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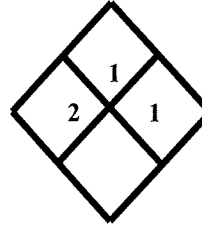
**Material Safety Data Sheet**

**1. PRODUCT IDENTIFICATION**

**Trade Name:** 635 THIN EPOXY RESIN

**Chemical Family:** Epoxy Resin

**Intended Use:** Coatings



NFPA RATING

<b>Health:</b>	2*
<b>Flammability:</b>	1
<b>Reactivity:</b>	1
<b>Personal Protection:</b>	

HMIS RATING

**2. COMPOSITION / INFORMATION ON INGREDIENTS**

O S H A	CAS No.	CHEMICAL IDENTITY	EXPOSURE LIMITS				CARCINOGEN STATUS			
			ACGIH		OSHA		MFR.	IARC	NTP	OSHA
			TWA	STEL	PEL	STEL				
*	25085-99-8	Diglycidyl ether of bisphenol A homopolymer Epoxy Resin Common Name: Concentration: 80.00 - 82.00 wt%	NE	NE	NE	NE	NE	NR	NR	NR
*	68609-97-2	Alkyl glycidyl ether Concentration: 18.00 - 20.00 wt%	NE	NE	NE	NE	NE	NR	NR	NR

NE = Not Established NR = Not Reviewed \* = OSHA Hazardous Ingredient

**Reference Notes:** Refer to Section 8, Subheading "Exposure Guidelines", for additional information concerning exposure limits.

**3. HAZARDS IDENTIFICATION**

**Emergency Overview:** Appearance: Straw Colored Liquid Mild Odor

May cause skin and respiratory sensitization.

**Route(s) of Entry:** Eye contact, ingestion, inhalation, and skin contact. Skin absorption.

**Acute Exposure:** SKIN: Contact may cause skin sensitization, an allergic reaction which becomes evident on re-exposure to this material. Contact causes skin irritation. Harmful if absorbed through skin.

**EYES:** Direct contact with this material may cause eye irritation including tearing and redness.

**INHALATION:** Low volatility makes vapor inhalation unlikely. Aerosol can be irritating. May cause respiratory sensitization in susceptible individuals.

**INGESTION:** Single dose oral toxicity is low. Swallowing small amounts during normal handling is not likely to cause harmful effects; swallowing large amounts may be harmful. Ingestion is not an anticipated route of exposure for this material in industrial use.

**Chronic Exposure:** Prolonged or repeated exposure may cause respiratory sensitization, an allergic reaction that becomes evident on re-exposure to this material.

**Carcinogenicity:** This material does not contain 0.1% or more of any chemical listed by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or regulated by the Occupational Safety and Health Administration (OSHA) as a carcinogen.

#### **4. FIRST AID MEASURES**

**Eye Contact:** Immediately flush eyes with large quantities of clean water for at least 15 minutes. Get immediate medical attention.

**Skin Contact:** Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists. Wash contaminated clothing before reuse. Solvents should not be used to clean hands or skin because they increase the penetration of the material into the skin. Remove and dispose of all contaminated leather goods, including shoes.

**Ingestion:** Do not induce vomiting. Give the victim one or two glasses of water or milk to drink. Never give anything by mouth to an unconscious person. Seek medical advice. In general, no adverse effects are anticipated by this route of exposure incidental to proper industrial handling.

**Inhalation:** Remove affected individual(s) to fresh air. Seek medical attention if breathing difficulty develops.

#### **5. FIRE FIGHTING MEASURES**

<b>Flash Point:</b>	> 300° F (> 149 ° C)
<b>Flash Point Method Used:</b>	SetaFlash Closed Cup
<b>Flammable Limits in Air (Lower):</b>	Not applicable
<b>Flammable Limits in Air (Upper):</b>	Not applicable
<b>Autoignition:</b>	Not applicable

**General Hazards:** Containers of this material may build up pressure if exposed to heat (fire). Use water spray to cool fire-exposed containers.

**Fire Fighting Extinguishing Media:** Use carbon dioxide, foam, dry chemical or water fog to extinguish fire.

**Fire Fighting Equipment:** Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective clothing. Thoroughly decontaminate all protective equipment after use.

**Fire Fighting Instructions:** Evacuate all persons from the fire area to a safe location. Move non-burning material, as feasible, to a safe location as soon as possible. Fire fighters should be protected from potential explosion hazard while extinguishing the blaze. Use water spray to cool fire-exposed containers.

**Fire and Explosion Hazards:** This material may polymerize (react) when its container is exposed to heat (as during a fire). This polymerization increases pressure inside a closed container and may result in the violent rupture of the container.

**Hazardous Combustion Products:** The by-products expected in incomplete pyrolysis or combustion of epoxy resins are mainly phenolics, carbon monoxide and water.

## 6. ACCIDENTAL RELEASE MEASURES

**Accidental Release Measures:** FOR SMALL SPILLS: Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container.

LARGE SPILL: Persons not wearing protective equipment (see Section 8) should be excluded from the area of the spill until clean-up has been completed. Prevent spilled material from 1) contaminating soil, 2) entering sanitary sewers, storm sewers, and drainage systems, and 3) entering bodies of water or ditches that lead to waterways. Shut off the leak when it is safe to do so, dike and pump the liquid into waste containers. Residual resin may be removed using steam or hot soapy water.

## 7. HANDLING AND STORAGE

**Signal Word:** W A R N I N G

**Handling Information:** Avoid contact with eyes, skin, and clothing. Wash hands thoroughly after handling and before eating or drinking. Remove and wash contaminated clothing before reuse. Use with adequate ventilation.

Empty drums should be completely drained, properly bunged, and promptly returned to a drum reconditioner or properly disposed.

**Storage Information:** Keep container closed when not in use. Warm storage (130°F/54°C to 150°F/65.5°C) is recommended. This resin may crystallize during extended storage or when stored at low temperatures. Resin which has crystallized can be melted by warming at 130°F - 150°F until all crystals have melted. Remelting of resin has no negative effects on performance.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure Guidelines:** There are no Occupational Safety and Health (OSHA) Permissible Exposure Limits (PEL) or American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV) or Short Term Exposure Limits (STEL) established for the component(s) of this product.

**Engineering Controls:** Good general ventilation should be sufficient to control airborne levels of irritating vapors. Local ventilation may be required during certain operations.

**Eye Protection:** Wear safety glasses with side shields or goggles. Facilities storing or utilizing this material should be equipped with an eyewash station and safety shower.

**Skin Protection:** Wear chemical resistant gloves. If splashing is likely, wear impervious clothing and boots to prevent repeated or prolonged skin contact. Consult your supplier of personal protective equipment for additional instructions on proper usage.

**Respiratory Protection:** If material generates fumes when heated, a NIOSH/MSHA approved air-purifying respirator with organic vapor cartridge or canister may be used to minimize exposure. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. Protection provided by air purifying respirators is limited. Use a positive pressure air-supplied respirator if 1) there is any potential for an uncontrolled release, 2) exposure levels are not known, or 3) during other circumstances where air purifying respirators may not provide adequate protection.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Color:</b>	Straw colored
<b>Odor:</b>	Mild
<b>Odor Threshold:</b>	Not available
<b>Physical State:</b>	Liquid
<b>Solubility in Water:</b>	Insoluble at 20°C (68 °F)
<b>Viscosity:</b>	500 - 800 cps at 25°C (77 °F)

Vapor Pressure:	Not applicable
Specific Gravity:	1.09 - 1.11 (Water = 1) at 25°C (77 °F)
Boiling Point:	Not available
Freezing Point:	Not available
% Volatile:	18 - 20 % by weight
VOC Content:	209 grams/liter (calculated)product as supplied
pH:	Not applicable

## 10. STABILITY AND REACTIVITY

**Stability:** Stable at normal temperatures and storage conditions.

**Incompatibility:** Avoid contact with strong oxidizing agents, mineral acids, and strong mineral and organic bases, especially primary and secondary aliphatic amines.

**Hazardous Decomposition Products:** Thermal decomposition may produce various hydrocarbons and irritating, acrid vapors.

**Hazardous Polymerization:** Hazardous polymerization will not occur. Reaction with some curing agents may produce considerable heat. Run-a-way cure reactions may char and decompose the resin system, generating unidentified fumes and vapors which may be toxic.

**Conditions to Avoid:** Contamination by those materials referred to under Incompatibility. Potentially violent decomposition can occur above 350° C (662° F).

## 11. TOXICOLOGICAL INFORMATION

**Acute Eye Toxicity:** No information is available.

**Acute Skin Toxicity:** Diglycidyl Ether of Bisphenol A: dermal LD50 (rabbit), 20,000 mg / kg. Alkyl Glycidyl Ether: dermal LD50 (rabbit), > 2000 mg / kg; Draize (rabbit, 24 hr.), 3.4 - 5.7.

**Acute Inhalation Toxicity:** No information is available.

**Acute Oral Toxicity:** Diglycidyl Ether of Bisphenol A: oral LD50 (rat), > 5,000 mg / kg. Alkyl Glycidyl Ether: oral LD50 (rat), > 2,000 mg / kg.

**Chronic/Carcinogenicity:** The International Agency for Research on Cancer (IARC) has classified diglycidyl ether of bisphenol A in Group 3, the agent is not classifiable as to its carcinogenicity to humans.

Many studies have been conducted to assess (DGEBPA) based epoxy resins. In one of these, a DGEBPA-based resin (containing high levels of several impurities, including a known animal carcinogen) was reported to produce a weak carcinogenic response in the skin of one of two strains of mice tested. Recent studies have suggested slight increases in two systemic tumor types following repeated application of certain DGEBPA-containing resins (or pure DGEBPA), although the response was not uniform among practically identical resins. Based on the cause-effect relationship between DGEBPA treatment and these tumor increases is questionable.

**Teratology:** Diglycidyl ether of bisphenol A 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.

**Reproduction:** In animal studies, diglycidyl ether of bisphenol A has been shown not to interfere with reproduction.

**Mutagenicity:** Diglycidyl ether of bisphenol A has proved to be inactive when tested by in-vivo mutagenicity assays. It has shown activity by in-vitro microbial mutagenicity screening and has produced chromosomal aberrations in cultured rat liver cells. The significance of this information to man is unknown.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** Diglycidyl Ether of Bisphenol A: material is moderately toxic to aquatic organisms on an acute basis LC50 (Daphnia magna), 1.3 mg / L; LC50 (fathead minnow), 3.1 mg / L.

**Environmental Fate:** The bioconcentration potential for diglycidyl ether of bisphenol A is moderate. Potential for mobility in soil is low. Biodegradation under aerobic laboratory conditions is below detectable limits.

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Method:** Not a RCRA hazardous waste. Disposal of this material is not regulated under RCRA. Consult federal, state and local regulations to ensure that this material and its containers, if discarded, is disposed of in compliance with all regulatory requirements.

"Empty containers", as defined under 40 CFR 261.7 or other applicable state or provincial regulations or transportation regulations, are not classified as hazardous wastes.

**RCRA Hazard Class:** NOT A RCRA HAZARDOUS WASTE: When discarded in its purchased form, this material would not be regulated as a RCRA Hazardous waste under 40 CFR 261.

## 14. TRANSPORT INFORMATION

**DOT / IATA / IMDG / TDG: Bulk and Non-Bulk**

**Proper Shipping Name:**

NOT REGULATED

## 15. REGULATORY INFORMATION

**Occupational Safety and Health Act (OSHA):** This material is classified as a hazardous chemical under the criteria of the US Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III: Section 302 - Extremely Hazardous Substances (EHS):** This product does not contain any chemicals regulated under Section 302 (40 CFR 355) as extremely hazardous substances.

**SARA Title III: Section 304 - CERCLA:** Reportable Quantities have not been established for any of this material's components.

**SARA Title III: Section 311/312 - Hazard Communication Standard (HCS):** This material is classified as an IMMEDIATE HEALTH HAZARD and DELAYED HEALTH HAZARD under the US Superfund Amendment and Reauthorization Act (Section 311/312).

**SARA Title III: Section 313 Toxic Chemical List (TCL):** This product does not contain any chemicals for routine annual toxic chemical release reporting under Section 313 (40 CFR 372).

**TSCA Section 8(b) - Inventory Status:** All components of this material are listed on the US Toxic Substances Control Act (TSCA) inventory.

**TSCA Section 12(b) - Export Notification:** This material does not contain any components that are subject to the US Toxic Substances Control Act (TSCA) Section 12(b) Export Notification requirements.

**Australian Inventory Status:** This product contains only chemicals which are currently listed on the Australian Inventory of Chemical Substances.

**Canadian Inventory Status:** All components of this material are listed on the Canadian Domestic Substances List (DSL).

**Canadian WHMIS:** This material is classified by the Canadian Workplace Hazardous Material Information System as: D2A (materials causing other toxic effects, very toxic material) D2B (materials causing other toxic effects, toxic material)

**European Inventory Status (EINECS):** All components are either listed or are exempt from being listed, on the EINECS chemical inventory.

**Korean Inventory Status:** This product contains only chemicals which are currently listed on the Korean Chemical Substances List.

**Additional International Information:** This product contains only chemicals that are currently listed on the Chinese Inventory of Existing Chemical Substances.

This product contains only chemicals that are currently listed on the Philippine Inventory of Chemicals and Chemical Substances.

This product contains one or more chemicals currently not on the Japanese Inventory of Existing and New Chemical Substances.

**California Proposition 65: W A R N I N G:** This material contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm. Epichlorohydrin (CAS# 106-89-8)

**Additional Canadian Regulatory Information:** This product does not contain a substance present on the WHMIS Ingredient Disclosure List (IDL) which is at or above the specified concentration limit.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

## **16. OTHER INFORMATION**

**MSDS No:**

**Reason Issued:**

General update

**Prepared By:**

Product Safety & Compliance Department

**Approved Date:**

08/15/07

**Supersedes Date:**

04/15/04

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