Material Safety Data Sheet

Date Issued: 01/01/2009
Date Revised: 08/17/2012

PETRA WATERBASED EPOXY– PART A

1. PRODUCT AND COMPANY IDENTIFICATION

24 HOUR EMERGENCY ASSISTANCE		GENERAL MSDS ASSISTANCE
CHEM-TEL 1-800-255-3924		**Petra Polymers** **(**888) 497-3872
HEALTH HAZARD	1	**1610 E. Miraloma Ave.** **Placentia, CA 92870**
FIRE	1	
REACTIVITY	**0**	**NFPA HAZARD RATING:**
SPECIAL	**-**	**4= EXTREME 2= MODERATE 0= INSIGNIFICANT** **3= HIGH 1= SLIGHT**

PRODUCT NAME: **PETRA WATERBASED EPOXY– PART A**
TYPE OF USE: Chemical intermediate for epoxy

2. HAZARD IDENTIFICATION

PHYSICAL APPEARANCE: Milky gray or colored liquid with faint epoxy odor

EYE: Minor transient irritation. No corneal injury likely.
SKIN CONTACT: May cause allergic skin reaction in susceptible individuals. Prolonged exposure not likely to cause significant skin irritation. Repeated exposure may cause skin irritation.
SKIN ABSORPTION: A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. The LD_{50} for skin absorption in rabbits is 20,000 mg/kg.
INGESTION: Low acute oral toxicity; LD_{50} (rat) greater than 4000 mg/kg. No hazards anticipated from ingestion incidental to industrial exposure.
INHALATION: Vapors are unlikely due to physical properties. Not a problem unless heated to high temperature.
SYSTEMIC AND OTHER EFFECTS: Except for skin sensitization, repeated exposures to low molecular weight epoxy resins of this type are not anticipated to cause any significant adverse effects. A poorly characterized sample of low molecular weight epoxy resin of this type has been reported to produce skin cancer in a highly sensitive strain of mice. However, high levels of impurities compromise the validity of the findings. Epoxy resin that is representative of current manufacturing processes is not believed to be a cancer hazard to humans. Results of mutagenicity tests in animals have been negative. Has been shown to be negative in some in vitro mutagenicity tests and positive in others.

3. COMPOSITION/OCCUPATINAL EXPOSURE LIMITS

Reaction products of Epichlorohydrin and Bisphenol A	(CAS 25085-99-8)	> 90%
Alkyl Glycidyl Ether	(CAS 68609-97-2)	>10%

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not Hazardous per this OSHA Standard may be listed. Where proprietary Ingredient shows, the identity may be made available as provided **i**n this standard**.**

4. FIRST AID MEASURES

EYES: Irrigation of the eye immediately with water for fifteen minutes is a good safety practice.
SKIN: Contact will probably cause no more than irritation. Wash off in flowing water or shower. Wash clothing before reuse.
INGESTION: Low in toxicity. No adverse effects anticipated by this **r**oute of exposure incidental to proper industrial handling.
INHALATION: Remove to fresh air if effect occurs. Consult medical personnel.
NOTE TO PHYSICIAN: No specific antidote. Supportive care. Treatment based on **j**udgment of the physician in response to reactions of the patient.

5. FIRE-FIGHTING MEASURES

FLASH POINT: 245°F
METHOD USED: PMCC
FLAMMABLE LIMITS
LFL: Not applicable
UFL: Not applicable
EXTINGUISHING MEDIA: Foam, CO_2, dry chemical
FIRE AND EXPLOSION HAZARDS: None.
FIRE-FIGHTING EQUIPMENT: Wear positive pressure SCBA.

6. ACCIDENTAL RELEASE MEASURES

ACTION TO TAKE FOR SPILLS/LEAKS: Large spill -- dike up and pump into appropriate containers. Small spill -- use noncombustible absorbent material/sand and shovel into suitable containers.
DISPOSAL METHOD: Large quantities should be recovered. Collect small quantities in waste metal drums and seal for removal to an approved landfill, or incinerate in accordance with local, state, and federal regulations.

7. HANDLING AND STORAGE

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Practice good caution and personnel cleanliness to avoid skin and eye contact. Avoid breathing vapors of heated material.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION: Good room ventilation usually adequate for most operations.
RESPIRATORY PROTECTION: None normally needed.
SKIN PROTECTION: For brief contact, no precautions other than clean body-covering clothing should be needed. Use impervious gloves when prolonged or frequently repeated contact could occur.
EYE PROTECTION: Use chemical goggles.

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: Not applicable
VAP PRESS: Not applicable
VAP DENSITY: Not applicable
SOL. IN WATER: None
SP. GRAVITY: 1.12-1.14
APPEARANCE: Milky gray or colored, viscous liquid.
ODOR: Faint epoxy odor

10. STABILITY AND REACTIVITY

STABILITY: (CONDITIONS TO AVOID) Excess heating over long periods of time degrades the resin.
INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Base.
HAZARDOUS DECOMPOSITION PRODUCTS: The by-products expected in incomplete pyrolysis or combustion of epoxy resins are mainly phenolics, carbon monoxide and water. The thermal

decomposition products of epoxy resins therefore should be treated as potentially hazardous substances, and appropriate precautions should be taken.
HAZARDOUS POLYMERIZATION: Will not occur by itself but masses more than 1 pound of product plus aliphatic amine will cause irreversible polymerization with considerable heat buildup.

11. TOXICOLOGICAL INFORMATION

No Data Available

12. ECOLOGICAL INFORMATION

Ecotoxicity: **No Data Available**

Environmental Fate: **No Data Available**

Bioaccumulation: **No Data Available**

Biodegradation: **No Date Available**

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Large quantities should be recovered. Collect small quantities in waste metal drums and seal for removal to an approved landfill, or incinerate in accordance with local, state, and federal regulations.

14. TRANSPORT INFORMATION

Transportation Emergency Number: CHEMTEL 1-800-255-3924.

D.O.T. Shipping Name: Not Regulated By D.O.T.

15. REGULATORY INFORMATION

STATUS ON SUBSTANCE LISTS:
The concentrations shown in this document are maximum or ceiling levels (expressed in weight %, unless otherwise specified) to be used for regulations. Trade Secrets are indicated by "TS".

SUPERFUND AMENDMENTS and REAUTHORIZATION ACT of 1986 (SARA) TITLE III:
Sections 301-304 require emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355. Components present in this product at a level which could require reporting under this statute are:

Chemical Name	CAS Number	% By Weight
NONE		

Sections 311-312 require products be reviewed and applicable EPA Hazard Definitions be identified and made known.

EPA HAZARD CLASSIFICATIONS:

Acute Hazard	Chronic Hazard	Fire Hazard	Pressure Hazard	Reactive Hazard
No	**No**	**No**	**No**	**No**

Section 313 requires submission of annual reports of release of toxic chemicals that appear in 40 CFR 372 (for SARA 313). This information must be included in all MSDSs that are copied and distributed for this material. Components present in this product at level which could require reporting under the statute are:

Chemical Name	CAS Number	% By Weight

NONE

If you are unsure if you must report more information, call the EPA Emergency Planning and Right-To-Know Hot Line: 800-535-0202 or 202-479-2449.

TOXIC SUBSTANCES CONTROL ACT (TSCA):

The components of this product are contained on the chemical substance inventory list.

16. OTHER INFORMATION

MANUFACTURER'S NAME AND ADDRESS:

Petra Polymers
1610 E. Miraloma Ave.
Placentia, CA 92870
Telephone: 714-572-6723

The information herein is given in good faith, but no warranty expressed or implied is made. Petra Polymers urges users of this product to evaluate its suitability and compliance with local regulations as Petra Polymers cannot foresee the nature of the final application or final location of usage.

Material Safety Data Sheet

Date Issued: 01/01/2009
Date Revised: 08/17/2012

PETRA WATERBASED EPOXY – PART B

1. PRODUCT AND COMPANY IDENTIFICATION

24 HOUR EMERGENCY ASSISTANCE		GENERAL MSDS ASSISTANCE
CHEM-TEL 1-800-255-3924		**Petra Polymers** **(**888)-497-3872
HEALTH HAZARD	**2**	**1610 E. Miraloma Ave.** **Placentia, CA 92870**
FIRE	**1**	
REACTIVITY	**0**	**NFPA HAZARD RATING:**
SPECIAL	**-**	**4= EXTREME 2= MODERATE 0= INSIGNIFICANT** **3= HIGH 1= SLIGHT**

PRODUCT NAME: **PETRA WATERBASED EPOXY – PART B**
TYPE OF USE: Chemical intermediate for epoxy

2. HAZARD IDENTIFICATION

PHYSICAL APPEARANCE: Amber viscous liquid with ammoniacal odor.

POTENTIAL HEALTH EFFECTS:

INHALATION: Harmful if inhaled and may cause delayed lung injury. May cause nose, throat, and lung irritation. Inhalation of vapors and/or aerosols in high concentration may cause irritation of respiratory system.
EYE: Severe eye irritation.
CHRONIC HEALTH HAZARD: This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater. Prolonged contact may result in chemical burns and permanent damage.
SYMPTOMS: Repeated and/or prolonged exposure to low concentrations of vapors and/or aerosols may cause: Sore throat.
AGGRAVATE MEDICAL CONDITIONS: Eye disease Skin disorders and Allergies. Asthma.

3. COMPOSITION/OCCUPATIONAL EXPOSURE LIMITS

Modified polyamine	T.S.	>20%
Water	(CAS 7732-18-5)	>40 %

The composition is trade secret.

4. FIRST AID MEASURES

EYES: Rinse immediately with plenty of water also under the eyelids for at least 20 minutes. Remove contact lenses.
SKIN: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing, preferably under a safety shower. Avoid prolonged or repeated contact to skin. Wash thoroughly after handling.

INGESTION: Do not induce vomiting. Give large amounts of water or milk if available and transport to medical facility. Never give anything by mouth to an unconscious person. If a person vomits when lying on his back, place him in the recovery position. Prevent aspiration of vomit. Turn victim's head to the side.
INHALATION: If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. Move to fresh air.

5. FIRE-FIGHTING MEASURES

FLASH POINT: >93°C
FLAMMABLE LIMITS
LFL: Not Determined
UFL: Not Determined
EXTINGUISHING MEDIA: Water fog, alcohol foam, CO_2, dry chemical.
FIRE & EXPLOSION HAZARDS: Use full protective clothing (see section 8)
FIRE-FIGHTING EQUIPMENT: Use a positive pressure, self-contained breathing apparatus.
SPECIFIC HAZARD: Incomplete combustion may form carbon monoxide. May generate ammonia gas. May generate toxic nitrogen oxide gases. Burning produces noxious and toxic fumes. Downwind personnel must be evacuated.

6. ACCIDENTAL RELEASE MEASURES

GENERAL ADVICE: Seek medical advice. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.
PERSONAL PRECAUTIONS: Wear suitable protective clothing, gloves and eye/face protection. Use self contained breathing apparatus and chemically protective clothing. Evacuate personnel to safe areas.
ENVIROMENTAL PRECAUTIONS: Construct a dike to prevent spreading.
METHODS FOR CLEAN UP: Approach suspected leak areas with caution. Place in appropriate chemical waste container.
ADDITIONAL ADVICE: Open enclosed spaces to outside atmosphere. If possible, stop flow of product.

7. HANDLING AND STORAGE

HANDLING: Do not expose to sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer causing nitrosamines could be formed. Eye protection should be worn to avoid contact with eyes. Adhere to work practice rules established by government regulations. Avoid breathing vapors and/or aerosols. Avoid contact with eyes. Use only in well-ventilated areas. Use personal protective equipment. When using, do not eat, drink or smoke.
STORAGE: Do not store near acids. Keep away from Oxidizers. Keep containers tightly closed in a dry, cool and well ventilated place.
TECHNICAL MECHANICAL PRECAUTIONS: Do not store in reactive metal containers. Keep from freezing.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES: Provide readily accessible eye wash stations and safety showers. Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits. Wear appropriate respirator when ventilation is inadequate.
HAND PROTECTION: Butyl-rubber, Nitrile rubber, Neoprene gloves, impervious gloves. The breakthrough time of the selected glove(s) must be greater than the intended use period.
EYE PROTECTION: Chemical resistant goggles must be worn.
SKIN AND BODY PROTECTION: Long sleeve shirts and trousers without cuffs.
ENVIORNMENTAL CONDITIONS PROTECTION: Construct a dike to prevent spreading.
SPECIAL INSTRUCITON FOR PROTECTION AND HYGIENE: Discard contaminated leather articles. Provide readily accessible eye wash stations and safety showers. Wash at the end of each work shift and before eating, smoking or using the toilet.

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: 212°F, 100°C
VAP PRESSURE: 15.04mmHg @ 21°C
SOL. IN WATER: > 10 g/l
SP. GRAVITY: 1.07
APPEARANCE: Amber liquid
ODOR: Ammoniacal

10. STABILITY AND REACTIVITY

STABLILITY: Stable under normal conditions.
MATERIALS TO AVOID: CAUTION! N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations:

Nitrous acid and other nitrosating agents.
Organic acids (i.e. acetic acid, citric acid etc.).
Mineral acids.
Sodium hypochlorite.
Product slowly corrodes copper, aluminum, zinc and galvanized surfaces.
Incompatible with bases.
Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion.
Oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCT:

Nitric acid.
Ammonia
Nitrogen oxides (NOx).
Nitrogen oxide can react with water vapors to form corrosive nitric acid.
Carbon monoxide.
Carbon dioxide (CO2).
Nitrosamine.

11. TOXICOLOGICAL INFORMATION

ACUTE HEALTH HAZARD

EYE IRRITATION: Severe eye irritation
SKIN IRRITATION: Moderate skin irritation.

12. ECOLOGICAL INFORMATION

No Data Available

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Large quantities should be recovered. Collect small quantities in waste drums and seal for removal or incinerate in accordance with current local, state, and federal regulations.

14. TRANSPORT INFORMATION

Transportation Emergency Number: CHEMTEL 1-800-255-3924...

15. REGULATORY INFORMATION

OSHA HAZCOM STANDARD REGULATION: Irritant.

EPA SARA Title III SECTION 312 (40 CFR 370) HAZARD CLASSIFICATION: Acute Health Hazard

EPA SARA Title III SECTION 313 (40 CFR 372) COMPONENT(S) ABOVE 'DE MINIMUS' LEVEL: None

WHMIS HAZARD CLASSIFICATION: Toxic Material Causing Other Toxic Effects

CALIFORNIA PROP 65: This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other harm.

16. OTHER INFORMATION

MANUFACTURER'S NAME AND ADDRESS:
Petra Polymers
1610 E. Miraloma Ave.
Placentia, CA 92870
Telephone: 714-572-6723

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Country	Regulatory list	Notification
USA	TSCA	Included on Inventory.
EU	EINECS	Included on EINECS inventory or polymer substance, monomers included on EINECS inventory or no longer polymer.
Canada	DSL	Not on Inventory. Notifications have been submitted to Environment Canada.
Australia	AICS	Not on Inventory.
Japan	ENCS	Not on Inventory.
South Korea	ECL	Not on Inventory.
China	SEPA	Manufacturer has received a polymer exemption from the Chinese government to import, manufacture or use.
Philippines	PICCS	Not on Inventory.