

**ForSField™ TZ-904R epoxy resin**

Version 1.2

Revision Date 2016-07-01

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

Product Name : ForSField™ TZ-904R epoxy resin
Material : 1103265, 1103264, 1103263

Use : Resin

Company : Chevron Phillips Chemical Company LP
Specialty Chemicals
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: +800 CHEMCALL (+800 2436 2255) China:+86-21-22157316

EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

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.

Emergency Overview**Danger**

Form: Liquid **Physical state:** Liquid **Color:** gray **Odor:** Slight hydrocarbon

OSHA Hazards : Moderate skin irritant, Moderate eye irritant, Skin sensitizer,
Carcinogen, Mutagen, Target Organ Effects

Classification

: Skin irritation, Category 2

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Serious eye damage/eye irritation, Category 2A
 Skin sensitization, Category 1
 Germ cell mutagenicity, Category 1B
 Carcinogenicity, Category 1B
 Specific target organ systemic toxicity - repeated exposure,
 Category 1, Inhalation, Lungs

Carcinogenicity:**IARC**

Group 2B: Possibly carcinogenic to humans

Carbon Black 1333-86-4

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.

ACGIH

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

SECTION 3: Composition/information on ingredients

Synonyms : None Established

Molecular formula : Mixture

Component	CAS-No.	Weight %
Bisphenol A Type Resin	25068-38-6	35 - 50
Epoxy Phenol Novalac	28064-14-4	10 - 20
Titanium Dioxide	13463-67-7	3 - 7
Silica, amorphous	7631-86-9	1 - 5
Carbon Black	1333-86-4	0.1 - 1
Mineral Spirits	8052-41-3	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. Symptoms of poisoning may appear several hours later. Do not leave the victim unattended.

If inhaled : Call a physician or poison control center immediately.

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 : Flush eyes with water as a precaution. 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. If symptoms persist, call a physician. Take victim immediately to hospital.

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SECTION 5: Firefighting measures

Flash point	:	> 93.4 °C (> 200.1 °F)
Autoignition temperature	:	No data available
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.
Hazardous decomposition products	:	No data available.

SECTION 6: Accidental release measures

Personal precautions	:	Use personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe areas.
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	:	Avoid formation of aerosol. Do not breathe vapors/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations.
Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.

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Storage

Requirements for storage areas and containers : Prevent unauthorized access. 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**

Ingredients	Basis	Value	Control parameters	Note
Titanium Dioxide	ACGIH	TWA	10 mg/m3	LRT irr, A4,
	OSHA Z-1-A	TWA	10 mg/m3	Total
	OSHA Z-1	TWA	15 mg/m3	total dust
	OSHA Z-1-A	TWA	10 mg/m3	Total dust
Silica, amorphous	ACGIH	TWA	10 mg/m3	LRT irr, A4,
	OSHA Z-3	TWA	20Million particles per cubic foot	a, Dust
	OSHA Z-3	TWA	80mg / %SiO2	
	OSHA Z-3	TWA	80mg/m3 / %SiO2	Dust
	OSHA Z-3	TWA	20Million particles per cubic foot	a, Dust
Carbon Black	OSHA Z-3	TWA	80mg/m3 / %SiO2	Dust
	OSHA Z-1	TWA	3.5 mg/m3	
	OSHA Z-1-A	TWA	3.5 mg/m3	
Mineral Spirits	ACGIH	TWA	3 mg/m3	bronchitis, A3, Inhalable fraction
	ACGIH	TWA	100 ppm,	CNS impair, nausea, eye dam, kidney dam, skin dam,
	OSHA Z-1	TWA	500 ppm, 2,900 mg/m3	(b),
	OSHA Z-1-A	TWA	100 ppm, 525 mg/m3	

(b) The value in mg/m3 is approximate.

a Based on impinger samples counted by light-field techniques.

A3 Confirmed animal carcinogen with unknown relevance to humans

A4 Not classifiable as a human carcinogen

bronchitis Bronchitis

CNS impair Central Nervous System impairment

eye dam Eye damage

kidney dam Kidney damage

LRT irr Lower Respiratory Tract irritation

nausea Nausea

skin dam Skin damage

Personal protective equipment

Respiratory protection : In the case of vapor formation use a respirator with an approved filter.

Hand protection : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water. Tightly fitting safety goggles.

Skin and body protection : Impervious clothing. Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : Avoid contact with skin, eyes and clothing. When using do not eat or drink. When using do not smoke. Wash hands before breaks and immediately after handling the product.

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

Form	: Liquid
Physical state	: Liquid
Color	: gray
Odor	: Slight hydrocarbon

Safety data

Flash point	: > 93.4 °C (> 200.1 °F)
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Oxidizing properties	: no
Autoignition temperature	: No data available
Molecular formula	: Mixture
Molecular weight	: Not applicable
pH	: Not applicable
Pour point	: No data available
Boiling point/boiling range	: No data available
Vapor pressure	: No data available
Relative density	: No data available
Density	: 1,420 g/l
Water solubility	: Negligible
Partition coefficient: n-octanol/water	: No data available
Viscosity, kinematic	: No data available
Relative vapor density	: No data available
Evaporation rate	: No data available

SECTION 10: Stability and reactivity**Possibility of hazardous reactions**

Conditions to avoid	: No data available.
Materials to avoid	: May react with oxygen and strong oxidizing agents, such as

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Hazardous decomposition products : chlorates, nitrates, peroxides, etc.
: No data available

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

No decomposition if stored and applied as directed.

SECTION 11: Toxicological information**ForSField™ TZ-904R epoxy resin**

Acute oral toxicity : Acute toxicity estimate: 7,462.69 mg/kg
Method: Calculation method

Acute toxicity estimate: 3,791 mg/kg
Method: Calculation method

Acute inhalation toxicity

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.

Skin irritation

Bisphenol A Type Resin : Skin irritation

Epoxy Phenol Novalac : Irritating to skin.

Silica, amorphous : No skin irritation

Eye irritation

Bisphenol A Type Resin : Eye irritation

Epoxy Phenol Novalac : Eye irritation

Silica, amorphous : No eye irritation

Sensitization

Bisphenol A Type Resin : Causes sensitization.

Epoxy Phenol Novalac : May cause sensitization by skin contact.

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Aspiration toxicity : No aspiration toxicity classification.

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CMR effects

Carbon Black : Carcinogenicity: Limited evidence of carcinogenicity in animal studies

Mineral Spirits Carcinogenicity: Possible human carcinogen
Mutagenicity: In vivo tests showed mutagenic effects

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Further information : No data available.

SECTION 12: Ecological information**Toxicity to fish**

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

Silica, amorphous LC50: 5,000 mg/l
Exposure time: 96 h
Species: Danio rerio (Zebra Fish)

Toxicity to daphnia and other aquatic invertebrates

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

Silica, amorphous EC50: > 100 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)

Toxicity to algae

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

Silica, amorphous EC50: 440 mg/l
Exposure time: 72 h
Species: Selenastrum capricornutum (algae)

Toxicity to bacteria

Bisphenol A Type Resin : > 100 mg/l
Exposure time: 3 h
Species: Natural microorganism

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Growth inhibition

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

Elimination information (persistence and degradability)

Biodegradability : Not applicable

Ecotoxicology Assessment

Acute aquatic toxicity

Bisphenol A Type Resin : Toxic to aquatic life.

Epoxy Phenol Novalac : Toxic to aquatic life.

Chronic aquatic toxicity

Bisphenol A Type Resin : Toxic to aquatic life with long lasting effects.

Epoxy Phenol Novalac : Toxic to aquatic life with long lasting effects.

Additional ecological information : No data available

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 : Do not dispose of waste into sewer. 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 bill of lading.

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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)

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

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

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

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

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

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

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

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

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

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

SECTION 15: Regulatory information**National legislation**

SARA 311/312 Hazards : Acute Health Hazard
Chronic Health Hazard

EPCRA - EMERGENCY PLANNING COMMUNITY RIGHT - TO - KNOW

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

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

Clean Air Act

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

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

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

US State Regulations**Pennsylvania Right To Know**

: Silica, amorphous - 7631-86-9
 Titanium Dioxide - 13463-67-7
 Carbon Black - 1333-86-4

New Jersey Right To Know

: Silica, amorphous - 7631-86-9
 Carbon Black - 1333-86-4
 Titanium Dioxide - 13463-67-7

California Prop. 65 Ingredients

: **WARNING!** This product contains a chemical known in the State of California to cause cancer.

Notification status

Europe REACH : Not in compliance with the inventory
 United States of America TSCA : On the inventory, or in compliance with the inventory
 Canada DSL : On the inventory, or in compliance with the inventory
 Australia AICS : On the inventory, or in compliance with the inventory
 New Zealand NZIoC : On the inventory, or 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

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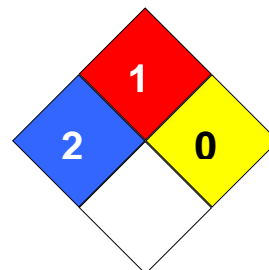
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China IECSC : On the inventory, or in compliance with the inventory

SECTION 16: Other information

NFPA Classification : Health Hazard: 2
 Fire Hazard: 1
 Reactivity Hazard: 0

**Further information**

Legacy SDS Number : CPC00543

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	TLV	Threshold Limit Value

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	on Cancer		
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%		