

MATERIAL SAFETY DATA SHEET

1. Product Information

Product Name: VIR 100 Part A Resin Chemical Family: Epoxy Resin Product Code: ER350-A

2. Composition/Information on Ingredients

Chemical Name	CAS Number	Percent
Bisphenol-A, epichlorohydrin	25068-38-6	100

Specific ingredients of this product are withheld and considered a trade secret.

3. Acute Toxicity Data

No. Acute Oral LD50 Acute Dermal LD50 Acute Inhalation LD50 No specific information is available

4. Health Hazard Data

Eye Contact: Moderately irritating to the eyes. **Skin Contact:** Moderately irritating to the skin, possible skin sensitization. **Inhalation:** Not considered a inhalation hazard. **Ingestion:** Considered to have a low order of acute toxicity. **Carcinogenicity:** Not classified as a carcinogen.

5. Emergency First Aid Procedures

Eye Contact: Flush eyes with plenty of water. Get medical attention. **Skin Contact:** Remove contaminated clothing. Wash with soap and water. If irritation occurs, get medical attention. **Inhalation:** Provide fresh air. Provide oxygen if breathing is difficult. **Ingestion:** Do not induce vomiting. In general, no treatment is necessary unless large quantities are ingested. However, get medical advice.

6. Physical Data

Boiling Point: >500 deg. F. Melting Point: Not applicable. Specific Gravity: 1.15 Vapor Density (Air=1): Not applicable Vapor Pressure (mm/Hg): <1.0 Solubility in Water: Negligible Evaporation Rate (N-butyl Acetate =1): Not applicable Appearance and Odor: Clear, low viscosity liquid with mild odor.

7. Fire and Explosion Hazards

Flash Point: 485 deg. F. PMCC. **Flammable Limits/%** Lower: Not determined. Upper: Not determined.
Extinguishing media: Use form, dry chemical, or CO₂. **Fire Fighting Procedures and Precautions:** Do not enter confined fire space without full protective clothing (helmet with face shield, gloves and rubber boots), including NIOSH approved self contained breathing apparatus. **Fire and Explosion Hazards:** None known.

8. Stability and Reactivity

Stability: Stable. **Hazardous Polymerization:** Will not occur. **Conditions to Avoid:** Heating to high temperatures. **Materials to Avoid:** Strong oxidizing agents, strong Lewis or mineral acids, and strong organic bases, especially primary and secondary aliphatic amines. **Hazardous Decomposition Products:** Carbon monoxide, aldehydes, acids, and other organic substances may be formed during combustion.

9. Employee Protection

Precautions in Storage and Handling: Store at room temperature. **Ventilation:** General ventilation is usually adequate. **Respiratory Protection:** Not ordinarily required. **Skin Protection:** Rubber gloves and clothing impervious to this material. **Eye Protection:** Safety glasses, chemical goggles, or face plate.

10. Environmental Protection

Spill or Leak Procedures: Prevent all bodily contact with spilled materials. Wear appropriate protective clothing. Eliminate potential fire hazards. dike spill and absorb with an inert material such as clay or sand, and collect in a non-leaking container. Flush area with water to remove last traces of residue. Dispose of flush solutions by absorption as above. **Waste Disposal Method:** Do not dump into sewers or into any body of water. Incinerate in an approved incinerator, or dispose of in a chemical dump in accordance with Federal, State, and local regulations.

11. Transportation Requirements

The D.O.T. information in this section is based on an evaluation of the product against the requirements of 49 CFR 172 and 173 as revised.
DOT Proper Shipping Name: Not regulated. DOT Hazard Class: N/A DOT Labeling: N/A Packing Group: N/A UN/NA#: N/A

12. Regulatory Information

NOTICE: The information presented herein is based on the data available to us and is believed to be correct as of the date prepared. However, no liability whatsoever is assumed. It is the buyer's responsibility to determine the suitability of the product and the results obtained from its use. The manufacturer assumes no responsibility for injury resulting from the use of the product described herein.

MATERIAL SAFETY DATA SHEET

1. Product Information

Product Name: VIR 100 Epoxy Hardener Part B

Chemical Family: Aliphatic Amine

Product Code: ER350-B

2. Composition/Information on Ingredients

Chemical Name	Percent	Exposure Limits	
		ACGIH TLV-TWA	OSHA PEL
The specific ingredients of this product are considered a trade Secret. Amines		N/E	N/E (not established)

3. Acute Toxicity Data

No. Acute Oral LD50 Acute Dermal LD50 Acute Inhalation LC50 No specific information is available.

4. Health Hazard Data

Eye Contact: Extremely irritating with possible permanent eye injury. **Skin Contact:** May cause allergic skin irritation which may be severe in certain individuals. **Inhalation:** If heated to extreme, vapors may cause irritation to the nose, throat, and respiratory tract. **Ingestion:** This product is considered to have a high order of acute toxicity **Carcinogenicity:** Not classified as a carcinogen.

5. Emergency First Aid Procedures

Eye Contact: Flush eyes with plenty of water, consult physician immediately. **Skin Contact:** Wash with soap and water. If rash develops, consult physician. **Inhalation:** Remove to fresh air if effects occur, consult physician. **Ingestion:** Do not induce vomiting. Give one glass of water unless victim is drowsy, convulsing, or unconscious. Seek medical attention immediately.

6. Physical Data

Flash Point: >200/ (PMCC) Boiling Point: >400 deg. G. Melting Point: Not determined. Specific Gravity: 1.04 Vapor Density (Air=1): >1
Vapor Pressure (mm/Hg): <1@20C. Solubility in Water: Partial Evaporation Rate (N-Butyl Acetate=1): <1 Appearance and Odor: Clear liquid with amine odor.

7. Fire and Explosion Hazards

Flash Point: >450 deg. F. **Flammable Limits/%** Lower: Not determined Upper: Not determined.
Extinguishing Media: Use foam, dry chemical or CO2. **Fire Fighting Procedures and Precautions:** Do not enter confined fire space without full protective clothing (helmet with face shield, gloves and rubber boots), including NIOSH approved self contained breathing apparatus. **Fire and Explosion Hazards:** Closed containers may rupture (due to buildup of pressure) when exposed to extreme heat.

8. Stability and Reactivity

Stability: Stable. **Hazardous Polymerization:** Will not occur. **Conditions to Avoid:** Extreme heat. **Materials to Avoid:** Strong acids, bases, epoxy resins, and isocyanates may cause polymerization. **Hazardous Decomposition Products:** Carbon dioxide and carbon monoxide.

9. Employee Protection

Precautions in Storage and Handling: Store at room temperature. **Ventilation:** Local exhaust recommended. **Respiratory Protection:** NIOSH approved respirator. **Skin Protection:** Rubber gloves and clothing impervious to this material. **Eye Protection:** Safety glasses, chemical goggles or face plate.

10. Environmental Protection

Spill or Leak Procedures: Prevent all bodily contact with spilled materials. Wear appropriate protective clothing. Eliminate potential fire hazards. Dike spill and absorb with an inert material such as clay or sand, and collect in a non-leaking container. Flush area with water to remove last traces of residue. Dispose of flush solutions by absorption as above.

11. Transportation Requirements

The D.O.T. information in this section is based on an evaluation of the product against the requirements of 49 CFR 172 and 173 as revised. DOT Proper Shipping Name: Corrosive Liquids N.O.S. (Aliphatic Amine) DOT Hazards Class: 8, Packing Group: III, DOT Labeling: Corrosive, UN/MA#: UN2735

12. Regulatory Information

NOTICE: The information presented herein is based on the data available to us and is believed to be correct as of the date prepared. However, no liability whatsoever is assumed. It is the buyer's responsibility to determine the suitability of the product and the results obtained from its use. The manufacturer assumes no responsibility for injury resulting from the use of the product described herein.

date of prepn: 2/20/07

Manufactured by: ERC in RI

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