

# MATERIAL SAFETY DATA SHEET

PRODUCT NAME: *FlexiThane 200*

## SECTION I - MANUFACTURER IDENTIFICATION

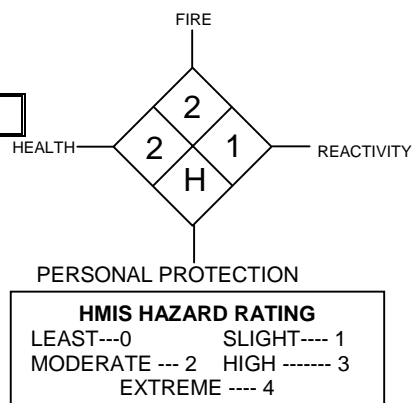
MANUFACTURER'S NAME: No-Cor, Inc.

ADDRESS: P.O. Box 1019 Mercer Island WA 98040

INFORMATION PHONE: 206 718 2521

EMERGENCY CONTACT: (CHEMTREC): 800-424-9300

DATE REVISED: January 1999



## SECTION II - HAZARDOUS INGREDIENTS/SARA III INFORMATION

HAZARDOUS COMPONENTS	OCCUPATIONAL EXPOSURE LIMITS				VAPOR PRESSURE	
	CAS NUMBER	OSHA PEL	ACGIH TLV	MFG TLV	mm	Hg @ TEMP
AROMATIC NAPHTHA	64742-95-6	100ppm	100 ppm		10.3	38°C (100°F)
TOLUENE DIISOCYANATE (T.D.I.)	26471-62-5	.005 ppm	.005ppm		0.02	20°C (68°F)
URETHANE PREPOLYMER		N/E	N/E			

\* Indicates toxic chemical(s) subject to the reporting requirements of Section 313 of Title III and of 40 CFR 372.

## SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT: >191-232°C (375-450°F)

COATING V.O.C. 167 g/l (1.39LB/GL)

EVAPORATION RATE: Slower than ether

APPEARANCE AND ODOR: Viscous liquid, mild aromatic.

SPECIFIC GRAVITY: (H<sub>2</sub>O=1): 1.07

VAPOR DENSITY: N/A

SOLUBILITY IN WATER: Slightly soluble, reacts with water

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 42°C (108°F)

METHOD USED: PMCC

FLAMMABLE LIMITS IN AIR BY VOLUME: (Based on Aromatic Naphtha) Lower: 1.0% Upper: 7.0%

EXTINGUISHING MEDIA: Dry chemical, foam, and carbon dioxide. If water is used, use very large quantities of cold water. The reaction between water and hot isocyanate may be vigorous.

SPECIAL FIRE FIGHTING PROCEDURES: Wear NIOSH approved self-contained breathing apparatus in positive pressure mode with full-face piece. Boots, gloves (neoprene), goggles, and full protective clothing are also required. Do not re-seal contaminated containers as pressure buildup may rupture them.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Water contamination will produce carbon dioxide. Do not reseal contaminated containers as pressure buildup may rupture them. Combustible.

## SECTION V - REACTIVITY DATA

STABILITY: Stable under normal conditions.

CONDITIONS TO AVOID: Heat, high temperature, open flame, sparks, and moisture. Contact with incompatible materials in a closed system will cause liberation of carbon dioxide and buildup of pressure.

INCOMPATIBILITY (MATERIALS TO AVOID): This product will react with any material containing active hydrogens, such as water, alcohol, ammonia, amines, alkalis and acids, the reaction with water is slow under 50°C, but is accelerated at higher temperature and in the presence of alkalis, tertiary amines, and metal compounds. Some reactions can be violent. Material can react violently with strong oxidizing agents.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon dioxide, carbon monoxide, nitrogen oxides, trace amounts of hydrogen cyanide and unidentified organic compounds may be formed during combustion.

HAZARDOUS POLYMERIZATION: May occur. High temperatures in the presence of alkalis, tertiary amines, and metal compounds will accelerate polymerization. Possible evolution of carbon dioxide gas may rupture closed containers.

## SECTION VI - HEALTH HAZARD DATA

**SKIN CONTACT:** Some components used in this material are reported to be severely irritating in rabbit dermal irritation studies and will probably irritate human skin. Skin sensitization and irritation may develop after repeated and/or prolonged contact with human skin.

**EYE CONTACT:** Some components used in this material are reported to induce chemical burns in rabbit eye studies; A similar degree of eye injury may develop after contact with human skin.

**SKIN ABSORPTION:** Systemically toxic concentrations of this product will probably not be absorbed through human skin.

**INGESTION:** Irritation or chemical burns of the mouth, pharynx, esophagus and stomach can develop following ingestion.

**INHALATION:** Vapors can irritate eyes, nose and respiratory passages, severe overexposure may induce respiratory sensitization with asthma like symptoms. Symptoms include chronic cough, tightness of chest with difficulty in breathing. These symptoms may be immediate or delayed up to several hours after exposure. There are reports that chronic exposures may result in permanent decrease in lung function.

**HEALTH HAZARDS: ACUTE:** Exposure may cause mucous membrane and respiratory tract irritation, tightness of chest, headache, shortness of breath, and a dry cough. At concentrations exceeding current occupational limits and for sensitized individuals at levels less than or greater than current occupational limits, asthma-like symptoms may occur. These symptoms may include coughing, wheezing, and shortness of breath. A hypersensitive pneumonitis may also occur if the person is sensitized. Fever, nonproductive cough, wheezing, chills, and shortness of breath characterize this syndrome. Central nervous system (CNS) depression may also result. The effects of acute exposure may be delayed in onset up to 12-24 hours. **CHRONIC:** Repeated exposure above current occupational limits may cause an allergic sensitization of the respiratory tract. This is characterized by an asthma-like response upon re-exposure to the chemical. The symptoms may include coughing, wheezing, shortness of breath and chest tightness, and may be fatal. Central nervous system (CNS) impairment possibly leading to unconsciousness and fatality may occur in extreme cases.

**CARCINOGENICITY:** NTP: Yes IARC Monographs: No OSHA Regulated: No TDI is a substance that may reasonably be anticipated to be a carcinogen based on a NTP technical report. In the cited study, laboratory animals gavaged TDI in corn oil developed cancer.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:** Cardiovascular disease, asthma or asthmatic bronchitis, emphysema, allergic disease, chronic respiratory disease, sinusitis, headache, and dizziness.

**EMERGENCY AND FIRST AID PROCEDURES: EYE CONTACT:** Immediately flush eyes with plenty of water, preferably lukewarm. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Have eyes examined and treated by medical personnel. **INHALATION:** Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is labored, give oxygen. Consult medical personnel. **SKIN CONTACT:** Wash material off the skin thoroughly with plenty of soap and water. If redness, itching, or a burning sensation develops, get medical attention. Wash contaminated clothing and decontaminate footwear before reuse. **INGESTION:** Do not induce vomiting. Immediately drink large quantities of water and refer person to medical personnel. (Do not give anything by mouth to an unconscious person).

## SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:** Wear skin, eye, and respiratory protection during cleanup. Soak up material with absorbent and shovel into a chemical waste container. Cover container, but do not seal, and remove from work area. Prepare a decontamination solution of 2.0% liquid detergent and 3-8% concentrated ammonium hydroxide in water (5-10% sodium carbonate may be substituted for the ammonium hydroxide). Follow the precautions on the supplier's material safety data sheets. Trained personnel familiar with the hazards of the chemicals used should perform all operations. Treat the spill area with the decontamination solution, using about 10 parts of solution for each part of the spill, and allow it to react for at least 10 minutes. Carbon dioxide will be evolved, leaving insoluble polyureas. Residues from spill cleanup, even when treated as described may continue to be regulated under provisions of RCRA and require storage and disposal as hazardous waste. For major spills, call CHEMTREC (Chemical Transportation Emergency Center) at 800-424-9300.

**WASTE DISPOSAL METHOD:** Slowly stir the isocyanate waste into the decontamination solution described above using 10 parts of the solution for each part of the isocyanate. Let stand for 48 hours, allowing the evolved carbon dioxide to vent away, residues may still be subject to RCRA storage and disposal requirements. Dispose of in compliance with all relevant local, state, and federal laws and regulations regarding treatment.

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:** Store in cool, dry, ventilated storage area, in tightly sealed containers to protect from atmospheric moisture. The material is combustible; The combustion products may be hazardous. Do not expose this material to open flames, spark or other sources of ignition. Use proper grounding and bonding procedures during liquid transfer for as described in National Fire Protection Association Document NFPA77.

**OTHER PRECAUTIONS:** Prevent skin and eye contact, observe TLV limitations. Avoid breathing vapors. Workers should shower and change to fresh clothing after each shift. A sensitized individual should not be exposed to the product that caused the sensitization. Individuals with existing respiratory disease should be identified through baseline and annual evaluation and removed from further exposure. Medical examination should include medical history, vital capacity, and forced expiratory volume at one second.

## SECTION VIII - CONTROL MEASURES

**VENTILATION:** If needed, use local exhaust ventilation to keep airborne concentrations below the TLV. Follow guidelines in the ACGIH publication "Industrial Ventilation". Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination.

**RESPIRATORY PROTECTION:** Because of the low vapor pressure, ventilation is usually sufficient to keep vapors below the TLV limit at room temperatures. Exceptions are when the material is sprayed or heated. If airborne concentrations exceed or are expected to exceed the TLV, use

MSHA/NIOSH approved positive pressure supplied air respirator with a full face piece or an air supplied hood. For emergencies, use a positive pressure self-contained breathing apparatus. Air purifying (cartridge type) respirators are not approved for protection against isocyanates.

**PROTECTIVE CLOTHING:** Gloves determined to be impervious under the conditions of use should be worn always when working with this product. Depending on conditions of use, additional protection may be required such as apron, arm covers, or full body suit. Wash contaminated clothing before wearing. Clothing constructed of butyl rubber, viton, silver shield, Saranex coated Tyvek, as well as some nitrile rubber and polyvinyl alcohol (PVA) coated garments have demonstrated excellent resistance to permeation by isocyanate. Clothing constructed of Teflon, as well as some garments constructed of nitrile rubber, natural rubber and PVA exhibited limited resistance to permeation by isocyanate. Please note that PVA degrades in water. Some clothing constructed of natural rubber or polyethylene exhibited little resistance to permeation by isocyanate. Protective clothing should be selected and used in accordance with "Guidelines for the Selection of Chemical Protective Clothing" published by ACGIH.

**EYE PROTECTION:** Chemical tight goggles and full-face shield.

**OTHER PROTECTIVE EQUIPMENT AND MEASURES:** Unhindered access to safety shower and eye wash stations. As a general hygienic practice, wash hands and face after use. Showers and cleaning of clothes are recommended. Follow all label instructions. Educate and train employees in safe use of product.

## **SECTION IX-REGULATORY INFORMATION**

**STATE REGULATIONS: CALIFORNIA** - As per requirements of the Safe Drinking Water & Toxic Enforcement Act of CA, USA 1985 (Proposition 65), the public is warned that materials used in this product may create an exposure to chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm. This warning required by Section 25249.6 of the California Health and Safety Code.

**TOXIC SUBSTANCE CONTROL ACT:** All chemicals comprising this product are listed on the TSCA inventory.

**DISCLAIMER:** The data set forth in this sheet are based on information provided by the suppliers of the raw materials and chemicals used in the manufacture of the aforementioned product. No-Cor, Inc. makes no warranty with respect to the accuracy of the information provided by their suppliers, and disclaims all liability of reliance thereof.