

Safety Data Sheet



NovoKote HB (3:1) – PART A

1. IDENTIFICATION

| 24 HOUR EMERGENCY ASSISTANCE | MANUFACTURER/GENERAL MSDS ASSISTANCE |
|------------------------------|-----------------------------------------------------------------------------------------------|
| CHEM-TEL 1-800-255-3924 | Petra Polymers Tel.: (888)-497-3872 1610 E. Miraloma Ave. Placentia, CA 92870 |

PRODUCT IDENTIFIER/NAME: NovoKote HB -- PART A

RECOMMENDED USE: Chemical intermediate for epoxy

2. HAZARD(S) IDENTIFICATION

HAZARD CLASSIFICATION:

Acute Oral Toxicity Category 5
Skin Irritation Category 2
Skin Sensitizer Category 1
Germ Cell Mutagenicity Category 2

NFPA ratings (scale 0 – 4):

| | |
|------------|---|
| HEALTH | 1 |
| FIRE | 1 |
| REACTIVITY | 0 |
| SPECIAL | - |

NFPA HAZARD RATING:

4= EXTREME 2= MODERATE 0= INSIGNIFICANT
3= HIGH 1= SLIGHT



HAZARD PICTOGRAMS:

SIGNAL WORD: Warning

PHYSICAL APPEARANCE: Straw colored or pigmented liquid with faint epoxy odor

HAZARD STATEMENTS:

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 LD₅₀ for skin absorption in rabbits is 20,000 mg/kg.

INGESTION: Low acute oral toxicity; LD₅₀ (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.

PRECAUTIONARY STATEMENTS: Use personal protective equipment as required to minimize repeated skin exposure. Wash thoroughly after handling. If skin irritation or rash occurs: Wash with plenty of soap and water and avoid repeated exposure. IF ON SKIN: Wash with plenty of soap and water.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| | | |
|-----------------------------------|------------------|--------|
| <i>Epoxy Phenol Novolac Resin</i> | (CAS 28064-14-4) | < 97 % |
| <i>Furfuryl Alcohol</i> | (CAS 98-00-0) | < 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 in 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 route of exposure incidental to proper industrial handling.

INHALATION: If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

NOTE TO PHYSICIAN: No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

5. FIRE-FIGHTING MEASURES

FLASH POINT: >200 C

METHOD USED: PMCC

FLAMMABLE LIMITS

LFL: Not applicable

UFL: Not applicable

EXTINGUISHING MEDIA: Foam, CO₂, dry chemical

FIRE AND EXPLOSION HAZARDS: None.

FIRE-FIGHTING EQUIPMENT: Wear positive pressure SCBA.

6. ACCIDENTAL RELEASE MEASURES

ACTION TO TAKE FOR SPILLS/LEAKS: Soak up in absorbent material and collect in suitable containers. Residual may be removed using steam or hot soapy water.

DISPOSAL METHOD: Burn in adequate incinerator or bury in an approved landfill; in accordance with local, state and federal regulations.

7. HANDLING AND STORAGE

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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: Not applicable

VAP PRESS: Not applicable

VAP DENSITY: Not applicable

SOL. IN WATER: None

SP. GRAVITY: 1.201

APPEARANCE: Straw colored 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 1-800-255-3924 CHEM-TEL

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".

FEDERAL EPA:

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, and LIABILITY ACT of 1980 (CERCLA):

Requires notification of the National Response Center of release of quantities of Hazardous Substances equal to or greater than the reportable quantities (RQ's) in 40 CFR 302.4 . Components present in this product at level which could require reporting under the statute are:

| Chemical Name | CAS Number | % By Weight | RQ |
|---------------|------------|-------------|----|
| NONE | | | |

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

Date Revised: 05/06/2015

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 nor final location of usage.

Safety Data Sheet



NovoKote HB (3:1) – PART B

1. IDENTIFICATION

| 24 HOUR EMERGENCY ASSISTANCE | MANUFACTURER/GENERAL MSDS ASSISTANCE |
|------------------------------|-----------------------------------------------------------------------------------------------|
| CHEM-TEL 1-800-255-3924 | Petra Polymers Tel.: (888)-497-3872 1610 E. Miraloma Ave. Placentia, CA 92870 |

PRODUCT IDENTIFIER/NAME: NovoKote HB (3:1) – PART B

RECOMMENDED USE: Chemical intermediate for epoxy

2. HAZARD(S) IDENTIFICATION

HAZARD CLASSIFICATION:

Acute Oral Toxicity Category 4
Acute Dermal Toxicity Category 4
Skin Corrosion Category 1B
Serious Eye Damage Category 1
Skin Sensitizer Category 1
Respiratory Sensitizer Category 1
TOST: Single Exposure Category 3

NFPA ratings (scale 0 – 4):

| | |
|------------|---|
| HEALTH | 2 |
| FIRE | 1 |
| REACTIVITY | 0 |
| SPECIAL | - |

NFPA HAZARD RATING:

4= EXTREME 2= MODERATE 0= INSIGNIFICANT
3= HIGH 1= SLIGHT



HAZARD PICTOGRAMS:

SIGNAL WORD: Danger!

PHYSICAL APPEARANCE: Clear to amber colored liquid with faint amine odor.

HAZARD STATEMENTS:

EYE: May cause severe irritation with corneal injury, which may result in permanent impairment of vision, even blindness. Vapors may irritate eyes.

SKIN CONTACT: May cause severe injury to skin following prolonged or repeated contact, and may cause skin sensitization or other allergic responses.

SKIN ABSORPTION: A single prolonged exposure may result in the material being absorbed in harmful amounts. The LD₅₀ for skin absorption has not been determined.

INGESTION: Single dose oral toxicity is low. The oral LD₅₀ has not been determined. Ingestion may cause gastrointestinal irritation or ulceration. Ingestion may cause burns of mouth and throat.

INHALATION: May cause respiratory sensitization or asthma in susceptible individuals. Excessive exposure may cause irritation to upper respiratory tract.

SYSTEMIC & OTHER EFFECTS: Results of in vitro ("test tube") mutagenicity tests have been negative.

PRECAUTIONARY STATEMENTS: Do not breathe dust/fume/gas/mist/vapors/spray. Use personal protective equipment as required. Do not handle until all safety precautions have been read and understood. **IF ON SKIN (or hair):** Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention. **IF SWALLOWED:** Get immediate medical advice/attention. **IF exposed or concerned:** Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| | | |
|---------------------------|-----------------|------|
| <i>Isophorone Diamine</i> | (CAS 2855-13-2) | <40% |
| <i>Benzyl Alcohol</i> | (CAS 100-51-6) | >40% |

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 in this standard.

4. FIRST AID MEASURES

INHALATION: If overcome by exposure, remove victim to fresh air immediately. Call a physician. Give oxygen or artificial respiration as needed.

EYE: Immediate and continuous irrigation with flowing water for at least 30 minutes is required. Promptly seek medical attention.

SKIN: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing, preferably under a safety shower. Seek medical attention immediately. 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.

NOTES TO PHYSICIAN: Corrosive. May cause stricture. If lavage is performed, suggest endotracheal and/or esophagoscopy control. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

5. FIRE-FIGHTING MEASURES

FLASH POINT: 213°F

METHOD USED: PMCC

FLAMMABLE LIMITS

LFL: Not Determined

UFL: Not Determined

EXTINGUISHING MEDIA: Water fog, alcohol foam, CO₂, dry chemical.

FIRE & EXPLOSION HAZARDS: Use full protective clothing

FIRE-FIGHTING EQUIPMENT: Use a positive pressure, self-contained breathing apparatus.

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

HANDLING: Avoid contact with skin and eyes

STORAGE: Store in sealed containers in a cool, dry, ventilated area, away from incompatible substances.

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Ground all transfer equipment. Hold bulk storage under a nitrogen blanket. This product should not come in contact with copper or copper-bearing alloys. Good general housekeeping procedure should be followed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE GUIDELINE(S): None established.

VENTILATION: Control airborne concentration below the exposure guideline. Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air purifying respirator.

SKIN PROTECTION: Use protective clothing impervious to this material. Selection of specific items such as gloves, boots, apron, or full-body suit will depend on operation. Safety shower should be located in immediate work area. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse. Contaminated leather items, such as shoes, belts and watchbands, should be removed and destroyed.

EYE PROTECTION: Use chemical goggles. If vapor exposure causes eye irritation, use a full-face respirator. Eye wash fountain should be located in immediate work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: 401°F

VAP PRESSURE: 0.02mmHg @20°C, 68°F

VAP DENSITY: 5.88

SOL. IN WATER: Moderately soluble.

SP. GRAVITY: 1.04

APPEARANCE: Pale straw colored liquid

ODOR: Amine odor

10. STABILITY AND REACTIVITY

STABILITY: Stable.

CONDITIONS TO AVOID: Can react strongly with epoxy resins at elevated temperatures..

INCOMPATIBLE PRODUCTS: Epoxy resins under uncontrolled conditions.

HAZARDOUS DECOMPOSITION PRODUCTS: Nitrogen oxides when burned.

HAZARDOUS REACTIONS: Product will not undergo hazardous polymerization.

THERMAL DECOMPOSITION: No data

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: Contaminated product, soil, water, container residues and spill cleanup materials may be hazardous wastes. Avoid contact with water. Aqueous wastes may not biograde. Do not treat biologically; may poison/upset plant biomass. Comply with applicable local, state or international regulations concerning solid or hazardous waste disposal and/or container disposal.

14. TRANSPORT INFORMATION

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

D.O.T. Shipping Name: Corrosive Liquids, N.O.S., Class 8, UN 1760, PG III (Contains Isophoronediamine)

15. REGULATORY INFORMATION

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| | | | | |
|--------------|----------------|-------------|-----------------|-----------------|
| Acute Hazard | Chronic Hazard | Fire Hazard | Pressure Hazard | Reactive Hazard |
| Yes | Yes | No | No | No |

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16. OTHER INFORMATION

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Petra Polymers

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