

MATERIAL SAFETY DATA SHEET

COMPLIES WITH OSHA HAZARD COMMUNICATION STANDARD 29 CFR 1910.1200

Date of preparation: April 04, 2013 *This M.S.D.S. supersedes all previously issued copies.

SECTION 1

CONCRETE EARTH LLC: 13087 MAIN STREET LEMONT, ILLINOIS 60439

24 HOUR EMERGENCY TELEPHONE	(800) 535-5053	INFOTRAC
MANUFACTURER CONTACT:	(800) 441-6646	CONCRETE EARTH LLC

TRADE NAME (S) :	ECOGUARD CRACK REPAIR	NPCA HMIS RATING :
	COMPONENT "B" HARDENER	Health: 3
PRODUCT CLASS:	Polyurethane Resin for Concrete Repair	Flammability: 1
PRODUCT ODOR :	Aromatic odor, slightly musty	Reactivity: 1
PRODUCT APPEARANCE :	Light brown, semi-viscous liquid	Personal Protection :G

SECTION 2 HAZARDOUS INGREDIENTS

OCCUPATIONAL EXPOSURE LIMITS

INGREDIENT	CAS#	%	ACGIH	ACGIH	OSHA	OSHA	VAPOR PRESSURE
			(TLV (TWA)	(TLV (STEL)	PEL (TWA)	PEL (STEL)	
Diphenyl methane, 4-4'diisocyanate	101-68-8	NA	NE	NE	0.05mg/ m3	0.05mg/m 3	N.A.

SECTION 3 EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT:	Flush eyes with large amounts of water until irritation subsides. Call a physician.
SKIN CONTACT:	Remove contaminated clothing/shoes. Wipe excess from skin and wash skin with soap and water. Do not reuse clothing until it is cleaned.
INHALATION:	Remove from contaminated area to a fresh air environment. Call a physician. If victim is not breathing, give artificial respiration – preferably mouth to mouth. If breathing is difficult, give oxygen.
INGESTION:	If swallowed, DO NOT INDUCE VOMITING. See a physician immediately.

SECTION 4 PHYSICAL DATA

The following data represents approximate or typical values. They do not constitute product specifications

BOILING POINT:	N.A.	VAPOR DENSITY:	N.A.
EVAPORATION RATE:	Water = 1/ N.A.	% VOLATILE BY VOLUME:	N.A.
WEIGHT PER GALLON	Approx. 10.24 lb/gal	V.O.C.	N.A.
SOLUBILITY IN WATER:	Unsolvent –slow reaction	VISCOSITY	60mPas

SECTION 5 FIRE AND EXPLOSION DATA

FLAMMABILITY CLASS:	NA
FLASH POINT:	C.O.C. >200°C
AUTOIGNITION TEMPERATURE:	>400° C
LOWER EXPLOSIVE LIMIT:	NA
EXTINGUISHING MEDIA:	Dry chemical, CO ² , Foam
UNUSUAL FIRE & EXPLOSION HAZARDS:	None
SPECIAL FIRE FIGHTING PROCEDURES:	Avoid moisture contamination on closed containers. Reaction with moisture will generate CO ² which may rupture the container. Containers may burst under intense heat.

TRADE NAME: ECOGUARD CRACK REPAIR- COMPONENT "B" HARDENER**SECTION 6 HEALTH HAZARD DATA**

THRESHOLD LIMIT VALUE:	N.A.
LD 50	N.A.
EFFECTS OF OVEREXPOSURE	Irritant to eyes and respiratory tract. May cause headaches, nausea, coughing, shortness of breath, chest pains. May result in respiratory distress.
EYE CONTACT:	The aerosol, vapor or liquid will irritate human eyes following contact.
SKIN CONTACT:	Moderate irritant. Repeated and/or prolonged contact may cause skin sensitization. Animal studies have shown that respiratory sensitization can be induced by skin contact with known respiratory sensitizers including diisocyanates. These results emphasize the need for protective clothing including gloves to be worn at all times when handling these chemicals or in maintenance work.
INHALATION:	This product is a respiratory irritant and potential respiratory sensitizer. Repeated inhalation of vapor or aerosol at levels above the occupational exposure could cause respiratory sensitization. Symptoms may include irritation to the eyes, nose, throat and lungs, possibly combined with dryness of the throat, tightness of chest and difficulty in breathing. The onset of the respiratory symptoms may be delayed for several hours after exposure. A hyper-reactive response to even minimal concentrations of MDI may develop in sensitized persons.
INGESTION:	Ingestion may cause irritation of the gastrointestinal tract. Based on the oral LD50, this product is considered practically non-toxic by ingestion.
CHRONIC:	A study where a group of rats were exposed for 6 hours/day, 5 days/week for a lifetime to atmospheres of respirable polymeric MDI aerosol. Overall, the tumor incidence, both benign and malignant, and the numbers of animals with tumors were not different from controls. Only at the top level (6mg/m ³), there were a significant incidence of a benign tumor of the lung (adenoma) and one malignant tumor (adenocarcinoma). There were no lung tumors at 1mg/m ³ and no effects at 0.2mg/m ³ . The increased incidence of lung tumors is associated with prolonged respiratory irritation and the concurrent accumulation of yellow material in the lung, which occurred throughout the study. In the absence of prolonged exposure to high concentrations leading to chronic irritation and lung damage, it is highly unlikely that tumor formation will occur. There are reports that chronic exposure may result in permanent decrease in lung function.
CARCINOGENICITY:	The ingredients of this product are not classified as carcinogenic by ACGIH or IARC, not regulated as carcinogens by OSHA, and not listed as carcinogens by NTP.

SECTION 7 REACTIVITY DATA

STABILITY:	Stable at room temperature
CONDITIONS TO AVOID:	Avoid high temperatures
INCOMPATIBILITY (MATERIALS TO AVOID):	This material will react with any materials containing active hydrogens such as water, alcohol, amines, bases and acids. The reaction with water is very slow under 50°C (122°F) but is accelerated at higher temperatures.
HAZARDOUS DECOMPOSITION PRODUCTS:	Highly unlikely at normal industrial use.
HAZARDOUS POLYMERIZATION:	Polymerization may occur at elevated temperatures in the presence of alkalis, tertiary amines and metal compounds.

SECTION 8 SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS SPILLED OR RELEASED:	With adequate ventilation, cover with an inert absorbent such as clay or vermiculite and transfer to metal container. Saturate with water but DO NOT SEAL THE CONTAINER (CO ₂ will be generated). Wash the area with water containing 5% ammonia and detergent. Wear respirator and other protective equipment for protection of eyes and skin during clean up.
WASTE DISPOSAL METHOD:	Dispose of in accordance with local, state, and federal regulations.

SECTION 9 SAFE HANDLING AND USE INFORMATION :

RESPIRATORY PROTECTION:	Use only NIOSH approved apparatus
VENTILATION:	Mechanical to maintain vapors below the MDI TLV = 0.02 ppm OSHA 0.005 ppm TWA
PROTECTIVE GLOVES:	Impervious rubber or plastic
EYE PROTECTION:	Chemical safety goggles and face shield to avoid splashing on face or into eyes.
OTHER PROTECTIVE EQUIPMENT:	None

TRADE NAME: ECOGUARD CRACK REPAIR- COMPONENT "B" HARDENER**SECTION 10 SPECIAL PRECAUTIONS**

HYGIENIC PRACTICES:	Keep containers closed when not in use. Avoid eye contact. Avoid prolonged or repeated contact with skin. Wash skin with soap and water after contact. Solvents should not be used to clean skin because of increased penetration potential. This material may cause sensitization. Avoid prolonged exposure to light. Store at temperatures below 120 F.
EMPTY CONTAINER WARNING:	"Empty" containers retain residue (liquid and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, spark or other sources of ignition. They may explode and cause injury or death. Do not attempt to clean since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to supplier or disposed of in an environmentally safe manner and in accordance with governmental regulations.

SECTION 11 TOXICOLOGICAL INFORMATION

SKIN: The LD50 for skin absorption in rabbits is > 2,000 mg/kg -estimated
INGESTION: The LD50 oral for rats is > 490 mg/kg -estimated by 4 hour Exposition
PRIMARY IRRITATION: On the skin= Slightly irritating, On the eye = Product vapors are irritating in high concentrations on the eyes and mucous membranes, After inhalation= Irritating. Breathing, coughing possible.
SENSITIZATION: By inhalation- possible, By skin- with repeat contact -possible
SUBACUTE, SUBCHRONIC AND PROLONGED TOXICITY: Long term inhalation study with tech. Diphenylmethane diisocyanate (PMDI) carried out mechanically generated respiratory stretchers PMDI aerosols. Aerodynamic diameter: 95% less than 5 microns, concentrations, 0.2, 1.0 and 6.0 mg/m. Animal groups: 120 rats (60 female, 60 male).
RESULTS AFTER CLINICAL EXAMINATION OF THE ANIMALS: 0.2mg aerosols/m ³ . No irritation of the respiratory tract and the lungs "no effect level" (Noel). 1.0 mg aerosols. Slight irritation and inflammatory changes to the nose, throat, and lungs, no lung tumors. 6.0 mg aerosols/m ³ . More severe irritation and chronic inflammatory changes to the nose, throat, and lungs. Accumulation of a yellow substance in the lungs 8, benign (statistically increased) and 1 malignant (statistically significant) lung tumors were detected. The overall increased incidence of lung tumors in the group that was exposed to the highest concentration is seen in close connection with the chronic irritation and changes in the respiratory system and to the accumulation of yellow substance in the lungs of animals.
SPECIAL PROPERTIES/EFFECTS: Over exposure is a risk of concentration-dependent irritation of eyes, nose, throat and respiratory tract. Delayed appearance of symptoms and development of hypersensitivity (difficult breathing, coughing, asthma,) are possible. With hypersensitive people, reactions can be triggered even at very low isocyanate concentrations, even below the OEL. By prolonged contact with skin tanning and irritating effects are possible. Suspected of causing cancer by inhalation produce (Carc. Cat.2) may cause sensitization by skin contact. Harmful if inhaled, swallowed, or by prolonged exposure.

SECTION 12 ENVIRONMENTAL DATA

ECOTOXICITY: zbiodegradation 0%, not degradable
ACUTE FISH TOXICITY: LC 50 > 1000 mg –estimated (Zebrafish)
ACUTE TOXICITY TO BACTERIA: EC 50 > 100 mg –estimated- tested on activated sludge bacteria/test time,3 hours
ACUTE TOXICITY TO DAPHNIA: EC 50 > 1000 mg –estimated-tested on water flea-test duration 24 hours
AQUATIC PLANTS: EC 50(72 h) . 100 mg/L Scenedesmus subspicatus (OECD Guideline 201) Nominal Concentration. Microorganisms/Effect on activated sludge: EC 20 (0.5 h) >100 mg/l, activated sludge, domestic (DIN EN ISO 8192-OECD 209-88/302/EWG,TC) During correct introduction of low concentrations in biological wastewater treatment of the degradation activity of activated sludge is not expected.
PERSISTANCE AND DEGRADABILITY: Assessment biodegradation and elimination (H2O): The product can by abiotic processes. Adsorption on activated sludge, are largely eliminated from the water.
OTHER ECOTOXICOLOGICAL INFORMATION: Do not release into natural waters. Negative environmental effects are based on current knowledge.. Previous experience has shown polyurea to be inert and non-degradable.

SECTION 13 TRANSPORT INFORMATION

LAND TRANSPORT ADR/RID / UN RATING	No Limitations
D.O.T HAZARD CLASSIFICATION	Not listed
PROPER SHIPPING NAME:	Polyurethane Resin- Not Regulated
AIR TRANSPORT ICAO-TI and IATA-DGR UN:	No Limitations
MARITIME TRANSPORT/RID:	No Limitations

SECTION 14 REGULATORY INFORMATION

SARA 313 INFORMATION:	This product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.
SARA HAZARD CATEGORY:	This resin has been reviewed according to the EPA "Hazard Categories" under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories: None
TOXIC SUBSTANCES CONTROL ACT (TSCA):	All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.
OSHA HAZARD COMMUNICATION STANDARD:	Not Available
CANADIAN REGULATIONS:	WHMIS INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is: None
CPR STATEMENT:	This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.
HAZARDOUS PRODUCTS ACT INFORMATION:	None

* Note: This material safety data sheet attempts to describe as accurately as possible the potential exposures associated with normal product use. Health and safety precautions in this data sheet may not be adequate for all individuals and/or situations. The information and recommendations contained herein are based upon data believed to be correct. Concrete Earth makes no warranties, expressed or implied, and assumes no liability in connection with any use of this information. Refer to 49 CFR for possible exceptions and exemptions. Abbreviations: TLV = Threshold Limit Value. TWA = Time Weighted Average. STEL = Short Term Exposure Limit. N.A. = Not Applicable. All statements, information, and data provided in this material data safety sheet are believed to be accurate and reliable, but are presented without any guarantee. Users should make their own investigations to determine the suitability of the information or products for their particular purposes

SECTION 11 ADDITIONAL INFORMATION
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This product contains the following toxic chemical(s) which are subject to the reporting requirements of section 313 of title III of the Super-fund Amendments and Reauthorization Act (SARA) of 1986 and EPA Reg. 40 CFR Part 372 :

Toxic Chemical / C.A.S. #	Approximate % (by weight)	Reportable Quantity per 40 CFR 302-CERCLA Section 102
NA	NA	NA
Common Names:	NA	
California Proposition 65:	NA	

TRANSPORTATION

U.S. D.O.T. PROPER SHIPPING NAME:	Urethane injection resin- Not regulated by DOT
U.S. D.O.T. HAZARD CLASS:	Non Regulated
U.S. D.O.T. I.D. NUMBER:	NA

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