

SAFETY DATA SHEET

1. IDENTIFICATION

Product Name:	CONAPOXY® FR-1047 Black Resin
Product Description:	Mixture of epoxy resins and fillers
Synonyms:	None
Chemical Family:	Epoxy resin
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Intended/Recommended Use:	Potting compound

CYTEC INDUSTRIES INC., 504 CARNEGIE CENTER, PRINCETON, NEW JERSEY 08540, USA

For Product and all Non-Emergency Information call 1-800/652-6013. Outside the USA and Canada call 1-973/357-3193.

EMERGENCY PHONE (24 hours/day) - For emergency only involving spill, leak, fire, exposure or accident call:

Asia Pacific:

Australia - +61 2 8014 4558 (Carechem24)

China (PRC) - +86 0532 83889090 (NRCC) +86 512 8090 3042 (Carechem24)

New Guinea - +61 2 8014 4558 (Carechem24)

New Zealand - +64 9 929 1483 (Carechem24)

India, Japan, Korea, Malaysia, Thailand - +65 3158 1074 (Carechem24 Singapore)

India (Hindi Speaking Only) - +65 3158 1198 or 000800 100 7479 (Carechem24 Singapore)

Canada: 800 424 9300 (Within US,Canada) +1 (703) 527-3887 (International) (CHEMTREC)

Europe/Africa/Middle East (Carechem24 UK):

Europe, Middle East, Africa, Israel - +44 1235 239 670

(Arabic speaking countries) - +44 1235 239 671

Latin America:

Brazil - +55 11 3197 5891 (Carechem24)

Chile - +56 2 2582 9336 (Carechem24)

All Others - +44 1235 239 670 (Carechem24 UK)

USA: 800 424 9300 (Within US,Canada) +1 (703) 527-3887 (International) (CHEMTREC)

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2. HAZARDS IDENTIFICATION

GHS Classification

Skin Corrosion / Irritation Hazard Category 2

Serious Eye Damage / Eye Irritation Hazard Category 2A

Skin Sensitizer Hazard Category 1B

Aquatic Environment Acute Hazard Category 2

Aquatic Environment Chronic Hazard Category 2

LABEL ELEMENTS



Signal Word

Warning

Hazard Statements

Causes skin irritation

Causes serious eye irritation

May cause an allergic skin reaction

Toxic to aquatic life with long lasting effects

Precautionary Statements

Wash face, hands and any exposed skin thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Contaminated work clothing should not be allowed out of the workplace.

Avoid release to the environment.

IF ON SKIN: Wash with plenty of soap and water.

Specific treatment (see supplemental first aid instructions on this label).

Take off all contaminated clothing and wash it before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

If skin irritation or rash occurs: Get medical advice/attention.

Dispose of contents/container in accordance with local and national regulations.

Hazards Not Otherwise Classified (HNOC), Other Hazards

Polymerization may occur from excessive heat, contamination or exposure to direct sunlight.

3. COMPOSITION/INFORMATION ON INGREDIENTS**HAZARDOUS INGREDIENTS**

Component / CAS No.	%	GHS Classification	Carcinogen
Reaction product: Bisphenol A-(epichlorhydrin); epoxy resin (number average molecular weight <=700) 25068-38-6	30 - 60	Skin Irrit. 2 (H315) Eye Irrit. 2A (H319) Skin Sens. 1B (H317) Aquatic Acute 2 (H401) Aquatic Chronic 2 (H411)	-
Alumina trihydrate 21645-51-2	30 - 60	Not Classified	-
Neopentyl glycol diglycidyl ether 17557-23-2	1 - 5	Skin Irrit. 2 (H315) Eye Irrit. 2B (H320) Skin Sens. 1B (H317)	-
Kaolin 1332-58-7	< 2	Not Classified	-
Carbon black 1333-86-4	< 1	Not Classified	IARC 2B ACGIH A3

The specific chemical identity and/or exact percentage of composition for one or more ingredients has been withheld as a trade secret.

Additional GHS classification or other information may be included in this section but has not been adopted by OSHA. See Section 16 for full text of H phrases.

4. FIRST AID MEASURES

DESCRIPTION OF FIRST AID MEASURES

Eye Contact:

Rinse immediately with plenty of water for at least 15 minutes. Obtain medical advice if there are persistent symptoms.

Skin Contact:

Wash immediately with plenty of water and soap. Remove contaminated clothing and shoes without delay. Obtain medical attention. Do not reuse contaminated clothing without laundering. Destroy or thoroughly clean shoes before reuse.

Ingestion:

If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Inhalation:

Remove to fresh air. If breathing is difficult, give oxygen. Obtain medical advice if there are persistent symptoms.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

None known

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDS

Not applicable

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

Use water spray, carbon dioxide or dry chemical.

Extinguishing Media to Avoid:

full water jet

Protective Equipment:

Firefighters, and others exposed, wear self-contained breathing apparatus. Wear full firefighting protective clothing. See MSDS Section 8 (Exposure Controls/Personal Protection).

Special Hazards:

Keep containers cool by spraying with water if exposed to fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Where exposure level is not known, wear approved, positive pressure, self-contained respirator. Where exposure level is known, wear approved respirator suitable for level of exposure. Refer to Section 8 (Exposure Controls/Personal Protection) for appropriate personal protective equipment.

Methods For Cleaning Up:

Sweep up into containers for disposal. Flush spill area with water.

References to other sections:

See Sections 8 and 13 for additional information.

7. HANDLING AND STORAGE

7. HANDLING AND STORAGE

HANDLING

Precautions: Avoid release to the environment. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves and eye/face protection.

Special Handling Statements: None

STORAGE

Store in accordance with local, state, and federal regulations.

Storage Temperature: Room temperature

Reason: Quality.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Where this material is not used in a closed system, good enclosure and local exhaust ventilation should be provided to control exposure when spraying or curing at elevated temperatures.

Respiratory Protection:

Where exposures are below the established exposure limit, no respiratory protection is required. Where exposures exceed the established exposure limit, use respiratory protection recommended for the material and level of exposure. A full facepiece respirator also provides eye and face protection. Cutting, grinding or sanding of parts fabricated after curing may create respirable dust particles. Respiratory protection appropriate for this dust may be required. Refer to components listed above for potential hazardous components in the dust.

Eye Protection:

Wear eye/face protection such as chemical splash proof goggles or face shield. Eyewash equipment and safety shower should be provided in areas of potential exposure.

Skin Protection:

Avoid skin contact. Wear impermeable gloves and suitable protective clothing. Barrier creams may be used in conjunction with the gloves to provide additional skin protection.

Hand Protection:

Nitrile rubber gloves. Replace gloves immediately when torn or any change in appearance (dimension, colour, flexibility etc) is noticed. Barrier creams may help to protect the exposed areas of the skin, they should however not be applied once exposure has occurred.

Additional Advice:

Food, beverages, and tobacco products should not be carried, stored, or consumed where this material is in use. Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water.

Exposure Limit(s)

The below constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

1332-58-7 Kaolin

OSHA (PEL):	15 mg/m ³ total dust (TWA) 5 mg/m ³ respirable fraction (TWA)
ACGIH (TLV):	2 mg/m ³ particulate matter containing no asbestos and <1% crystalline silica, respirable particulate matter (TWA)
Other Value:	Not established

1333-86-4 Carbon black

OSHA (PEL):	3.5 mg/m ³ (TWA)
ACGIH (TLV):	3 mg/m ³ inhalable particulate matter (TWA)

1332-58-7 Kaolin

Other Value: Not established

21645-51-2 Alumina trihydrate

OSHA (PEL): Not established

ACGIH (TLV): 1 mg/m³ respirable particulate matter (TWA)(as Aluminum insoluble compounds)

Other Value: Not established

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	black
Appearance:	viscous liquid
Odor:	characteristic
Boiling Point:	Not available
Melting Point:	Not available
Vapor Pressure:	Not available
Specific Gravity/Density:	1.7
Vapor Density:	Not available
Percent Volatile (% by wt.):	Not available
pH:	Not available
Saturation In Air (% By Vol.):	Not available
Evaporation Rate:	Negligible
Solubility In Water:	Not available
Volatile Organic Content:	Not available
Flash Point:	>100 °C 212 °F Tag Closed Cup
Flammability (solid, gas):	Not available
Flammable Limits (% By Vol):	Not available
Autoignition (Self) Temperature:	Not available
Decomposition Temperature:	Not available
Partition coefficient (n-octanol/water):	Not available
Odor Threshold:	Not available
Viscosity (Kinematic):	Not available

DUST HAZARD INFORMATION

Particle Size (microns):	Not applicable
Kst (bar-m/sec):	Not applicable
Maximum Explosion Pressure (Pmax):	Not applicable
Dust Class:	Not applicable
Minimum Ignition Energy (MIE) (mJ):	Not applicable
Minimum Ignition Temperature (MIT) (°C):	Not applicable
Minimum Explosive Concentration (MEC) (g/m³):	Not applicable
Limiting Oxygen Concentration (LOC) (%):	Not applicable

10. STABILITY AND REACTIVITY

Reactivity:	No information available
Stability:	Stable
Conditions To Avoid:	Avoid excess heating over long periods of time.
Polymerization:	May occur
Conditions To Avoid:	Avoid contact with acids, oxidizing agents, bases or amines.

Hazardous Decomposition Products: oxides of carbon
oxides of phosphorus
phenols

11. TOXICOLOGICAL INFORMATION

PRODUCT TOXICITY INFORMATION

Likely Routes of Exposure: Oral, Skin, Eyes.

ACUTE TOXICITY DATA

oral (gavage)	rat	Acute LD50	>2000 mg/kg
dermal	rabbit	Acute LD50	>2000 mg/kg
inhalation	rat	Acute LC50 4 hr	>5 mg/l (Dust/Mist)

LOCAL EFFECTS ON SKIN AND EYE

Acute Irritation	skin	Irritating
Acute Irritation	eye	Irritating

ALLERGIC SENSITIZATION

Sensitization	skin	Sensitizing
Sensitization	respiratory	No data

GENOTOXICITY

Assays for Gene Mutations

Ames Salmonella Assay No data

OTHER INFORMATION

The product toxicity information above has been estimated.

HAZARDOUS INGREDIENT TOXICITY DATA

Reaction product: Bisphenol A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) has oral (rat) LD50 and dermal (rabbit) LD50 values of $>5,000$ mg/kg and $>6,000$ mg/kg, respectively. This material produced moderate eye and skin irritation in animal tests. It is a moderate skin sensitizer. No adverse effects were observed on embryonic or fetal development in animal teratology studies. A variety of mutagenicity tests produced mixed results. Two-year chronic studies (dermal and skin painting) in mice showed no increase in tumor incidence in two mouse strains. However, a third mouse strain showed a slight increase in tumors at a high dose. IARC concluded that this material is not classified as a carcinogen. Chronic ingestion caused reduced weight gain and death in laboratory animals. The oral (rat) LD50 and dermal (rabbit) LD50 values have also been reported to be 11.4 gm/kg and >20 ml/kg, respectively. The literature reports three cases of asthmatic symptoms developing in workers due to occupational exposure.

Alumina trihydrate is considered a nuisance particulate which will not cause adverse health effects other than respiratory congestion or irritation.

Neopentyl glycol diglycidyl ether has an acute oral (rat) LD50 value of 2500 mg/kg and dermal (rat) LD50 value of $>2,150$ mg/kg. This material is moderately irritating to rabbit skin and mildly irritating to rabbit eyes. Neopentyl glycol diglycidyl ether produced dermal sensitization in guinea pigs. Extreme dermal irritation resulted after repeated exposure of 5 days up to 2 years. Neopentyl glycol diglycidyl ether was mutagenic in the Ames test. This material induced base-pair substitution mutations and unscheduled DNA synthesis. Neopentyl glycol diglycidyl ether was inactive in the micronucleus and dominant lethal tests. Neopentyl glycol diglycidyl ether induced skin tumors in mice receiving 1.87 and 3.7 mg per week for 2 years.

Long term overexposure to Kaolin dust may cause lung injury. Overexposure to Kaolin is not likely to cause significant acute toxic effects.

Carbon black has acute oral (rat) and acute dermal (rabbit) LD50 values of >8000 mg/kg and >3000 mg/kg, respectively. The acute 4-hr inhalation LC50 is 67.5 mg/L. Acute overexposure to carbon black dust may cause slight respiratory irritation. Chronic inhalation of carbon black caused lung cancer in rats, but not in mice. Human epidemiology studies have not demonstrated an association to cancer. Carbon black is negative in the Ames mutagenicity tests. The International Agency for Research on Cancer has evaluated carbon black and classified it as a possible human carcinogen (Group 2B) based on sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans. Literature reports that Carbon black has shown positive in vivo mutagenic effects in the lung cells of laboratory animals.

California Proposition 65 Warning (applicable in California only) - This product contains (a) chemical(s) known to the State of California to cause cancer and birth defects or other reproductive harm.

12. ECOLOGICAL INFORMATION

TOXICITY, PERSISTENCE AND DEGRADABILITY, BIOACCUMULATIVE POTENTIAL, MOBILITY IN SOIL, OTHER ADVERSE EFFECTS

The ecological assessment for this material is based on an evaluation of its components.

RESULTS OF PBT AND vPvB ASSESSMENT

Not determined

HAZARDOUS INGREDIENT TOXICITY DATA

Component / CAS No.	Toxicity to Algae	Toxicity to Fish	Toxicity to Water Flea
Reaction product: Bisphenol A-(epichlorhydrin); epoxy resin (number average molecular weight <=700) 25068-38-6	EC50 <10 mg/l - Green Algae (Chlorella pyrenoidosa)	LC50 3.6 mg/l - Rainbow Trout (Oncorhynchus mykiss) (96h)	EC50 2.8 mg/l - Daphnia sp. (Other) (48h)
Alumina trihydrate 21645-51-2	Not available	Not available	Not available
Neopentyl glycol diglycidyl ether 17557-23-2	Not available	Not available	Not available
Kaolin 1332-58-7	Not available	Not available	Not available
Carbon black 1333-86-4	Not available	Not available	Not available

13. DISPOSAL CONSIDERATIONS

The information on RCRA waste classification and disposal methodology provided below applies only to the product, as supplied. If the material has been altered or contaminated, or it has exceeded its recommended shelf life, the guidance may be inapplicable. Hazardous waste classification under federal regulations (40 CFR Part 261 et seq) is dependent upon whether a material is a RCRA "listed hazardous waste" or has any of the four RCRA "hazardous waste characteristics." Refer to 40 CFR Part 261.33 to determine if a given material to be disposed of is a RCRA "listed hazardous waste"; information contained in Section 15 of this MSDS is not intended to indicate if the product is a "listed hazardous waste." RCRA Hazardous Waste Characteristics: There are four characteristics defined in 40 CFR Section 261.21-61.24: Ignitability, Corrosivity, Reactivity, and Toxicity. To determine Ignitability, see Section 9 of this MSDS (flash point). For Corrosivity, see Sections 9 and 14 (pH and DOT corrosivity). For Reactivity, see Section 10 (incompatible materials). For Toxicity, see Section 3 (composition). Federal regulations are subject to change. State and local requirements, which may differ from or be more stringent than the federal regulations, may also apply to the classification of the material if it is to be disposed. The Company encourages the recycle, recovery and reuse of materials, where permitted, as an alternate to disposal as a waste. The Company recommends that organic materials classified as RCRA hazardous wastes be disposed of by thermal treatment or incineration at EPA approved facilities. The Company has provided the foregoing for information only; the person generating the waste is responsible for determining the waste classification and disposal method.

14. TRANSPORT INFORMATION

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

US DOT

Dangerous Goods? X

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.

Hazard Class: 9

Packing Group: III

UN/ID Number: UN3082

Transport Label Required: Miscellaneous
 Marine Pollutant

Marine Pollutant

Technical Name (N.O.S.): diglycidyl ether bisphenol A resin

Comments: Marine Pollutants - DOT requirements specific to Marine Pollutants do not apply to non-bulk packagings transported by motor vehicles, rail cars or aircraft.

TRANSPORT CANADA

Dangerous Goods? X

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.

Hazard Class: 9

Packing Group: III

UN Number: UN3082

Transport Label Required: Miscellaneous
 Marine Pollutant

Marine Pollutant

Technical Name (N.O.S.): diglycidyl ether bisphenol A resin

ICAO / IATA

Dangerous Goods? X

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.

Hazard Class: 9

Packing Group: III

UN Number: UN3082

Transport Label Required: Miscellaneous
Marine Pollutant

Technical Name (N.O.S.): diglycidyl ether bisphenol A resin

Comments: Marine Pollutants-IATA Special Provision A197 when transported in single or combination packagings containing a net quantity per single or inner packaging of 5L or less for liquids or 5 kg for solids, are not subject to any provisions of these regulations. Note if the material also meets the criteria under additional hazard classes then all requirements continue to apply for those hazards.

IMO

Dangerous Goods? X

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.

Hazard Class: 9

UN Number: UN3082

Packing Group: III

Transport Label Required: Miscellaneous
Marine Pollutant

Marine Pollutant

Technical Name (N.O.S.): diglycidyl ether bisphenol A resin

Comments: Marine Pollutants -IMDG 2.10.2.7 when packaged in single or combination packagings, containing a net quantity per single or inner packaging of 5L or less for liquids or 5 kg for solids are not subject to any other provisions of this code. Note if the material also meets the criteria under additional hazard classes then all requirements continue to apply for those hazards.

15. REGULATORY INFORMATION

Inventory Information

United States (USA): All components of this product are included on the TSCA Chemical Inventory or are not required to be listed on the TSCA Chemical Inventory.

Canada: All components of this product are included on the Domestic Substances List (DSL) or are not required to be listed on the DSL.

European Economic Area (including EU): Cytec has appointed an Only Representative to relieve our customers from their registration requirements under the REACH Regulation (EC) No. 1907/2006. Please contact us if you wish to benefit from the OR arrangement.

Australia: One or more components of this product have NOT yet been included in the Australian Inventory of Chemical Substances (AICS) or assessed by NICNAS.

China: All components of this product are included on the Chinese inventory or are not required to be listed on the Chinese inventory.

Japan: All components of this product are included on the Japanese (ENCS) inventory or are not required to be listed on the Japanese inventory.

Korea: All components of this product are included on the Korean (ECL) inventory or are not required to be listed on the Korean inventory.

Philippines: All components of this product are included on the Philippine (PICCS) inventory or are not required to be listed on the Philippine inventory.

Taiwan: All components of this product are included on the Taiwan Chemical Substance Inventory (TCSI) or are not required to be listed on the Taiwan inventory.

OTHER ENVIRONMENTAL INFORMATION

The following components of this product may be subject to reporting requirements pursuant to Section 313 of CERCLA (40 CFR 372), Section 12(b) of TSCA, or may be subject to release reporting requirements (40 CFR 307, 40 CFR 311, etc.) See Section 13 for information on waste classification and waste disposal of this product.

This product does not contain any components regulated under these sections of the EPA

PRODUCT HAZARD CLASSIFICATION UNDER SECTION 311 OF SARA

- Acute
-

16. OTHER INFORMATION**NFPA Hazard Rating (National Fire Protection Association)**

Health: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

Fire: 1 - Materials that must be preheated before ignition can occur.

Instability: 0 - Materials that in themselves are normally stable, even under fire exposure conditions.

Reasons For Issue: Revised Section 1

Date Prepared: 02/05/2017

Date of last significant revision: 02/01/2017

Component Hazard Phrases

Reaction product: Bisphenol A-(epichlorhydrin); epoxy resin (number average molecular weight <=700)

H315 - Causes skin irritation.

H317 - May cause an allergic skin reaction.

H319 - Causes serious eye irritation.

H401 - Toxic to aquatic life.

H411 - Toxic to aquatic life with long lasting effects.

Neopentyl glycol diglycidyl ether

H315 - Causes skin irritation.

H320 - Causes eye irritation.

H317 - May cause an allergic skin reaction.

Prepared By: Legal & Compliance Services; E-mail: custinfo@solvay.com

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