MATERIAL SAFETY DATA SHEET

Date PREPARED: 1-22-08
Prepared According to 29CFR 1910.1200
Product
Code: 100

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Company: A.C. Composite Resins
Emergency Phone: 916-203-3320
Mailing Address: 102411 Sheldon Road
Elk Grove CA 95842
Product Name: VOB Two part Epoxy System

SECTION 2: INGREDIENTS

PART A (33.33% of total weight) PART B (66.66% of total weight)

CHEMICAL NAME TGIC (Epoxide Resin) FORMULA: Chemical (or equal)

CASE number: 2386-87-8 or 5493-45-8

Product ingredients:

PART A
- 7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 7-oxabicyclo[4.1.0]hept-3-ylmethyl ester >= 82% to 89%
- Soluble oligomer, CASE number N/A >= 8 to 13% Monoepoxides of 3-cyclohexenylmethyl-3-cyclohexene carboxylate, CASE number N/A >= 3% to 5%

PART B: Fatty acids, Unsatd. Fatty acids CASE numbers 68937-90-6 / 61788-89-4 +/-55% to 86%
(MTHPA) / (MHHPA) Case number N/A +/- 15% to 20%

SECTION 3: PHYSICAL DATA / CHEMICAL PROPERTIES

PART A:
- BOILING POINT (760 mmHg): > 250 °C > 482 °F Decomposes; Boiling point = 170°C (338°F) at 1 mmHg
- FREEZING POINT Sets to glass -37 °C -35 SPECIFIC GRAVITY 1.173 to VAPOR PRESSURE ~< 0.01 mmHg 20 °C *NE
- SPECIFIC GRAVITY 1.173 to VAPOR PRESSURE ~< 0.01 mmHg 20 °C *NE
- WATER, % by wt. EVAPORATION RATE: ________ VAPOR DENSITY: ________ SOLUBILITY: 100%
- APPEARANCE colorless liquid ODOR Nil PH: ________ % Phosphorous: None

PART B:
- BOILING POINT F FREEZING POINT <0°F SPECIFIC GRAVITY to VAPOR PRESSURE *NE
- WATER, % by wt. EVAPORATION RATE: ________ VAPOR DENSITY: ________ SOLUBILITY: 100%
- APPEARANCE colorless liquid ODOR Nil PH: <1 % Phosphorous: None

SECTION 4: FIRST AID MEASURES

SWALLOWING: Consult Doctor.
SKIN: Rinse with water.
INHALATION: Consult with Doctor.
EYES: Flush with water.

NOTES TO PHYSICIAN

Long term, widespread usage and review of ingredients for Part A and Part B indicate this product to be generally regarded as a safe. There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition.

SECTION 5: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT PART A: 118 °C 245 °F Pensky-Martens Closed Cup ASTM D 93
FLAMMABLE LIMITS LOWER N/A UPPER N/A
EXTINGUISHING MEDIA N/A
SPECIAL FIRE FIGHTING PROCEDURES N/A UNUSUAL FIRE & EXPLOSION HAZARD N/A

SECTION 6: HEALTH HAZARD DATA

EFFECTS OF ACUTE OVEREXPOSURE Part A and Part B
SWALLOWING: See LD 50 information for Part A and Part B.
SKIN ABSORPTION: See LD 50 information for Part A and Part B.
INHALATION: No respiratory protection should be needed.
SKIN CONTACT: See LD information for Part A and Part B.
EYE CONTACT: No evidence of adverse effects.

EFFECTS OF REPEATED EXPOSURE: Tested with no adverse effects.

OTHER HEALTH HAZARDS: None currently known.

Carcinogens and Toxins: Part A and Part B combined does not contain any known or suspected human carcinogens in concentrations equal to or greater than 1/2% (by weight) as defined in: Code of Federal Regulations 29 CFR 1910.1000 series, OSHA). Part A and B

TOXIC SUBSTANCES CONTROL ACT (TSCA)

All components of Part A and Part B of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30.
SECTION 7: HANDLING AND STORAGE

<table>
<thead>
<tr>
<th>Safe handling procedures:</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage requirements:</td>
<td>Store in a cool, well-ventilated area. Avoid low temperatures.</td>
</tr>
</tbody>
</table>

SECTION 8: STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Stability and reactivity:</th>
<th>Stable at room temperature, in normal handling and storage conditions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polymerisation:</td>
<td>Hazardous polymerisation will not occur.</td>
</tr>
<tr>
<td>Conditions to avoid:</td>
<td>None reported</td>
</tr>
<tr>
<td>Materials to avoid:</td>
<td>None reported</td>
</tr>
<tr>
<td>Hazardous decomposition products:</td>
<td>None reported</td>
</tr>
</tbody>
</table>

SECTION 9: TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>PART A: TGIC</th>
<th>TGIC Test Plan Summary 201-15759 A Toxicology Summary and Test Plan Sent to US EPA HPV Chemical Challenge Program Submitted by: N. Bhushan Mandava, Ph.D. Mandava Associates 1730 M Street, NW Suite 906 Washington, DC 20036 Phone: (202) 223-1424 <a href="http://www.mandava.com">www.mandava.com</a> December 27, 2004 (This document contains a total of 44 pages) The lack of carcinogenic responses in the cancer screening endpoint in a 13 week subchronic study, the 30 week dermal initiation-promotion study and the two year cancer bioassay, fully support the position that TGIC is unlikely to be a carcinogen. Thus, the necessary toxicological endpoints for TGIC have</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure limits: ACUTE TOXICITY: Peroral Rat: LD50 = 5000 mg/kg; Approximately Percutaneous Rabbit: LD50 &gt; 23000 mg/kg DEVELOPMENTAL TOXICITY Did not cause birth defects in laboratory animals., Has been toxic to the fetus in lab animals at doses toxic to the mother. REPRODUCTIVE TOXICITY Limited data in laboratory animals suggest that the material does not affect reproduction. CHRONIC TOXICITY AND CARCINOGENICITY Did not cause cancer in animal skin painting studies. GENETIC TOXICOLOGY In vitro genetic toxicity studies were negative in some cases and positive in other cases. In Vivo Animal genetic toxicity studies were negative. No ingredient listed by IARC, ACGIH, NTP and OSHA as a carcinogen.</td>
<td></td>
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<tr>
<td>Part B limits: Acute Oral Toxicity – Rats LD50 &gt; 5 g/kg Primary Dermal Irritation – Rabbits PI Index: 0.0 Not a primary dermal irritant! Primary Ocular Irritation – Rabbits Zero Draize Score Not a primary ocular irritant Comedogenicity 0/3 Minor irritation to epidermis Cosmetic Ingredient Review (CIR) Safe as used in cosmetic products on Diisosteryl Dimer Dilinolate Maximum as used concentration: 12%</td>
<td></td>
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<tr>
<td>HIGH PRODUCTION VOLUME (HPV) CHEMICAL CHALLENGE PROGRAM CAS No. 61788-89-4 CAS No. 68937-90-6 CAS No. 68783-41-5 CAS No. 71808-39-4Submitted to the US EPA BY The Pine Chemicals Association, Inc. HPV Task Force Consortium Registration Acute oral toxicity studies investigates the effect(s) of a single exposure to a relatively high dose of a substance. This test is conducted by administering the test material to animals (typically rats or mice) in a single gavage dose. Harmonized EPA testing guidelines (August 1998) set the limit dose for acute oral toxicity studies at 2000 mg/kg body weight. If less than 50 percent mortality is observed at the limit dose, no further testing is needed. A test substance that Summary of Available Acute Oral Toxicity Data Dimer is non-toxic following acute oral exposure, with LD50 values &gt; 2,000 mg/kg in several studies. Hydrogenated dimer is also non-toxic following acute oral exposure with an LD50 value &gt; 5,000 mg/kg. Summary of Acute Oral Toxicity Testing: The representative compound in this category (dimer) has been tested for acute oral toxicity and found to be non-toxic (i.e., LD50 &gt; 2000 mg/kg). In addition, hydrogenated dimer is also non-toxic with an LD50 &gt; 5,000 mg/kg.</td>
<td></td>
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</table>
2. Repeat Dose Toxicity

Subchronic repeat dose toxicity studies are designed to evaluate the effect of repeated exposure to a chemical over a significant period of the life span of an animal. Typically, the exposure regimen in a subchronic study involves daily exposure (at least 5 consecutive days per week) for a period of not less than 28 days or up to 90 days (i.e., 4 to 13 weeks). The HPV program calls for a repeat dose test of at least 28 days. The dose levels evaluated are lower than the relatively high doses used in acute toxicity (i.e., LD50) studies. In general, repeat dose studies are designed to assess systemic toxicity, but the study protocol can be modified to incorporate evaluation of potential adverse reproductive and/or developmental effects. Summary of Available Repeat Dose Toxicity Data

There are existing data that demonstrate low toxicity for dimer. This substance was administered to Sprague-Dawley rats at dietary concentrations of 0, 0.1, 1, or 5% for 13 weeks. The approximate doses were 0, 100, 1,000, or 5,000 mg/kg/day. Parameters evaluated included clinical signs, body weight, food and water consumption, hematology, clinical chemistry, and gross pathology, organ weights and microscopic pathology.

No deaths occurred and no treatment-related effects on clinical signs, body weight, body weight gain, or water intake were noted. A transient, statistically significantly decrease in food consumption occurred in the 5% males and females during the first four weeks of study. Slight changes in hemoglobin (increased in 5% males) and prothrombin time (increased in 1% females and 5% males and females) were considered not to be toxicologically significant. Treatment-related clinical chemistry changes included increased alkaline phosphatase (1 and 5% males and females) and ALT (5% males and females), and decreases in total cholesterol and triglycerides (1 and 5% males and females), total serum protein and albumin (5% males and females), and beta-16.

| Skin sensitization: |
| Respiratory tract sensitization: |
| Exposure limits: |
| Carcinogenicity: |

SECTION 10: ECOLOGICAL INFORMATION

Part A: Environmental effects:

Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions. The rate constant for the vapor phase reaction with photo chemically produced hydroxyl radicals at 25°C is estimated to be: 1.63E-11 cm3/molecule-sec at 25°C. In the atmospheric environment, material is estimated to have a tropospheric half-life of: 7.89 hr. The hydrolysis half-life is 33-47 days at 20°C, pH7. Modified Sturm Test (OECD 301B)(% CO2 evolved)

Day 5 Day 10 Day 15 Day 28
71 % Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Potential for mobility in soil is very high (Koc between 0 and 50). Soil organic carbon/water partition coefficient (Koc) is estimated to be: 29. Henry's Law Constant (H) is estimated to be: 3.60E-10 atm-m3/mole.

Theoretical Oxygen Demand (THOD) - calculated: 2.16 mg/mg
Octanol/Water Partition Coefficient - Measured: 1.34

Chemicals contained Part A:
Aquatic toxicity:
Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

**Toxicity to Aquatic Invertebrates**
- water flea Daphnia magna; Acute immobilization EC50
  - Result value: 40 mg/L

**Toxicity to Aquatic Plants**
- green alga Selenastrum capricornutum; Growth inhibition; EC50
  - Result value: 90 mg/L

**Toxicity to Fish**
- rainbow trout (Oncorhynchus mykiss); Acute LC50
  - Result value: 24 mg/L

DOES NOT contain Class I or Class II Ozone depleting substances as defined by 40 CFR 82 equal or greater 1.0 % Wt.

SECTION 11: DISPOSAL CONSIDERATIONS / STORAGE

**Personal precautions:** Evacuate the spill area.

**Spill response/Cleanup:**

**Environmental precautions:**
Part A or B DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. E.T. Materials HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2 (Composition/Information on Ingredients). FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device. As a service to its customers, E.T. Materials can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums.

**STORAGE:** Store in the containers as received. (Specified plastic base container) DO NOT store in metal containers.

SECTION 12: TRANSPORT INFORMATION

Transportation of Dangerous Goods (TDG): Not regulated / Non corrosive as defined. Labels Required as defined in 49 CFR 172.101: NONE

Reporting requirements under section 49 CFR 173.154: Not applicable

Report Quantity 49 CFR 171.101: None

SECTION 13: REGULATORY INFORMATION / AGENCY APPROVALS

**Government Hazard Rating**

<table>
<thead>
<tr>
<th>Rating</th>
<th>Hazard</th>
<th>NFPA HAZARD RATINGS</th>
<th>SARA TITLE III</th>
<th>HMIS Hazard Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 = EXTREME</td>
<td>FIRE</td>
<td>0</td>
<td>494 Title III NONE</td>
<td>1</td>
</tr>
<tr>
<td>3 = HIGH</td>
<td>REACTIVITY</td>
<td>0</td>
<td>302 Title III NONE</td>
<td>1</td>
</tr>
<tr>
<td>2 = MODERATE</td>
<td>TOXICITY</td>
<td>0</td>
<td>311 Title III NONE</td>
<td>1</td>
</tr>
<tr>
<td>1 = SLIGHT</td>
<td>SPECIAL</td>
<td>0</td>
<td>312 Title III NONE</td>
<td>1</td>
</tr>
<tr>
<td>0 = INSIGNIFICANT</td>
<td>HMIS Hazard Rating</td>
<td>1</td>
<td>313 Title III NONE</td>
<td>1</td>
</tr>
</tbody>
</table>

*Contains no ingredients listed on OSHA hazardous material list, however, use normal precautions while diluting from concentrate.

**other information**

No other health hazard is connected with this product. There are no toxic chemicals, no carcinogenic toxic agents, reproductive toxins, irritants, corrosive, sensitizers,
Hepatotoxins, Nephrotoxins, neurotoxins, or agents which act on the hemato-poietic (blood) system, or the damage lungs, skin, eyes, or mucous membranes.

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representation and assumes no liability for any direct, incidental, or consequential damages resulting from its use. Any use of these data and information must be determined by the user to be in accordance with applicable Federal, State, and Local laws and regulations.

The above, set forth in technical data supplied to the Manufacturer, has been edited to avoid disclosure of proprietary information and avoid redundancy. All inquiries concerning the content of this document should be directed to the Distributor or Manufacturer.

SECTION 14: OTHER INFORMATION

Abbreviations:

ACGIH  American Conference of Governmental Industrial Hygienists
CAS    Chemical Abstract Service
IARC   International Agency for Research on Cancer
LC     Lethal concentration
LD     Lethal Dosage
NIOSH  National Institute for Occupational Safety and Health
NTP    National Toxicology Program (U.S.A.)
OSH    Occupational Safety and Health Administration (U.S.A.)
PEL    Permissible Exposure Limit
STEL   Short term Exposure Limit
TLV    Threshold Limit Value
TWA    Time Weighted Average
WHMIS  Workplace Hazardous Materials Information System
N/A    Not Applicable
NF     None Established