

MATERIAL SAFETY DATA SHEET

ULTRABOND 680 PART A

SECTION 01: PRODUCT IDENTIFICATION

Product Identifier:	Clear Epoxy Flooring
WHMIS Classification:	D2A (materials causing other toxic effects, very toxic material) D2B (materials causing other toxic effects, toxic material)
Product Use:	Concrete Floor Protection
Manufacturer's Name:	Concretech Inc., #106, 2567- 192 Street, Surrey, BC, V3S 3X1, Canada,
Supplier's Name	Concretech Inc., #106, 2567- 192 Street, Surrey, BC, V3S 3X1, Canada,
Preparation Date of MSDS:	December 10 th , 2007
Revision Date of MSDS:	February 11 th , 2011
MSDS Prepared By:	Farhad Kazemian
Phone Number of Preparer:	1 604 210 1147
Emergency Phone Number	1 888 503 6780

SECTION 02: HAZARDOUS INGREDIENTS

Ingredients:	% by Weight	CAS#	LD/50 (Oral Rat)	LC50	Comments
Diglycidyl Ether of Bisphenol A Homopolymer Epoxy Resin	80	25085-99-8	5000 mg/kg	1.3 mg / L (daphnia)	NA
Alkyl Glycidyl Ether	19	68609-97-2	2000 mg/kg	NA	NA
Distillates (Petroleum)	0.45	64742-46-7	NA	NA	TLV= 143 ppm
Solvent Naphtha Petroleum Light Aromatic	0.44	64742-95-6	>4000 mg/kg	NA	TLV= 50 ppm

SECTION 03: HAZARDOUS IDENTIFICATION

Route of Entry:	Eye contact, ingestion, inhalation, and skin contact. Skin absorption.
Skin Contact:	Contact may cause skin sensitization, an allergic reaction which becomes evident on re-exposure to this material. Contact causes skin irritation.
Skin Absorption:	Harmful if absorbed through skin.
Eye Contact:	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.
Emergency Overview:	Appearance: Straw Colored Liquid Mild Odor May cause skin and respiratory sensitization.
WHMIS Symbols:	D2A (materials causing other toxic effects, very toxic material) D2B (materials causing other toxic effects, toxic material)
HMIS Rating	Health=2, Fire= 1, Reactivity= 1

SECTION 04: FIRST AID MEASURES

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.
Eye Contact:	Immediately flush eye(s) continuously with lukewarm, gently flowing water for at least 20-60 minutes. Get immediate medical attention.
Inhalation:	Remove affected individual(s) to fresh air. Seek medical attention if breathing difficulty develops.
Ingestion:	Do not induce vomiting. Give the victim one or two glasses of water or milk to drink. Never give anything by

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	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.
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SECTION 05: FIRE FIGHTING MEASURES

Flammable (Yes / No)	Yes
Yes	Containers of this material may build up pressure if exposed to heat (fire). Use water spray to cool fire exposed containers.
Means of Extinction	Use carbon dioxide, foam, dry chemical or water fog to extinguish fire.
Flash Point (°C / Method)	>149 C (>300 F), Closed Cup, Seta Flash
Upper Flammable Limit (% by Volume)	NA
Lower Flammable Limit (% by Volume)	NA
Autoignition Temperature (°C)	NA
Explosion Data	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.
Explosion Data- Sensitivity to Static Discharge and Impact	NA
Hazardous combustion Products	The by-products expected in incomplete cytolysis or combustion of epoxy resins are mainly phenolics, carbon monoxide and water.
Special Fire Fighting Procedures	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.
NFPA	Health=2, Fire= 1, Reactivity= 1

SECTION 06: ACCIDENTAL RELEASE MEASURES

Leak and Spill Procedures	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 cleanup 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.
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SECTION 07: HANDLING AND STORAGE

Handling Procedures and Equipment	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 reconditioned or properly disposed.
Storage requirements	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.

SECTION 08: EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Limit	ACGIH TLV	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.
	OSHA PEL	See Above
	Other	NA

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Engineering Controls	General	Good general ventilation should be sufficient to control airborne levels of irritating vapors.
	Local Exhaust	Local ventilation may be required during certain operations.
	Other	NA
Personal Protective Equipment	Gloves	Wear chemical resistant gloves such as butyl rubber, nitrile rubber or neoprene.
	Respirator	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.
	Eye	Wear safety glasses with side shields or goggles. Facilities storing or utilizing this material should be equipped with an eyewash station and safety shower.
	Footwear	NA
	Clothing	If splashing is likely, wear impervious clothing and boots to prevent skin contact. Consult your supplier of personal protective equipment for additional instructions on proper usage.
	Other	NA

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Odor and Appearance	Mild Odor, Clear Liquid
Odor Threshold (ppm)	NA
Specific Gravity	1.09 – 1.11 (water=1) at 25 C (77 F)
Vapor Density (air = 1)	NA
Vapor Pressure (mmHg)	NA
Evaporation Rate	Slower than n-butyl acetate
Boiling Point °C	NA
Freezing Point °C	NA
Volatile % By Weight	18- 20 %
PH	Not Applicable
Coefficient of Water / Oil Distribution	NA
Solubility in Water	NA

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability	Stable at normal temperatures and storage conditions. See Section 7 for additional storage information.
Incompatibility With Other Substances	Avoid contact with strong oxidizing agents, mineral acids, and strong mineral and organic bases, especially primary and secondary aliphatic amines.
Reactivity	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.
Hazardous Decomposition Products	Thermal decomposition may produce various hydrocarbons and irritating, acid vapors. Potentially violent decomposition can occur above 350° C (662° F).

SECTION 11: TOXICOLOGICAL INFORMATION

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Effects on Acute Exposure	<p>Acute Eye Toxicity: No information is available.</p> <p>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.</p> <p>Acute Inhalation Toxicity: No information is available.</p> <p>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.</p>
Effects on Chronic Exposure	Subchronic: Central nervous system effects were reported in rats given up to 800 mg/kg/day Benzyl Alcohol orally for 13 weeks.
Irritancy of Product	See Section 3
Skin Sensitization	See Section 3
Respiratory sensitization	See Section 3
Carcinogenicity	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 (DGEBA) based epoxy resins. In one of these, a DGEBA-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 DGEBA-containing resins (or pure DGEBA), although the response was not uniform among practically identical resins. Based on the cause-effect relationship between DGEBA treatment and these tumor increases is questionable.
Other Toxicity Information	NA
IARC (1,A2 or 2B)	NA
ACGIH (A1, A2 or A3)	See Section 8
Reproductive Toxicity	In animal studies, diglycidyl ether of bisphenol A has been shown not to interfere with reproduction.
Teratogenicity	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.
Embryotoxicity	NA
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.
Name of Synergistic Products / Effects	NA

SECTION 12: ECOLOGICAL INFORMATION

Aquatic Toxicity	<p>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.</p> <p>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.</p>
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SECTION 13: DISPOSABLE CONSIDERATION

Waste Disposal	<p>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.</p> <p>"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.</p> <p>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.</p>
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SECTION 14: TRANSPORT INFORMATION

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Special Shipping Information	Not Regulated
PIN	Not Regulated
TDG	Not Regulated
DOT	Not Regulated
IMO	Not Regulated
ICAO	NA
ERAP	NA

SECTION 15: REGULATORY INFORMATION

WHMIS Classification	D2A (materials causing other toxic effects, very toxic material) D2B (materials causing other toxic effects, toxic material)
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	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	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.
DSL / TOSCA	All components of this material are listed on the Canadian Domestic Substances List (DSL).

SECTION 16: OTHER INFORMATION

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.
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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This information is provided solely for the customer's consideration and verification. Concrete Chemical Technologies shall not be held liable for any damage resulting from improper handling, contact or use with respect to the above product(s).

CONCRETECH

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