

MATERIAL SAFETY DATA SHEET

DECATHANE 450 PART B



SECTION 01: PRODUCT IDENTIFICATION

Product Identifier:	Part A Cross-linker
WHMIS Classification:	F(Dangerously Reactive Material), D2A, D2B (Poisonous and infectious material)
Product Use:	Concrete Sealer
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:	May 3 rd , 2011
Revision Date of MSDS:	May 3 rd , 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:	%	CAS#	LD/50	TLV	Comments
Hexamethylene Diisocyanate Monomer	82	28182-81-2	5 g/Kg (oral rat)	NA	NA
n-Butyl Acetate	18	123-86-4	14.1 g/Kg(oral rat)	150 ppm	UN 1123

SECTION 03: HAZARDOUS IDENTIFICATION

Route of Entry:	Skin contact. Inhalation. Eye contact
Skin Contact:	Repeated exposure and washing may irritate the skin or cause allergic reaction and dermatitis.
Skin Absorption:	Harmful if absorbed through skin.
Eye Contact:	May cause irritation. May cause conjunctivitis, mild corneal injury or other tissue damage.
Inhalation (Acute):	Excessive exposure to vapors or spray mists may cause headaches, nausea, vomiting, dizziness and central nervous system depression.
Ingestion:	Do not induce vomiting. Harmful or fatal if swallowed. Minute amounts aspirated into the lungs during swallowing or subsequent vomiting may cause dangerous bronchopneumonia or pulmonary edema.
Emergency Overview:	REACTS VIOLENTLY WITH COMMON MATERIALS INCLUDING WATER, ALCOHOLS, BASES AND AMINES. EYE IRRITANT. TOXIC IF INHALED. POSSIBLE SENSITIZER.
WHMIS Symbols:	 D2A, D2B (Poisonous and Infectious Material)  F(Dangerously Reactive Material)
Effects of Chronic Exposure	This product does not contain any ingredient designated by IRAC, NTP, ACGIH or OSHA as probable suspected human carcinogens

SECTION 04: FIRST AID MEASURES

Eye Contact:	In case of contact, immediately flush eyes, keeping eyelids open, with plenty of water for at least 15 minutes.
Skin Contact:	Immediately flush skin with plenty of soap and water. Remove contaminated clothing. Wash clothing before use.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen, obtain medical attention.
Ingestion:	Induce vomiting by giving two glasses of water and sticking finger down throat. Never induce vomiting or give liquid to an unconscious person. If ingested get medical attention immediately.

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Additional Information	Notes to Physician: All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.
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SECTION 05: FIRE FIGHTING MEASURES

Flammable (Yes / No)	Yes
Yes	TGD Flammable Class: 3
Means of Extinction	Water spray (water may be unsuitable as an extinguishing media, but helpful in keeping adjacent containers cool), carbon dioxide, dry chemicals, foam.
Flash Point (°C / Method)	27 C (CC)
Upper Flammable Limit (% by Volume)	7.60
Lower Flammable Limit (% by Volume)	1.38
Autoignation Temperature (°C)	407
Explosion Data- Sensitivity to Impact	N/A
Explosion Data- Sensitivity to Static Discharge	N/A
Hazardous combustion Products	Carbon monoxide. Carbon dioxide. Oxides of nitrogen compounds.
Special Fire Fighting Procedures	Firefighter should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Cool fire-exposed containers with cold water spray. Heat will cause pressure buildup and may cause explosive rupture.

SECTION 06: ACCIDENTAL RELEASE MEASURES

Leak and Spill Procedures	Evacuate all non-essential personnel. Ventilate. Eliminate all sources of ignition. Dike area to prevent spreading. Wear full protective equipment, including respiratory equipment during clean-up. Prevent runoff into drains, sewers, and other waterways. Stop leak if safe to do so.
Major Spills	If temporary control of isocyanate vapour is required, a blanket of protein foam may be placed over spill. Large quantities may be pumped into closed, but not sealed, containers for disposal.
Minor Spills	Cover spill area with suitable absorbent material. Pour decontamination solution over spill area and allow to react for at least 10 minutes. Shovel into suitable containers and add further amounts of Decontamination Solution. Add about 10 parts of neutralizer per part of isocyanate with mixing. Decontamination Solution: Mixture of water (80%) with non-ionic surfactant Tergitol TMN – 10 (20%), or; water (90%), concentrated ammonia (3-8%) and detergent (2%). Allow to stand uncovered for 72 hours to let carbon dioxide escape.
Clean up	Decontaminate floor with Decontamination Solution, letting stand for at least 15 minutes.

SECTION 07: HANDLING AND STORAGE

Handling Procedures and Equipment	Avoid skin and eye contact. Avoid breathing vapours. Decomposition products can be highly toxic and irritating. Individual with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed to vapour or spray mist. Use adequate ventilation. Warning properties (irritation of the eyes, nose and throat or odor) are not adequate to prevent chronic overexposure from inhalation. Wash thoroughly after handling. Wear respiratory protection if material is heated, sprayed, used in a confined space, or if the exposure limit is exceeded. Employee education and training are important.
Storage requirements	Store in a cool and well-ventilated area. Storage temperature: (min/max: -30/40 C). Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected.

SECTION 08: EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Limit	ACGIH TWA	Hexamethylene Diisocyanate Homopolymer :0.005 ppm
	OSHA PEL	Not available.
	Other	Not available.
Engineering Controls	General	General ventilation is recommended.
	Local	Ventilate adequately. Exhaust air may need to be cleaned by scrubbers or filters to

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	Exhaust	reduce environmental contamination. Avoid breathing mists; if general ventilation or local exhaust is inadequate, persons exposed to mists should wear approved breathing devices.
	Monitoring	Exposure levels must be monitored by accepted monitoring techniques to ensure that the TLV is not exceeded.
Personal Protective Equipment	Gloves	Chemical resistance gloves. Butyl rubber. Nitrile rubber. Neoprene. Practice good hygiene; wash thoroughly before handling any food.
	Respirator	Select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory and/or industrial recommendations. Under normal conditions, in the absence of other airborne contaminants, the following devices should provide protection from this product up to the conditions specified by the appropriate OSHA, WHMIS or ANSI standards: Full face-purifying respirators are required in work environments where isocyanate airborne concentrations exceed the action level but are significantly lower than IDLH provided that cartridges are changed daily. Use combination HEPA filter for the polyisocyanate aerosol and an organic vapor cartridge for solvents used. Install organic vapor cartridge closest to face.
	Eye	Chemical safety goggles. Chemical safety goggles and full face-shield if a splash hazard exists. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this product.
	Footwear	Not available.
	Clothing	Wear adequate protective cloths. Wear long sleeves and trousers to prevent dermal exposure.
	Other	Eyewash fountain. Emergency shower should be in close proximity. Educate and train employees on the safe use and handling of the product. Employees should wash their hands and face before eating, drinking, or using tobacco products.
Medical Surveillance		Medical supervision of all employees who handle or come in contact with isocyanates is recommended. These should include pre-employment and periodic medical examinations with pulmonary function test (FEV ₁ , FVC as a minimum). Persons with asthmatic-type conditions, chronic bronchitis respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with isocyanates. Once a person is diagnosed as sensitized to an isocyanate, no further exposure can be permitted.

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Viscous Liquid.
Odor and Appearance	Sweet Ester like odor, clear.
Odor Threshold (ppm)	NA
Specific Gravity	1.08 @25 C.
Vapor Density (air = 1)	Not available.
Vapor Pressure (mmHg)	10 mmHg (20 C).
Evaporation Rate	1.0
Flammability Class	3
Boiling Point °C	125
Freezing Point °C	Not available.
Volatile % By Weight	18
PH	Not available.
Coefficient of Water / Oil Distribution	Not available.
Solubility in Water	Reacts slowly with water to liberate CO ₂ gas. Insoluble.

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability	This material is stable under normal handling and storage conditions
Incompatibility With Other	Water, amines, strong bases, alcohols. Copper alloys.

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Substances	
Reactivity	Contact with moisture and other materials that react with isocyanates. The product may also react with oxidizing agents.
Hazardous Decomposition Products	Contact with moisture or other materials that react with isocyanates may cause polymerization. Thermal decomposition may produce toxic fumes. At high temperatures: By fire: Carbon monoxide, carbon dioxide. Oxides of nitrogen. Dense black smoke. Hydrogen cyanide. Isocyanates. Other undermined compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

Effects on Acute Exposure	Mildly irritating to eyes. Slightly skin irritation. For Trimer Hexamethylene Diisocyanate : LD/50 Lethal dose 50% of test, >2000 mg/kg, rabbit
Effects on Chronic Exposure	Not available
Irritancy of Product	Slight.
Skin Sensitization	Isocyanate is known to cause skin and respiratory sensitization in humans. Repeated contact may cause allergic skin and/ or respiratory reactions resulting sensitization of the individual. Respiratory sensitivity results in asthma-like symptoms on subsequent exposure.
Respiratory sensitization	Read above
Carcinogenicity	This product does not contain any substances that are considered by OSHA, NTP, IARC or ACGIH to be probable or suspected human carcinogens.
Other Toxicity Information	Not available.
IARC (1,A2 or 2B)	N/A
ACGIH (A1, A2 or A3)	N/A
Reproductive Toxicity	Not available.
Teratogenicity	Not available.
Embryotoxicity	Not available.
Mutagenicity	Not available.
Name of Synergistic Products / Effects	Not available.

SECTION 12: ECOLOGICAL INFORMATION

Aquatic Toxicity	Butyl Acetate: This material is not meant to address discharges to sanitary sewers or publicly owned treatment works. Butyl Acetate has the following properties: A high biochemical oxygen demand and a potential to cause oxygen depletion in aqueous systems. A low potential to accept aquatic organisms, a low potential to persist of water, environment. When diluted with a large amount of water, It released directly or indirectly into the environment is not expected to have a significant impact.
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SECTION 13: DISPOSABLE CONSIDERATION Tainja

Waste Disposal	Dispose of waste in accordance with all applicable federal, provincial and local regulations. Incineration is the preferred method. Empty containers retain product residue; observe all precautions for product. Decontaminate containers prior to disposal. Do not heat or cut empty containers with eclectic or gas torch.vapors and gases may be toxic.
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SECTION 14: TRANSPORT INFORMATION

Special Shipping Information	Not Regulated
PIN	N/A
TDG	Not Regulated
DOT	N/A
IMO	N/A
ICAO	N/A
ERAP	N/A

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SECTION 15: REGULATORY INFORMATION

WHMIS Classification	Controlled. D2A. D2B. This product has been classified in accordance with subsection 23(1) of the Controlled Product Regulations (CPR) under the Workplace Hazardous Materials Information System (WHMIS).
OSHA	Not available
SEPA	On Domestic Substances List (DSL)
TSCA	Not available
DSL / TOSCA	Not available

SECTION 16: OTHER INFORMATION

Regulatory Information	This information is furnished without warranty, expressed or limited, except that it is accurate to the best knowledge. The data on this sheet relates only to the specific material designated herein. Concrete Chemical Technologies assumes no legal responsibilities for use or reliance upon these data.
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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. It is provided solely for the customer's consideration, and verification. Hereby specifically claims. It shall not be held liable for any damage resulting from handling or from contact with the above products.