
 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.  
 P270 Do not eat, drink or smoke when using this product.  
 P271 Use only outdoors or in a well-ventilated area.  
 P272 Contaminated work clothing must not be allowed out of the workplace.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
 P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.  
 P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do

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NOT induce vomiting.  
 P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
 P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.  
 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.

**SECTION 3: Composition/information on ingredients**

Component	CAS-No.	Weight %
Cyclohexanamine, 4,4'-methylenebis[2-methyl-	6864-37-5	25 - 31
Styrenated Phenol	61788-44-1	5 - 10
Tetraethylenepentamine	112-57-2	1 - 3
meta-Xylenediamine	1477-55-0	1 - 3
1-Piperazineethanamine	140-31-8	0.1 - 1

**SECTION 4: First aid measures**

- 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

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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.

**Notes to physician**

Risks : Harmful if swallowed, in contact with skin or if inhaled. May cause an allergic skin reaction. Causes serious eye damage. Causes severe burns.  
Harmful if swallowed, in contact with skin or if inhaled. May cause an allergic skin reaction. Causes serious eye damage. Causes severe burns.

**SECTION 5: Firefighting measures**

Flash point : 140°C (284°F)  
Method: closed cup

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.

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. 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.

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****US**

Components	Basis	Value	Control parameters	Note
Tetraethylenepentamine	US WEEL	TWA	5 mg/m <sup>3</sup>	DSEN,
meta-Xylenediamine	ACGIH	C	0.018 ppm,	Skin,
	OSHA Z-1-A	C	0.1 mg/m <sup>3</sup>	X,

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

**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 : If ventilation or other engineering controls are not adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure, a supplied-air NIOSH approved respirator may be appropriate. If exposure to harmful levels of airborne material may occur, a NIOSH approved respirator that provides protection may be appropriate, such as: Air-Purifying Respirator for Dusts and Mists. A positive pressure, air-supplying respirator may be appropriate if there is potential for

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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.

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

- Form : liquid  
 Physical state : liquid  
 Color : Yellow, Amber  
 Odor : Mild

**Safety data**

- Flash point : 140°C (284°F)  
 Method: closed cup
- Molecular weight : Mixture
- Freezing point : <15°C (<59°F)
- Boiling point/boiling range : >300°C (>572°F)
- Vapor pressure : < 1.00 MMHG
- Density : 0.98 g/m3
- Partition coefficient: n-octanol/water : No data available
- Viscosity, dynamic : < 2,500 cP  
 at 25°C (77°F)
- Viscosity, kinematic : No data available

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**SECTION 10: Stability and reactivity**

- Reactivity** : Stable under recommended storage conditions.
- Chemical stability** : The product is supplied in a stabilized form. If the permissible storage period and/or storage temperature is noticeably exceeded, the product may polymerize with heat evolution.
- Possibility of hazardous reactions**
- Hazardous reactions** : Further information: No decomposition if stored and applied as directed.
- Conditions to avoid** : No data available.
- Other data** : No decomposition if stored and applied as directed.

**SECTION 11: Toxicological information**

- ForSField™ G-121H hardener**  
**Acute oral toxicity** : Acute toxicity estimate: 1,571 mg/kg  
Method: Calculation method
- ForSField™ G-121H hardener**  
**Acute inhalation toxicity** : Acute toxicity estimate: 1.46 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Calculation method
- ForSField™ G-121H hardener**  
**Acute dermal toxicity** : Acute toxicity estimate: 1,037 mg/kg  
Method: Calculation method
- ForSField™ G-121H hardener**  
**Skin irritation** : Extremely corrosive and destructive to tissue.
- ForSField™ G-121H hardener**  
**Eye irritation** : May cause irreversible eye damage.
- ForSField™ G-121H hardener**  
**Sensitization** : Causes sensitization.
- ForSField™ G-121H hardener**  
**Further information** : No data available.

**SECTION 12: Ecological information**



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**Toxicity to fish**

Cyclohexanamine, 4,4'-methylenebis[2-methyl-	: LC50: > 21.5 - < 46.4 mg/l Exposure time: 96 h Species: Leuciscus idus (Golden orfe) static test
Styrenated Phenol	LL50: 14.8 mg/l Exposure time: 96 h Species: Danio rerio (Zebra Fish) Method: OECD Test Guideline 203
Tetraethylenepentamine	LC50: 310 mg/l Exposure time: 96 h Species: Pimephales promelas (fathead minnow) 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**

Cyclohexanamine, 4,4'-methylenebis[2-methyl-	: EC50: 4.6 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202
Styrenated Phenol	EL50: > 1 - 10 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) Immobilization Method: OECD Test Guideline 202
Tetraethylenepentamine	EC50: 24.1 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) static test Method: Directive 67/548/EEC, Annex V, C.2.
meta-Xylenediamine	EC50: 35.1 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) static test Method: OECD Test Guideline 202
1-Piperazineethanamine	EC50: 58 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) static test Method: OECD Test Guideline 202

**Toxicity to algae**

Cyclohexanamine, 4,4'-methylenebis[2-methyl-	: EC50: > 5.0 mg/l Exposure time: 72 h Species: Desmodesmus subspicatus (green algae) static test Method: OECD Test Guideline 201
Styrenated Phenol	ErL50: 3.14 mg/l Exposure time: 72 h

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	Species: <i>Selenastrum capricornutum</i> (green algae) static test Method: OECD Test Guideline 201
Tetraethylenepentamine	ErC50: 6.8 mg/l Exposure time: 72 h Species: <i>Selenastrum capricornutum</i> (algae) Growth inhibition Method: OECD Test Guideline 201
	EbC50: 2.1 mg/l Exposure time: 72 h Species: <i>Selenastrum capricornutum</i> (algae) Growth inhibition Method: OECD Test Guideline 201
meta-Xylenediamine	ErC50: 33.3 mg/l Exposure time: 72 h Species: <i>Pseudokirchneriella subcapitata</i> (green algae) Growth inhibition Method: OECD Test Guideline 201
	EbC50: 20.3 mg/l Exposure time: 72 h Species: <i>Pseudokirchneriella subcapitata</i> (green algae) Growth inhibition Method: OECD Test Guideline 201
1-Piperazineethanamine	EC50: > 1,000 mg/l Exposure time: 72 h Species: <i>Selenastrum capricornutum</i> (algae) Growth inhibition Method: OECD Test Guideline 201

**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)**

meta-Xylenediamine	: NOEC: 4.70 mg/l Exposure time: 21 d Species: <i>Daphnia magna</i> (Water flea) semi-static test Method: OECD Test Guideline 211
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**Biodegradability**

Cyclohexanamine, 4,4'-methylenebis[2-methyl-	: Result: Not readily biodegradable. 0 % Testing period: 28 d Method: OECD Test Guideline 301
Styrenated Phenol	: aerobic Result: Not readily biodegradable. 0 % Method: OECD Test Guideline 301C Information given is based on data obtained from similar substances.
Tetraethylenepentamine	: aerobic Result: Not readily biodegradable. 0 % Testing period: 28 d Method: OECD Test Guideline 301D
meta-Xylenediamine	: aerobic

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

Additional ecological information : Toxic to aquatic life with long lasting effects.  
**Ecotoxicology Assessment**

## Short-term (acute) aquatic hazard

Styrenated Phenol : Toxic to aquatic life.

Tetraethylenepentamine : Toxic to aquatic life.

meta-Xylenediamine : Harmful to aquatic life.

1-Piperazineethanamine : Harmful to aquatic life.

## Long-term (chronic) aquatic hazard

Cyclohexanamine, 4,4'-methylenebis[2-methyl-

Styrenated Phenol : Toxic to aquatic life with long lasting effects.

Tetraethylenepentamine : Toxic to aquatic life with long lasting effects.

meta-Xylenediamine : Harmful to aquatic life with long lasting effects.

1-Piperazineethanamine : 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.

**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

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bill of lading.

**US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)**

UN1760, CORROSIVE LIQUIDS, N.O.S., (CYCLOHEXANAMINE, 4,4'-METHYLENEBIS[2-METHYL-, TETRAETHYLENEPENTAMINE), 8, I

**IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)**

UN1760, CORROSIVE LIQUID, N.O.S., (CYCLOHEXANAMINE, 4,4'-METHYLENEBIS[2-METHYL-, TETRAETHYLENEPENTAMINE), 8, I, (140 °C c.c.), MARINE POLLUTANT, (CYCLOHEXANAMINE, 4,4'-METHYLENEBIS[2-METHYL-, STYRENATED PHENOL)

**IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)**

UN1760, CORROSIVE LIQUID, N.O.S., (CYCLOHEXANAMINE, 4,4'-METHYLENEBIS[2-METHYL-, TETRAETHYLENEPENTAMINE), 8, I

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

UN1760, CORROSIVE LIQUID, N.O.S., (CYCLOHEXANAMINE, 4,4'-METHYLENEBIS[2-METHYL-, TETRAETHYLENEPENTAMINE), 8, I, (E), ENVIRONMENTALLY HAZARDOUS, (CYCLOHEXANAMINE, 4,4'-METHYLENEBIS[2-METHYL-, STYRENATED PHENOL)

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

88, UN1760, CORROSIVE LIQUID, N.O.S., (CYCLOHEXANAMINE, 4,4'-METHYLENEBIS[2-METHYL-, TETRAETHYLENEPENTAMINE), 8, I, ENVIRONMENTALLY HAZARDOUS, (CYCLOHEXANAMINE, 4,4'-METHYLENEBIS[2-METHYL-, STYRENATED PHENOL)

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

UN1760, CORROSIVE LIQUID, N.O.S., (CYCLOHEXANAMINE, 4,4'-METHYLENEBIS[2-METHYL-, TETRAETHYLENEPENTAMINE), 8, I, ENVIRONMENTALLY HAZARDOUS, (CYCLOHEXANAMINE, 4,4'-METHYLENEBIS[2-METHYL-, STYRENATED PHENOL)

**Maritime transport in bulk according to IMO instruments****SECTION 15: Regulatory information****National legislation**

**SARA 311/312 Hazards** : Acute toxicity (any route of exposure)  
Respiratory or skin sensitization  
Skin corrosion or irritation  
Serious eye damage or eye irritation

**CERCLA Reportable Quantity** : Calculated RQ exceeds reasonably attainable upper limit.

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## Phenol

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

## Phenol

SARA 302 Threshold Planning Quantity : This material does not contain any components with a section 302 EHS TPQ.  
 SARA 304 Reportable Quantity : Calculated RQ exceeds reasonably attainable upper limit.

Phenol 108-95-2

1000 lbs

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 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

**US State Regulations**

## Pennsylvania Right To Know

: Tetraethylenepentamine - 112-57-2  
 meta-Xylenediamine - 1477-55-0

## California Prop. 65 Components

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

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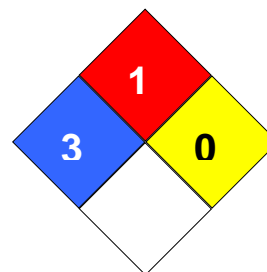
Revision Date 2022-11-10

**Notification status**

Europe REACH	:	Not in compliance with the inventory
Switzerland CH INV	:	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	:	Not in compliance with the inventory
Other AIIC	:	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
Taiwan TCSI	:	Not in compliance with the inventory
China IECSC	:	Not in compliance with the inventory

**SECTION 16: Other information**

**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**

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

**ForSField™ G-121H hardener**

Version 1.4

Revision Date 2022-11-10

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%		