MATERIAL SAFETY DATA SHEET
Pro-Set Inc.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ..... PRO-SET® 125 Resin.
PRODUCT CODE: 125
CHEMICAL FAMILY: ..... Epoxy Resin.
CHEMICAL NAME: ..... Bisphenol-A based epoxy resin.
FORMULA: ..... Not applicable.

MANUFACTURER:
Pro-Set Inc.
707 Martin Street
Bay City, MI 48706-4143, U.S.A.
Phone: 888-377-6738 or 989-671-4079
www.prosetepoxy.com

EMERGENCY TELEPHONE NUMBERS:
Transportation
CHEMTREC: ..... 800-424-9300 (U.S.)
703-527-3887 (International)
Non-transportation
Poison Hotline: 800-222-1222

2. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

INGREDIENT NAME	CAS #	CONCENTRATION
Bisphenol-A type epoxy resin	25085-99-8	> 50%
Neopentyl glycol diglycidyl ether	17557-23-2	< 50%

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HMIS Hazard Rating: Health - 2 Flammability - 1 Physical Hazards - 0

WARNING! Moderate eye irritant. Moderate skin irritant. May cause allergic reaction and sensitization. Clear, light-yellow liquid with mild odor.

PRIMARY ROUTE(S) OF ENTRY: ..... Skin contact.

POTENTIAL HEALTH EFFECTS:

ACUTE INHALATION: ..... Not likely to cause acute effects unless heated to high temperatures. If product is heated, vapors generated can cause headache, nausea, dizziness and possible respiratory irritation if inhaled in high concentrations.

CHRONIC INHALATION: ..... Not likely to cause chronic effects. Repeated exposure to high vapor concentrations may cause irritation of pre-existing lung allergies and increase the chance of developing allergy symptoms to this product.

ACUTE SKIN CONTACT: ..... May cause allergic skin response in certain individuals. May cause moderate irritation to the skin such as redness and itching.

CHRONIC SKIN CONTACT: ..... May cause sensitization in susceptible individuals. May cause moderate irritation to the skin.

EYE CONTACT: ..... May cause irritation.

INGESTION: ..... Low acute oral toxicity.

SYMPTOMS OF OVEREXPOSURE: ..... Possible sensitization and subsequent allergic reactions usually seen as redness and rashes. Repeated exposure is not likely to cause other adverse health effects.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:
Pre-existing skin and respiratory disorders may be aggravated by exposure to this product. Pre-existing lung and skin allergies may increase the chance of developing allergic symptoms to this product.

4. FIRST AID MEASURES:

FIRST AID FOR EYES: ..... Flush immediately with water for at least 15 minutes. Consult a physician.

FIRST AID FOR SKIN: ..... Remove contaminated clothing. Wipe excess from skin. Wash with soap and water. If irritation occurs, get medical attention.

FIRST AID FOR INHALATION: ..... Remove to fresh air and rest if effects occur.

FIRST AID FOR INGESTION: ..... Seek medical attention if appreciable amounts are ingested.

5. FIRE FIGHTING MEASURES:

FLASH POINT: ..... > 260°F (PMCC)

EXTINGUISHING MEDIA: ..... Water fog, carbon dioxide (CO_2) or dry chemical.

SPECIAL FIRE FIGHTING PROCEDURES:
Wear complete fire fighting gear and self-contained breathing apparatus. Cool fire-exposed containers with water spray. Material is not readily combustible unless preheated.

FIRE AND EXPLOSION HAZARDS:
HAZARDOUS DECOMPOSITION PRODUCTS: During a fire, smoke may contain the original materials in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include, but are not limited to: phenolics, carbon monoxide, carbon dioxide.

6. ACCIDENTAL RELEASE MEASURES:

SPILL OR LEAK PROCEDURES: Stop leak without additional risk. Dike and absorb with inert material (*e.g.*, sand) and collect in a suitable, closed container. Warm, soapy water or non-flammable, safe solvent may be used to clean residual.

7. HANDLING AND STORAGE:

STORAGE TEMPERATURE (MIN./MAX.): ..... 40°F (4°C) / 90°F (32°C)

SHELF LIFE: ..... Reference product label.

STORAGE: ..... Store in tightly closed containers to prevent moisture absorption and loss of volatiles. Store away from heat and open flame.

HANDLING PRECAUTIONS: ..... Ventilate work area. Avoid skin contact. Wash skin thoroughly after handling. Wash contaminated clothing before reuse. Precautionary steps should be taken when curing product in large quantities. When mixed with epoxy curing agents this product causes an exothermic, which in large masses, can produce enough heat to damage or ignite surrounding materials and emit fumes and vapors that vary widely in composition and toxicity.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

EYE PROTECTION REQUIREMENTS: ..... Wear safety glasses with side shields or chemical splash goggles when exposure is more likely.

SKIN PROTECTION GUIDELINES: ..... Wear liquid-proof, chemical resistant gloves (nitrile-butyl rubber, neoprene, butyl rubber or natural rubber) and full body-covering clothing.

RESPIRATORY/VENTILATION REQUIREMENTS:
Good room ventilation is usually adequate for most operations. Use respirators when exposure to vapors from heated material or mist is likely, unless determined to be below applicable limits. Use a NIOSH/MSHA approved respirator with organic vapor cartridge.

Note: Pro-Set, Inc. has conducted an air sampling study using this product or similarly formulated products. The results indicate that the components sampled for (epichlorohydrin) were either so low that they were not detected at all or they were well below OSHA's permissible exposure levels.

ADDITIONAL PROTECTIVE MEASURES: ..... Wash thoroughly after handling. Avoid breathing vapors from heated material. Protective skin cream barriers can be applied to hands in addition to gloves for added protection. Generally speaking, working cleanly and following basic precautionary measures will greatly minimize the potential for harmful exposure to this product under normal use conditions.

OCCUPATIONAL EXPOSURE LIMITS: ..... Not established for product as whole. Refer to OSHA's Permissible Exposure Level (PEL) or the ACGIH Guidelines for information on specific ingredients.

9. PHYSICAL AND CHEMICAL PROPERTIES:

PHYSICAL FORM ..... Liquid.
COLOR ..... Clear to pale yellow.

ODOR ..... Mild.
BOILING POINT ..... No data.
MELTING POINT/FREEZE POINT ..... No data.
VISCOSITY ..... 1,100 cPs.
pH ..... No data.
SOLUBILITY IN WATER ..... Insoluble.
SPECIFIC GRAVITY 1.14
BULK DENSITY ..... 9.43 pounds/gallon.
VAPOR PRESSURE ..... < 1 mmHg @ 20 mmHg.
VAPOR DENSITY ..... Heavier than air.
% VOLATILE BY WEIGHT ..... EPA Method 24, as described in 40 CFR Part 60, was used to determine the Volatile Matter Content of mixed epoxy resin and hardener. This method states that two-component coating systems should be tested by mixing the individual components together at the proper ratio. Refer to the hardener's MSDS for information about the total volatile content of the resin/hardener system.

10. REACTIVITY:

STABILITY: ..... Stable.

HAZARDOUS POLYMERIZATION: ..... Will not occur by itself, but masses of more than one pound of product plus an aliphatic amine will cause irreversible polymerization with considerable heat buildup.

INCOMPATIBILITIES: ..... Strong acids and oxidizing agents.

DECOMPOSITION PRODUCTS: ..... Carbon monoxide and carbon dioxide may be produced when the product is heated to decomposition.

11. TOXICOLOGICAL INFORMATION:

No specific oral, inhalation or dermal toxicology data is known for this product. Specific toxicology information for a bisphenol-A based epoxy resin present in this product is indicated below:

Oral: ..... LD_{50} >5000 mg/kg (rats)
Inhalation: ..... No Data.
Dermal: ..... LD_{50} = 20,000 mg/kg (skin absorption in rabbits)

TERATOLOGY: ..... …….Diglycidyl ether of bisphenol-A (DGEBPA) did not cause birth defects or other adverse effects on the fetus when pregnant rabbits were exposed by skin contact, the most likely route of exposure, or when pregnant rats or rabbits were exposed orally.

REPRODUCTIVE EFFECTS: ..... …….DGEBPA, in animal studies, has been shown not to interfere with reproduction.

MUTAGENICITY: ..... ……. DGEBPA in animal mutagenicity studies were negative. In vitro mutagenicity were negative in some cases and positive in others.

CARCINOGENICITY:

NTP ..... Product not listed.
IARC ..... Product not listed.
OSHA ..... Product not listed.

Many studies have been conducted to assess the potential carcinogenicity of diglycidyl ether of bisphenol-A. Although some weak evidence of carcinogenicity has been reported in animals, when all of the data are considered, the weight of evidence does not show that DGEBPA is carcinogenic. Indeed, the most recent review of the available data by the International Agency for Research on Cancer (IARC) has concluded that DGEBPA is not classified as a carcinogen.

Epichlorohydrin, an impurity in this product (<5 ppm) has been reported to produce cancer in laboratory animals and to produce mutagenic changes in bacteria and cultured human cells. It has been established by the International Agency for Research on Cancer (IARC) as a probable human carcinogen (Group 2A) based on the following conclusions: human evidence – inadequate; animal evidence – sufficient. It has been classified as an anticipated human carcinogen by the National Toxicology Program (NTP). Note: It is unlikely that normal use of this product would result in measurable exposure concentrations to this substance.

Neopentyl glycol diglycidyl ether has been reported to be carcinogenic in some laboratory tests.

12. ECOLOGICAL INFORMATION:

Prevent entry into sewers and natural waters. May cause localized fish kill.

Movement and Partitioning:

Bioconcentration potential is low (BCF less than 100 or Log Kow less than 3).

Degradation and Transformation:

Biodegradation under aerobic static laboratory conditions is below detectable limits (*i.e.*, BOD less than 2.5% of theoretical) in 20 days.

Ecotoxicology:

Material is moderately toxic to aquatic organisms on an acute basis. LC_{50} between 0.1 and 1.0 mg/L in most sensitive species.

13. DISPOSAL CONSIDERATIONS:

WASTE DISPOSAL METHOD: ..... Evaluation of this product using RCRA criteria shows that it is not a hazardous waste, either by listing or characteristics, in its purchased form. It is the responsibility of the user to determine proper disposal methods.

Incinerate, recycle (fuel blending) or reclaim may be preferred methods when conducted in accordance with federal, state and local regulations.

14. TRANSPORTATION INFORMATION:

D.O.T. SHIPPING NAME: ..... Not regulated by DOT.
TECHNICAL SHIPPING NAME: ..... Not applicable.
D.O.T. HAZARD CLASS: ..... Not applicable.
U.N./N.A. NUMBER: ..... Not applicable.
PACKING GROUP: ..... Not applicable.

15. REGULATORY INFORMATION:

OSHA STATUS: ..... Irritant.
TSCA STATUS: ..... All components are listed on TSCA Inventory or otherwise comply with TSCA requirements.

SARA TITLE III:

SECTION 313 TOXIC CHEMICALS..... None (deminimus).

STATE REGULATORY INFORMATION:

The following chemicals are specifically listed or otherwise regulated by individual states. For details on your regulatory requirements you should contact the appropriate agency in your state.

COMPONENT NAME /CAS NUMBER	**CONCENTRATION**	**STATE CODE**
Epichlorohydrin 106-89-8	< 5 ppm	[1]CA
Phenyl glycidyl ether 122-60-1	< 5 ppm	[1]CA

[1.] These substances are known to the state of California to cause cancer or reproductive harm, or both.

16. OTHER INFORMATION:

REASON FOR ISSUE: ..... Changes in Sections 3, 5, 8, 11 & 15.
PREPARED BY: ..... T. J. Atkinson
APPROVED BY: ..... G. M. House
TITLE: ..... Health, Safety & Environmental Manager
APPROVAL DATE: ..... January 3, 2008
SUPERSEDES DATE: ..... January 3, 2005
MSDS NUMBER: 125-08a

Note: The Hazardous Material Indexing System (HMIS), cited in the Emergency Overview of Section 3, uses the following index to assess hazard rating: 0 = Minimal; 1 = Slight: 2 = Moderate; 3 = Serious; and 4 = Severe.

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