



Millennium Signatures
MARKING SYSTEMS

www.millenniumsignatures.com
info@millenniumsignatures.com

Emergency Numbers

Canutec: (613) 996-6666
Poison ControlCentre:

Revised: February 1st, 2008

Page 1 of 8

MATERIAL SAFETY DATA SHEET

Section I

Chemical Name: MS-X-310A; Polyurethane Catalyst

Section II **Composition/ Information on Ingredients**

Chemical Names	CAS#	WT%	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL C	OSHA PEL TWA
HEXANE, 1,6-DIISOCYANATO HOMOPOLYMER	28182-81-2	60-100	ND	ND	ND	ND
BUTYL ACETATE	123-86-4	10-30	150ppm	200ppm	ND	ND
XYLENE	1330-20-7	7-3	100ppm	150ppm	ND	100ppm
ETHYLBENZENE	100-41-4	1-5	100ppm	125ppm	ND	ND
HEXAMETHYLENE DIISOCYANATE	822-06-0	0.1-1.0	0.005ppm	ND	ND	ND

Section III **Hazardous Identification**

*** Emergency Overview*** Clear liquid with solvent odor *****Class IC-Flammable Liquid***

Potential Health Effects-Eye: Severe irritation with redness, pain, tearing and possibility of significant injury after direct splash to eye. Vapors may cause eye irritation with redness and minor discomfort of the eye. Over exposure to isocyanate products can cause eye irritation.

Potential Health Effects-Skin: Irritant to the skin. Moderately irritating with possible redness and discomfort. Prolonged contact may cause burns with redness and pain. May cause dry skin by dissolving skin oils. Contains a component, which can be absorbed through the skin in harmful amounts. Overexposure to isocyanate can cause skin irritation. It can also lead to skin sensitization. The reaction may include rash, itching, hives and swelling of the arms and legs.

Potential Health Effects- Inhalation: Moderate irritating respiratory tract, headache, dizziness, or drowsiness. Moderate irritating to nose, throat or breathing passage. May cause unconsciousness by depressing the central nervous system after prolong exposure to high concentrations. May increase risk for sudden death from irregular heart rhythms caused by stressful conditions that increase the levels of adrenalin in the blood. Overexposure to isocyanate products can cause nose, throat, and lung irritation. It can also lead to lung sensitization. Symptoms may include coughing, wheezing, tightness in the chest and shortness of breath. Sensitization may develop as a result of large single overexposure or from repeat overexposure at lower levels. Respiratory (LUNG) sensitization can result in strong asthmatic response to future airborne exposures, even at levels well below the TLV.

Potential Health Effects-Ingestion: Moderately irritating to mouth, stomach and digestive system. No ingestion exposure with normal occupational use.

Potential Health Effects-Chronic Hazards: Chronic exposure may cause inflammation of the lens of the eye (cornea). Chronic exposure can cause redness and irritation of the membrane that covers the eyeball and the inside of the eyelids (conjunctivitis). Repeat contact can cause skin to crack and peel. Chronic inhalation exposure may cause coughing or tightness in chest. May cause dry nose and throat, an abnormal sensation of prickling or tingling of the skin, tremors, apprehension, impaired memory, weakness, nervous irritation, dizziness, nausea, loss of appetite, headache, increase liver size and damage to liver, abnormal increase in the number of bone marrow cells, low red blood cell count, and damage to kidney. May cause damage to hearing or increase sensitivity to noise. Chronic alcohol use can increase the potential for toxicity from the repeated exposure to the aromatic hydrocarbon in this product. Chronic ingestion exposure would be unlikely due to the method of use or physical properties of this product.

The components listed in section II may affect the following target organs: Blood, Central Nervous system, Eyes, Gastrointestinal Tract, Kidneys, Liver, Respiratory System and Skin.

Primary Route(s) of entry: skin Contact, Skin Absorption, Inhalation, Eye Contact.

Section IV **First Aid Measures**

First Aid- Eye Contact: If this product contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention.

First Aid-Skin Contact: If this product contacts the skin, promptly wash the contaminated skin with soap & water. If this product penetrates the clothing, promptly remove the clothing and wash the skin with soap & water. If irritation persists after washing get medical attention. Launder clothing before reuse.

First Aid- Inhalation: If a person breathes large amounts of this product, move the exposed people to fresh air at once. If breathing is difficult, get medical attention.

First Aid- Ingestion: If this product has been swallowed, get medical attention immediately.

Section V Fire Fighting Measures

Flash Point (F) 91

Lower Explosive Limit: 0.8

Upper Explosive Limit: 7.6

Extinguishing Media: Carbon Dioxide, Dry Chemical, Foam

Unusual Fire and Explosion Hazards: Flammable liquid. Vapors are heavier than air and may travel to a source of ignition and flash back.

Special Fire Fighting Procedures: firefighters and other exposed to vapors or products of combustion should wear self-contained breathing apparatus.

Section VI Accidental Release Measures

Steps to be taken in case material is released or spilled: Eliminate all ignition sources. Stop or control the spill, if this can be done without undue risk. Do not allow material to enter sewers or ground. Isolate discharged material for proper disposal. Wear appropriate personal equipment.

Section VII Storage and Storage

Handling: ground or bonding containers is recommended before material transfer.

Activities such as sanding, burning off etc. of paint films may generate dust and /or fumes hazardous to the skin and lungs. Work in well ventilated areas. Use local exhaust ventilation and personal skin respiratory protective equipment as appropriate.

Storage: store inside between 40F-100F. Storage areas should be dry and well ventilated

Section VIII Exposure Controls/ Personal Protection

Engineering Controls: It is recommended that work be done in an adequately ventilated area (ie. Ventilation sufficient to maintain concentrations below one half of the PEL and other relevant standards). ; Local exhaust ventilation is recommended when general ventilation is not sufficient to control airborne contamination.

Respiratory Protection: Appropriate respirators must be used, and a program that follows 29 CFR 1910.134 or other applicable regulatory requirements must be followed, when workplace hazards warrant the use of a respirator. NIOSH-approved or other appropriate respirators must be used when respiratory protection is necessary.

Eye Protection: Wear appropriate goggles, face shield or other PPE, which will be effective under the circumstances if the possibility of contact exists. A program meeting 29 CFR 1910.133 or other applicable requirements must be followed when PPE is necessary.

Other Protective Equipment: Use impermeable gloves and protective clothing as necessary to prevent skin contact.

Hygienic Practices: Do not eat, drink, chew tobacco or gum, or apply cosmetics while working with this product. Wash hands before performing any of these activities.

Section IX Physical and Chemical Properties

Theoretical Values

Boiling Range (F) 257-260	VOC (g/L) (less water & Exempt): 265
Freeze Point (F) ND	VOC (lb/gal)(less water & exempt): 2.2
Specific Gravity: 1.1	% Solids by Weight: 75
Appearance: Clear	% solids by Volume: 70
Physical State: liquid	Density (lb/gal): 8.9
Odour: solvent	Flashpoint: 91

Section X Stability and Reactivity

Conditions to Avoid: Avoid contact with heat, open flame, sparks, or ignition sources. If moisture enters the container carbon dioxide gas may form and cause the container lid to budge or pop off.

Hazardous Polymerization: May occur

Stability: Stable

Section XI Toxicological Information

Chemical Name	LD50	LC50	IARC	NTP	OSHA
HENANE, 1,6-DIISOCYANATO	ND	Inhalation Rat: 18500mg/m3/1H			
HOMOPOLYMER. BUTYL ACETATE	Oral Rat: 14130mg/kg	Inhalation Rat: 2000ppm/4H			
XYLENE	Oral Rat: 4300 mg/kg	Inhalation Rat: 5000ppm/4H			
ETHYLBENZENE	Oral Rat: 3500 mg/kg	ND		Group 2B	
HEXAMETHYLENE DIISOCYANATE	Oral Rat: 710mg/kg	Inhalation Rat: 310-350mg/m3/1-4H			

Section XII Ecological Information

Millennium Signatures has not conducted specific studies on the eco toxicity or environmental fate of this product. Commonly available data on certain ingredients indicate that acute or chronic effects could result from uncontrolled releases to soil, ground water, storm waters, or air. Appropriate measures should be taken to prevent uncontrolled releases. Prompt containment and clean up should be performed if releases do occur.

Section XIII Disposal Considerations

Legal disposition of waste is the responsibility of the owner/generator of waste. Applicable federal, Provincial, and or local regulations must be followed during treatment, storage, or disposal of waste containing this product. Do not dispose of in an uncontrolled manner.

Section XIV Transportation Information

Proper Name: Paint Related Material
Hazard Class: 3
UN Number UN1263
Packing Group: III
Label Codes: 3
Resp. Guide Page: 128
Marine Pollutant: No

Chemical Name	CAS Number	RQ (lbs)
BUTYL ACETATE	123-86-4	5000
XYLENE	1330-20-7	100
ETHYLBENZENE	100-41-4	1000
HEXAMETHYLENE DIISOCYANATE	822-06-0	100

Section XV Regulatory Information**Canadian Regulations:**

Canadian WHIMIS Class: B2, D2

Canadian DSL: All components of this product are listed or are not exempt from listing.

International Regulations:**US Federal Regulations:**

CERCLA: SARA Hazard Category: This is considered under applicable definitions to meet the following categories: IMMEDIATE HEALTH HAZARD, CHRONIC HEALTH HAZARD, FIRE HAZARD, REACTIVE HAZARD.

SARA Section 313: This product contains the following substances subject to the reporting requirements of Section 313 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and 40 CFR 372:

Chemical Name	313 Category	CAS Number	WT%
XYLENE		1330-20-7	10.0
ETHYLBENZENE		100-41-4	1.9
HEXAMETHYLENE DIISOCYANATE	Diisocyanates	822-06-0	0.5

Clean Air Act: This product contains the following chemical substances listed as Hazardous Air Pollutants (HAPs) under the Clean Air Act of 1990:

Chemical Name	HAP Category	CAS Number	WT%
XYLENE		1330-20-7	10.0
ETHYLBENZENE		100-41-4	1.9
HEXAMETHYLENE DIISOCYANATE		822-06-0	0.5

Toxic Substance Control Act: All components of this product comply with applicable requirements of the US EPA TSCA inventory. Does not contain chemicals known to be subject to TSCA 12b.

California Proposition 65: WARNING: This product contains chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.

Australian AICS: One or more components of this product are not listed.

European EINECS- All components of this product are listed or are not exempt from listing.

Korean Inventory- All components of this product are listed or are not exempt from listing.

Section XVI Other Information

Nationals Paint & coatings Association (NPCA) Hazardous Material Identification System (HMIS)
Health: 2 Flammability: 2 Reactivity: 1 Personal Protection: see section VIII

This MSDS relates only to the specific material identified in section II. In compiling this MSDS, Millennium Signatures has in good faith on information provided to Millennium signatures by suppliers of the components of this material, and, in some cases, provides by independent data resources. Millennium Signatures has not independently verified such information, and in addition, users should be aware that all materials may not be present unknown hazards. Use of this material in combination with other materials and/or in specific processes may render information set forth in the MSDS inaccurate or otherwise invalid. NO WARRENTY, EXPRESS OR IMPLIED, IS MADE REGARDING THE INFORMATION FURNISHED ON THIS MSDS.

Section XVII Label Statement

DANGER! Flammable liquid and vapor. May be harmful if absorbed through the skin. Vapor harm is swallowed.

Notice: Reports have associated repeated or prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. INDIVIDUALS WITH LUNG OR BREATHING PROBLEMS OR PRIOR REACTION TO ISOCYANATES MUST NOT BE EXPOSED TO VAPOR OR SPRAY MUST. Causes eye irritation. Causes skin irritation. Causes nose and throat irritation. Vapor harmful. May affect the brain or nervous system causing dizziness, headache or nausea.

First Aid: In case of eye contact, flush immediately with plenty of water for at least 15 minutes and get medical attention immediately; for skin, wash thoroughly with soap and water. If you experience difficulty in breathing, leave the area to area to obtain fresh air. If continued difficulty is experienced, get medical attention immediately. IF swallowed, do not induce vomiting. Get medical attention immediately.

Vapors may cause flash fire. Keep away from heat, sparks and flame. Do not smoke. Extinguish all flames and pilot lights, and turn off stove & ovens, heaters, electric motors and other sources of ignition during use and until all vapors are gone. Use only with adequate ventilation. Prevent build-up of vapors by opening all windows and doors to achieve cross-ventilation. Ensure fresh air entry during application and drying. If you experience eye watering, headache or dizziness or if air monitoring demonstrates vapor/mist levels are applicable limits, wear an appropriate, properly fitted respirator (NIOSH approved) during and after application. Follow respirator manufacturer's directions for respirator use. Do not get in eyes, on skin or clothing. Do not breathe vapors. Wash thoroughly after handling. FOR INDUSTRIAL USE ONLY.

If spill, contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations.

***We cannot anticipate all conditions under which this information and our products, or the products of other manufacturers in combination with our products may be used. We accept no responsibility for results obtained by the applications of this information or the safety and suitability of our products, either alone or in combination with other products. Users are advised to make their own tests to determine the safety and suitability of each such product or product combination for their own purposes. Unless otherwise agreed in writing, we sell the products without warranty, and buyers users assume all responsibility and liability for loss or damage arising from the handling and use of our products, whether used alone or in combination with other products.**