

MATERIAL SAFETY DATA SHEET (MSDS)

Section 1: MATERIAL IDENTIFICATION

PRODUCT NAME: **QuakeBond™ 320 LV Low Viscosity Epoxy (Part “A”)**

CHEMICAL FAMILY: Epoxy Resin Compound

SUPPLIER'S NAME: QuakeWrap, Inc., 2055 E. 17th Street, Tucson, AZ 85719

EMERGENCY PHONE: 800/535-5053 (Infotrac) GENERAL INFORMATION: (866) QuakeWrap [782-5397]

Section 2: HAZARDOUS INGREDIENTS

| WT % | CAS NUMBER | CHEMICAL NAME |
|------|--------------|---------------|
| >1% | Trade Secret | Epoxy Resin |

OSHA & ACGIH EXPOSURE LIMITS

| | TWA | | STEL | | CEILING | |
|-------|-----|-------------------|------|-------------------|---------|-------------------|
| | ppm | mg/m ³ | ppm | mg/m ³ | ppm | mg/m ³ |
| OSHA | N/E | N/E | N/E | N/E | N/E | N/E |
| ACGIH | N/E | N/E | N/E | N/E | N/E | N/E |

N/E=not established

Section 3: HEALTH HAZARDS

EMERGENCY OVERVIEW

HMIS HEALTH RATING: 2

FLAMMABILITY: 1

REACTIVITY: 0

HMIS Hazard Rating Least - 0 Slight – 1 Moderate – 2 High – 3 Extreme - 4

- A clear liquid with a slight “sweet” odor.
- Causes eye and skin irritation.
- Can burn in fire, releasing possible hazardous vapors, gases and fumes.
- Do not torch or weld on cured epoxy.
- Hazardous fumes and vapors may be released.
- ROUTES OF EXPOSURE: Eye Contact, Skin Contact, Ingestion.
- HEALTH HAZARDS: May cause eye irritation. May cause skin sensitization. Moderate skin irritant.
- TARGET ORGANS: Eyes, Skin.
- SIGNS AND SYMPTOMS OF EXPOSURE (ACUTE EFFECTS): Contact with skin or eyes causes irritation, redness and discomfort.
- SIGNS AND SYMPTOMS OF EXPOSURE (POSSIBLE LONGER TERM EFFECTS): Repeated and/or prolonged exposure may cause allergic reaction/ sensitization. Repeated and/or prolonged exposure may result in adverse eye effects (such as conjunctivitis or corneal damage), adverse skin effects (such as rash, irritation or corrosion).
- MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Eye disease, skin disorders and allergies.
- CARCINOGENS UNDER OSHA, ACGIH, NTP, IARC, OTHER: This product contains no carcinogens in concentrations of 0.1 percent or greater.

ATTENTION: No representation is made as to the accuracy or correctness of the information contained herein, other than to state that it is presented by this organization in good faith and we believe it to be correct and accurate per the limits of our understanding and training as of the date of first publication. The user or handler of this product is warned to take the most conservative and safest interpretation possible of all information contained herein and to use the most extreme personal protection measures and exposure limitations prudently dictated by the specific usage or handling situation, this MSDS information and good industrial safety and hygiene practices.

Section 4: FIRST AID

- **EYE CONTACT:** Hold eyelids apart and immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention.
- **SKIN CONTACT:** Remove contaminated clothing/shoes and wipe excess from skin. Flush skin with water. Follow by washing with soap and water. If irritation occurs, seek medical attention. If contact with hot product occurs, immediately flush with cool water for 15 minutes. Carefully remove clothing; if clothing is stuck to a burn area do not pull it off, but cut around it. Cover burn area with a clean material. Get medical attention immediately.
- **INHALATION:** Remove victim to fresh air and provide oxygen. If breathing is difficult, seek medical attention.
- **INGESTION:** If swallowed, call physician immediately. Induce vomiting only as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Section 5: FIRE AND EXPLOSION DATA

FLASH POINT (CLOSED CUP): > 200 °F
AUTO IGNITION TEMPERATURE: No data

UPPER EXPLOSION LIMIT (UEL): No data
LOWER EXPLOSION LIMIT (LEL): No data

- **FIRE HAZARD CLASSIFICATION (OSHA/NFPA):** This product is not considered flammable nor combustible, but will burn if involved in a fire.
- **EXTINGUISHING MEDIA:** Foam, Carbon Dioxide (CO₂), or dry chemical.
- **SPECIAL FIRE FIGHTING PROCEDURES:** Keep personnel removed from area and upwind of fire. Wear full fire-fighting turn-out gear (full bunker gear) and respiratory protection (SCBA). Cool fire exposed containers with water spray.
- **UNUSUAL FIRE AND EXPLOSION HAZARDS:** Hazardous combustion products may be present. Combustion may form aldehydes, nitrous oxides, carbon monoxide (CO), and carbon dioxide (CO₂).

Section 6: ACCIDENTAL RELEASE MEASURES

- **CONTAINMENT TECHNIQUES (REMOVAL OF IGNITION SOURCES, DIKING, ETC.):** Stop the leak, if possible. Shut off or remove all ignition sources. Construct a dike to prevent spreading.
- **CLEAN-UP PROCEDURES:** Spread absorbent material over area. Wipe or scrape up material. Dispose of material in accordance with local, state and federal regulations. Wash area with soap and water. Prevent washings from entering sewers or waterways.
- **OTHER EMERGENCY ADVICE:** Wear protective clothing, boots, gloves, respirator, and eye protection.

Section 7: HANDLING AND STORAGE

- **STORAGE:** Store in a cool (60-80 °F), dry, ventilated place. Crystallization may occur if storage temperature drops below 55 °F for a prolonged period of time. Store in closed containers.
- **HANDLING:** Avoid contact with skin, eyes, or clothing. When handling, do not eat, drink, or smoke.
- **OTHER PRECAUTIONS:** Wash thoroughly after handling. Remove contaminated clothing and gear. Decontaminate. Destroy leather or any articles which cannot be decontaminated.

ATTENTION: No representation is made as to the accuracy or correctness of the information contained herein, other than to state that it is presented by this organization in good faith and we believe it to be correct and accurate per the limits of our understanding and training as of the date of first publication. The user or handler of this product is warned to take the most conservative and safest interpretation possible of all information contained herein and to use the most extreme personal protection measures and exposure limitations prudently dictated by the specific usage or handling situation, this MSDS information and good industrial safety and hygiene practices.

Section 8: PERSONAL PROTECTION/EXPOSURE CONTROLS

- **EYE PROTECTION:** Chemical safety goggles recommended. Contact lenses should not be worn while using this product.
- **HAND PROTECTION:** Chemical resistant gloves recommended, such as neoprene or nitrile rubber.
- **RESPIRATORY PROTECTION:** Not necessary under most operating conditions. NIOSH approved organic vapor respirator should be used in confined areas, or when conditions cause high vapor concentrations. If the percent oxygen is below normal then use self-contained breathing apparatus.
- **PROTECTIVE CLOTHING:** Clean, body covering clothing should be utilized.
- **WORK AND HYGIENIC PRACTICES:** Eye wash stations and safety showers should be easily accessible.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|-----------------|--------------|----------------------|------------------|
| PHYSICAL FORM: | Liquid | VAPOR DENSITY: | Heavier than air |
| COLOR: | Clear | BOILING POINT: | >200 °F |
| ODOR: | Slight sweet | MELTING POINT: | Not Applicable |
| Ph: | No data | SOLUBILITY IN WATER: | Negligible |
| VAPOR PRESSURE: | No data | SPECIFIC GRAVITY: | 1.16 |

Section 10: STABILITY AND REACTIVITY

| | |
|------------------------------------|--------|
| CHEMICAL STABILITY: | Stable |
| CONDITIONS TO AVOID (IF UNSTABLE): | None |

Section 11: TOXICOLOGICAL PROPERTIES

| | |
|--|-------------------|
| ACUTE ORAL TOXICITY (LD50, RAT): | No data available |
| ACUTE DERMAL TOXICITY (LD50, RABBIT): | No data available |
| ACUTE INHALATION TOXICITY (LC50, RAT): | No data available |

Section 12: ECOLOGICAL INFORMATION

NO DATA AVAILABLE

Section 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: This material does not contain any VOC's (volatile organic compounds). Dispose of material in accordance with applicable, local, state, and federal laws and regulations. The state and local regulations and laws may differ from federal regulations, and laws may change or be reinterpreted. This information only applies to the material as manufactured. Processing, use, or contamination may make the information in appropriate, inaccurate, or incomplete. Responsibility for proper waste disposal is with the owner of the waste.

ATTENTION: No representation is made as to the accuracy or correctness of the information contained herein, other than to state that it is presented by this organization in good faith and we believe it to be correct and accurate per the limits of our understanding and training as of the date of first publication. The user or handler of this product is warned to take the most conservative and safest interpretation possible of all information contained herein and to use the most extreme personal protection measures and exposure limitations prudently dictated by the specific usage or handling situation, this MSDS information and good industrial safety and hygiene practices.

Section 14: TRANSPORT INFORMATION

| | |
|-----------------------------|--------------------------------|
| DOT NON-BULK SHIPPING NAME: | Resin Compound - not regulated |
| DOT BULK SHIPPING NAME: | Resin Compound- not regulated |
| TECHNICAL SHIPPING NAME: | NMFC Item 46030, Class 55 |
| DOT HAZARD CLASS: | Not regulated |
| PACKING GROUP: | Not regulated |
| IMO SHIPPING DATA: | Resin Compound - not regulated |
| CAO/IATA SHIPPING DATA: | Resin Compound - not regulated |

Section 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS:

- TOXIC SUBSTANCES CONTROL ACT (TSCA): All components are included in the EPA Toxic Substances Control Act (TSCA) Chemical Substance Inventory or are not required to be listed on the TSCA Inventory.
- OSHA (29CFR1910.1200) HAZARD CLASS(ES): Irritant. Sensitizer
- EPCRA SECTION 312 (40CFR370) HAZARD CLASSES: Immediate Health Hazard. Delayed Health Hazard.
- EPCRA SECTION 313 (40CFR372): Toxic chemicals above "de minimus" level (% by weight): None

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65 SUBSTANCES: (components known to the State of California to cause cancer and/or reproductive toxicity and subject to warning and discharge requirements under the "Safe Drinking Water and Toxic Enforcement Act of 1986"). None

INTERNATIONAL REGULATIONS

CANADA: WHMIS Hazard Classification: Class D, division 2B
WHMIS Risk Phrases: Eye or skin irritant. Skin sensitizer.
WHMIS Symbols: Stylized T

Section 16: CANADIAN REGULATORY INFORMATION

To the best of our knowledge, the information contained herein is accurate. However, neither QuakeWrap, Inc. nor any of its agents assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.

ABBREVIATIONS: N/A = not applicable; N.D.A. = no data available; NE = not established

END OF MSDS

ATTENTION: No representation is made as to the accuracy or correctness of the information contained herein, other than to state that it is presented by this organization in good faith and we believe it to be correct and accurate per the limits of our understanding and training as of the date of first publication. The user or handler of this product is warned to take the most conservative and safest interpretation possible of all information contained herein and to use the most extreme personal protection measures and exposure limitations prudently dictated by the specific usage or handling situation, this MSDS information and good industrial safety and hygiene practices.

MATERIAL SAFETY DATA SHEET (MSDS)

Section 1: MATERIAL IDENTIFICATION

PRODUCT NAME: **QuakeBond™ 320 LV Crack Injection Epoxy (Part “B”)**

CHEMICAL FAMILY: Epoxy Resin Compound

SUPPLIER'S NAME: QuakeWrap, Inc., 2055 E. 17th Street, Tucson, AZ 85719

EMERGENCY PHONE: 800/535-5053 (Infotrac) GENERAL INFORMATION: (866) QuakeWrap [782-5397]

Section 2: HAZARDOUS INGREDIENTS

| WT % | CAS NUMBER | CHEMICAL NAME |
|------|--------------|-----------------------------------|
| >1% | Trade Secret | Aliphatic Amine & Polyamide blend |

OSHA & ACGIH EXPOSURE LIMITS

| | TWA | | STEL | | CEILING | |
|-------|-----|-------------------|------|-------------------|---------|-------------------|
| | ppm | mg/m ³ | ppm | mg/m ³ | ppm | mg/m ³ |
| OSHA | N/E | N/E | N/E | N/E | N/E | N/E |
| ACGIH | N/E | N/E | N/E | N/E | N/E | N/E |

N/E=not established

Section 3: HEALTH HAZARDS

EMERGENCY OVERVIEW

HMIS HEALTH RATING: 2

FLAMMABILITY: 1

REACTIVITY: 0

HMIS Hazard Rating Least - 0 Slight – 1 Moderate – 2 High – 3 Extreme - 4

- A straw liquid with an amine odor.
- Causes eye and skin irritation.
- Can burn in fire, releasing possible hazardous vapors, gases and fumes.
- Do not torch or weld on cured epoxy.
- Hazardous fumes and vapors may be released.

- ROUTES OF EXPOSURE: Eye Contact, Skin Contact, Ingestion.
- HEALTH HAZARDS: May cause eye irritation. May cause skin sensitization. Moderate skin irritant.
- TARGET ORGANS: Eyes, Skin.
- SIGNS AND SYMPTOMS OF EXPOSURE (ACUTE EFFECTS): Contact with skin or eyes causes irritation, redness and discomfort.
- SIGNS AND SYMPTOMS OF EXPOSURE (POSSIBLE LONGER TERM EFFECTS): Repeated and/or prolonged exposure may cause allergic reaction/ sensitization. Repeated and/or prolonged exposure may result in adverse eye effects (such as conjunctivitis or corneal damage), adverse skin effects (such as rash, irritation or corrosion).
- MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Eye disease, skin disorders and allergies.
- CARCINOGENS UNDER OSHA, ACGIH, NTP, IARC, OTHER: This product contains no carcinogens in concentrations of 0.1 percent or greater.

ATTENTION: No representation is made as to the accuracy or correctness of the information contained herein, other than to state that it is presented by this organization in good faith and we believe it to be correct and accurate per the limits of our understanding and training as of the date of first publication. The user or handler of this product is warned to take the most conservative and safest interpretation possible of all information contained herein and to use the most extreme personal protection measures and exposure limitations prudently dictated by the specific usage or handling situation, this MSDS information and good industrial safety and hygiene practices.

Section 4: FIRST AID

- **EYE CONTACT:** Hold eyelids apart and immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention.
- **SKIN CONTACT:** Remove contaminated clothing/shoes and wipe excess from skin. Flush skin with water. Follow by washing with soap and water. If irritation occurs, seek medical attention. If contact with hot product occurs, immediately flush with cool water for 15 minutes. Carefully remove clothing; if clothing is stuck to a burn area do not pull it off, but cut around it. Cover burn area with a clean material. Get medical attention immediately.
- **INHALATION:** Remove victim to fresh air and provide oxygen. If breathing is difficult, seek medical attention.
- **INGESTION:** If swallowed, call physician immediately. Induce vomiting only as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Section 5: FIRE AND EXPLOSION DATA

FLASH POINT (CLOSED CUP): > 200 °F
AUTO IGNITION TEMPERATURE: No data

UPPER EXPLOSION LIMIT (UEL): No data
LOWER EXPLOSION LIMIT (LEL): No data

- **FIRE HAZARD CLASSIFICATION (OSHA/NFPA):** This product is not considered flammable nor combustible, but will burn if involved in a fire.
- **EXTINGUISHING MEDIA:** Foam, Carbon Dioxide (CO₂), or dry chemical.
- **SPECIAL FIRE FIGHTING PROCEDURES:** Keep personnel removed from area and upwind of fire. Wear full fire-fighting turn-out gear (full bunker gear) and respiratory protection (SCBA). Cool fire exposed containers with water spray.
- **UNUSUAL FIRE AND EXPLOSION HAZARDS:** Hazardous combustion products may be present. Combustion may form aldehydes, nitrous oxides, carbon monoxide (CO), and carbon dioxide (CO₂).

Section 6: ACCIDENTAL RELEASE MEASURES

- **CONTAINMENT TECHNIQUES (REMOVAL OF IGNITION SOURCES, DIKING, ETC.)** Stop the leak, if possible. Shut off or remove all ignition sources. Construct a dike to prevent spreading.
- **CLEAN-UP PROCEDURES:** Spread absorbent material over area. Wipe or scrape up material. Dispose of material in accordance with local, state and federal regulations. Wash area with soap and water. Prevent washings from entering sewers or waterways.
- **OTHER EMERGENCY ADVICE:** Wear protective clothing, boots, gloves, respirator, and eye protection.

Section 7: HANDLING AND STORAGE

- **STORAGE:** Store in a cool (60-80 °F), dry, ventilated place. Store in close containers.
- **HANDLING:** Avoid contact with skin, eyes, or clothing. When handling, do not eat, drink, or smoke.
- **OTHER PRECAUTIONS:** Wash thoroughly after handling. Remove contaminated clothing and gear. Decontaminate. Destroy leather or any articles which cannot be decontaminated.

ATTENTION: No representation is made as to the accuracy or correctness of the information contained herein, other than to state that it is presented by this organization in good faith and we believe it to be correct and accurate per the limits of our understanding and training as of the date of first publication. The user or handler of this product is warned to take the most conservative and safest interpretation possible of all information contained herein and to use the most extreme personal protection measures and exposure limitations prudently dictated by the specific usage or handling situation, this MSDS information and good industrial safety and hygiene practices.

Section 8: PERSONAL PROTECTION/EXPOSURE CONTROLS

- **EYE PROTECTION:** Chemical safety goggles recommended. Contact lenses should not be worn while using this product.
- **HAND PROTECTION:** Chemical resistant gloves recommended, such as neoprene or nitrile rubber.
- **RESPIRATORY PROTECTION:** Not necessary under most operating conditions. NIOSH approved organic vapor respirator should be used in confined areas, or when conditions cause high vapor concentrations. If the percent oxygen is below normal then use self-contained breathing apparatus.
- **PROTECTIVE CLOTHING:** Clean, body covering clothing should be utilized.
- **WORK AND HYGIENIC PRACTICES:** Eye wash stations and safety showers should be easily accessible.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|-----------------|---------|----------------------|------------------|
| PHYSICAL FORM: | Liquid | VAPOR DENSITY: | Heavier than air |
| COLOR: | Srtraw | BOILING POINT: | >200 °F |
| ODOR: | Amine | MELTING POINT: | Not Applicable |
| Ph: | No data | SOLUBILITY IN WATER: | Negligible |
| VAPOR PRESSURE: | No data | SPECIFIC GRAVITY: | 0.99 |

Section 10: STABILITY AND REACTIVITY

| | |
|---------------------------------------|---|
| CHEMICAL STABILITY: | Stable |
| CONDITIONS TO AVOID (IF UNSTABLE): | None |
| INCOMPATIBILITY (MATERIALS TO AVOID): | Acids, strong oxidizing agents |
| HAZARDOUS DECOMPOSITION PRODUCTS: | None |
| HAZARDOUS POLYMERIZATION: | Contact with epoxy hardeners under uncontrolled conditions. May release excess heat and vapors. |

Section 11: TOXICOLOGICAL INFORMATION

| | |
|--|-------------------|
| ACUTE ORAL TOXICITY (LD50, RAT): | No data available |
| ACUTE DERMAL TOXICITY (LD50, RABBIT): | No data available |
| ACUTE INHALATION TOXICITY (LC50, RAT): | No data available |

Section 12: ECOLOGICAL INFORMATION

NO DATA AVAILABLE.

Section 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: This material does not contain any VOC's (volatile organic compounds). Dispose of material in accordance with applicable, local, state, and federal laws and regulations. The state and local regulations and laws may differ from federal regulations, and laws may change or be reinterpreted. This information only applies to the material as manufactured. Processing, use, or contamination may make the information inappropriate, inaccurate, or incomplete. Responsibility for proper waste disposal is with the owner of the waste

ATTENTION: No representation is made as to the accuracy or correctness of the information contained herein, other than to state that it is presented by this organization in good faith and we believe it to be correct and accurate per the limits of our understanding and training as of the date of first publication. The user or handler of this product is warned to take the most conservative and safest interpretation possible of all information contained herein and to use the most extreme personal protection measures and exposure limitations prudently dictated by the specific usage or handling situation, this MSDS information and good industrial safety and hygiene practices.

Section 14: TRANSPORT INFORMATION

| | |
|-----------------------------|--------------------------------|
| DOT NON-BULK SHIPPING NAME: | Epoxy Hardener - not regulated |
| DOT BULK SHIPPING NAME: | Epoxy Hardener - not regulated |
| TECHNICAL SHIPPING NAME: | NMFC Item 46030, Class 55 |
| DOT HAZARD CLASS: | Not regulated |
| UN#: | Not regulated |
| PACKING GROUP: | Not regulated |
| IMO SHIPPING DATA: | Epoxy Hardener - not regulated |
| CAO/IATA SHIPPING DATA: | Epoxy Hardener - not regulated |

Section 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS:

- TOXIC SUBSTANCES CONTROL ACT (TSCA): All components are included in the EPA Toxic Substances Control Act (TSCA) Chemical Substance Inventory or are not required to be listed on the TSCA Inventory.
- OSHA (29CFR1910.1200) HAZARD CLASS(ES): Irritant. Sensitizer
- EPCRA SECTION 312 (40CFR370) HAZARD CLASSES: Immediate Health Hazard. Delayed Health Hazard.
- EPCRA SECTION 313 (40CFR372): Toxic chemicals above "de minimus" level: None

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65 SUBSTANCES: (components known to the State of California to cause cancer and/or reproductive toxicity and subject to warning and discharge requirements under the "Safe Drinking Water and Toxic Enforcement Act of 1986"). None

INTERNATIONAL REGULATIONS

CANADA: WHMIS Hazard Classification: Class D, division 2B
WHMIS Risk Phrases: Eye or skin irritant. Skin sensitizer.
WHMIS Symbols: Stylized T

Section 16: CANADIAN REGULATORY INFORMATION

To the best of our knowledge, the information contained herein is accurate. However, neither Copps Industries nor any of its agents assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.

ABBREVIATIONS: N/A = not applicable; N.D.A. = no data available; NE = not established

END OF MSDS

ATTENTION: No representation is made as to the accuracy or correctness of the information contained herein, other than to state that it is presented by this organization in good faith and we believe it to be correct and accurate per the limits of our understanding and training as of the date of first publication. The user or handler of this product is warned to take the most conservative and safest interpretation possible of all information contained herein and to use the most extreme personal protection measures and exposure limitations prudently dictated by the specific usage or handling situation, this MSDS information and good industrial safety and hygiene practices.