MATERIAL SAFETY DATA SHEET - PART 2

CLEAR|ERASE
MARK RESISTANT CLEAR COAT
TEKTURA
WALLCOVERINGS

Product and Company Identification

TRADE NAME: **ClearErase**
GENERAL USE: Part 2 of two part acrylic coating
CHEMICAL FAMILY: Acrylic Polyacrylate Dispersion
PRODUCT DESCRIPTION: Milky White (non pigmented) liquid emulsion with a low odor

MANUFACTURER: Master Coating Technologies
2777 Eagandale Boulevard
Eagan, MN 55121

DISTRIBUTOR: Tektura plc,
34 Harbour Exchange Sq
London
E14 9GE

TELEPHONE: 020 7536 3300
020 7536 3311

DATE OF PREPARATION: January 1, 2011

Hazards Identification

EMERGENCY OVERVIEW

Caution! Overexposure to aerosol, vapor or mist may cause eye, skin and respiratory tract irritation, dizziness, headache, nausea and/or flu like symptoms. Prolonged or repeated skin contact may defat the skin and cause irritation. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture. Irritating gases/fumes may be given off during burning or thermal decomposition.

HMIS HAZARD RATINGS

HEALTH:	**1**
FLAMMABILITY:	**0**
PHYSICAL HAZARD:	**0**

0 = Insignificant
1 = Slight
2 = Moderate
3 = High
4 = Extreme

REQUIRED PERSONAL PROTECTIVE EQUIPMENT

HMIS Personal Protective Equipment Letter -- **A/C**
Safety Glasses are required when using this product; gloves and apron or protective clothing are highly advisable. Wear dust mask when sanding surfaces painted with product.

POTENTIAL HEALTH EFFECTS

Acute Exposure Effects

INHALATION: Harmful if inhaled in high concentrations; may cause narcotic effects. May cause respiratory tract irritation. May cause lung damage. May cause central nervous system effects such as nausea and headache.

SKIN: Causes skin irritation in susceptible individuals; this is much more prevalent with prolonged and/or chronic exposure.

EYES: Causes eye irritation. May cause redness and pain. Dried product particles may cause mechanical irritation.

INGESTION: Harmful if swallowed. May cause irritation of the digestive tract. May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Chronic Exposure Effects

Chronic inhalation of silica in dried product may produce silicosis; chronic skin exposure may result in rash.

CARCINOGENICITY: NTP/NO -- IARC Monographs/NO -- OSHA Regulated/NO -- Cal. Prop. 65/NO -- ESIS Notation/NO

Hazardous Ingredients

HAZARDOUS COMPONENTS	% BY WEIGHT	CAS#
Propylene Glycol n-Butyl Ether (3-Butoxypropan-2-01)	1-5	5131-66-8
Triethanolamine	1-4	102-71-6
Amorphous Silica	0.3	7631-86-9

This Material Safety Data Sheet is prepared to comply with the United States Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200), the Canadian Workplace Hazardous Materials Information System (WHMIS), and European Union Directive 1997/2006/EC (REACH). Hazard symbols and risk phrases are based on maximum listed concentration of each hazardous ingredient. Unlisted ingredients are not "hazardous" per the OSHA Hazard Communication Standard (29 CFR 1910.1200), the Canadian Workplace Hazardous Materials Information System (WHMIS) or the European (GHS) directive 91/155/EEC and are considered trade secrets under US Federal Law (29CFR and 40CFR), Canadian Law (Health Canada Legislation), and European Union Directive 67/548/EEC.

First Aid Measures

INHALATION: Provide fresh air and rest. See a physician for serious cases.

EYES: Remove contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

SKIN: Wash with mild soap and water. See a physician if irritation persists.

INGESTION: Do not induce vomiting. Give water to drink. Get medical aid immediately. Call a poison control center.

Fire Fighting Measures

DATA RELATED TO FIRE:

Flash Point: None -- Auto-Ignition Temp: 430C (806F) @ 997 hPa (DIN 51794) -- Flammable/Explosive Impact Limits: NA Lower: NA -- Upper: NA -- Sensitivity to Mechanical Impact/Static Discharge: None

GENERAL HAZARDS: Not a flammable or combustible product.

SUITABLE EXTINGUISHING MEDIA: Use extinguishing media appropriate to fight surrounding fire.

UNSUITABLE EXTINGUISHING MEDIA: None

FIRE FIGHTING PROCEDURES: Normal procedures are applicable. No special procedures are required for fires involving this product.

UNUSUAL FIRE AN EXPLOSION HAZARDS: None

HAZARDOUS COMBUSTION PRODUCTS: Carbon Monoxide, Carbon Dioxide, Nitrogen oxides.

Accidental Release Measures

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Contain spill. If spilled in an enclosed area, ventilate. Wear proper personal protective clothing and equipment. Do not flush liquid into public sewer, water systems or surface waters. Recover as much as possible for reuse. Absorb remainder with an inert material. Place into labeled, closed containers for disposal. Wash the spill area with soap and water. Change contaminated clothes and launder before reuse. CAUTION: Spilled liquid and dried film are slippery. Dispose in accordance with local, state and federal regulations. Discarded product is not hazardous waste under CRA (40CFR 261.21).

Handling and Storage

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Handling: Avoid eye contact. Avoid repeated or prolonged skin contact. Avoid inhalation of mists / fumes. Minimize contact with air to reduce contamination with mold, fungus, or other organisms which could cause decomposition or spoilage. Wash thoroughly after handling this product and before eating, smoking or using the facilities. Use under well-ventilated conditions. Storage: Keep container closed when not in use. Do not store in open, unlabeled or mislabeled containers. Do not allow product to freeze. Do not store over 120ºF/48ºC

Exposure Controls/Personal Protection

HAZARDOUS COMPONENTS	CAS#	ACGHI EXPOSURE LIMITS (mg/m3 unless otherwise noted)	OSHA Exposure Limits (mg/m3 unless otherwise noted)
Propylene Glycol n-Butyl Ether (3-Butoxypropan-2-01)	5131-66-8	606	600
Triethanolamine	102-71-6	5	NE
Amorphous Silica	7631-86-9	NE	NE

RESPIRATORY PROTECTION: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

PROTECTIVE GLOVES: Wear appropriate protective gloves to prevent skin exposure. Wear appropriate protective clothing to limit skin exposure.

EYE PROTECTION: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Facilities storing this material should be equipped with an eyewash facility and a safety shower.

ENGINEERING CONTROLS: Provide adequate area ventilation to keep airborne exposure concentrations below the listed TLVs

WORK / HYGIENIC PRACTICES: Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product.

Physical and Chemical Properties

APPEARANCE AND ODOR: Milky White (non pigmented) liquid emulsion with a mild faint acrylic odor.

ODOR THRESHOLD: NA

FREEZING / MELTING POINT: NA

SOLUBILITY IN WATER: Soluble

pH: 7.3 @ 22 °C (71.6 °F) (Determined in a 10% aqueous solution)

FLASH POINT: None

FLAMMABLE LIMITS: LEL-None -- UEL-None

AUTOIGNITION TEMPERATURE: 430 °C (806 °F) @ 997 hPa (DIN 51794)

VOLATILE ORGANIC COMPOUND (voc): - <50 g/L

VAPOR PRESSURE: NR

SPECIFIC GRAVITY (water=1): NR

BOILING POINT/RANGE: 99 °C (210.2 °F) @ 1,013 hPa (EG A2)

COEFFICIENT OF WATER / OIL DISTRIBUTION: NR

SOLUBILITY IN ORGANIC SOLVENTS: NR

VISCOSITY: NR

VAPOR DENSITY (Air = 1): NR

EVAPORATION RATE (water=1): <1

Stability and Reactivity

STABILITY: Stable under normal temperatures and pressures.

CONDITIONS TO AVOID: Incompatible materials, ignition sources, excess heat. Protect from freezing.

INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizing agents, strong bases, Strong acids, water reactive materials.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Carbon monoxide, carbon dioxide, Nitrogen oxides.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: None related to polymerization.

Toxicological Information

Oral LD_{50}	Product is likely to be a gastrointestinal irritant.
Dermal LD_{50}	Not known - product is irritating by contact with skin.
Inhalation LC_{50}	Not known - product may be a mild irritant to the respiratory tract.
Irritation / Sensitization	Chemical and mechanical irritant to eyes; possible irritant to skin and respiratory tract.
Carcinogenicity	IARC-Triethanolamine Group 3 Not classifiable.
Mutagenicity	Not Known
Reproductive Toxicity	Not Known
Teratogenicity	Not Known

COMPONENTS	CAS#	LD50 of Ingredient (Oral, Rat - unless otherwise specified)	LC50 of Ingredient (Inhalation, Rat - unless otherwise specified)
Propylene Glycol n-Butyl Ether (3-Butoxypropan-2-01)	5131-66-8	3300 mg/kg	NE
Triethanolamine	102-71-6	4920 uL/kg	NE
Amorphous Silica	7631-86-9	Draize test, rabbit, eye: 25 mg/24H Mild	NE

Ingredient Triethanolamine: Fish: Fathead Minnow: 5600 mg/L; 96H; LC50.
Ingredient Acrylic Polymer: Acute and Prolonged Toxicity to Fish, LC50: > 100 mg/l (Danio rerio (zebra fish), 96 h)
Ingredient Propylene Glycol n-Butyl Ether: > 90 %, Exposure time: 28 d, Acute and Prolonged Toxicity to Fish, LC50: 560 - 1,000 mg/l (Guppy (Poecilia reticulata)), Acute Toxicity to Aquatic Invertebrates. EC50: > 1,000 mg/l (Water flea (Daphnia magna))
The product is not readily biodegradable.

Disposal Considerations

WASTE DISPOSAL METHOD:

Dispose of in a manner consistent with federal, state, and local regulations. Recondition or dispose of empty container in accordance with governmental regulations.

Regulatory Information

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. The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information. WARRANTY: Master Coating Technologies warrants the components of this Finish system against manufacturing defect for a period of five years from the date of application when applied to a wall surface according to manufacturer's current printed instructions. Manufacturing defect is defined to be a failure of the coating system to adhere to a wall surface when applied according to manufacturer's printed instructions, and does not include subsequent failure or damage caused by exogenous factors such as substrate failure or defect, sharp objects, persons, or acts of God. In the event of a failure resulting from manufacturing defect, the product will be replaced. Master Coating Technologies shall have no obligation to or otherwise participate in labor or other costs associated with replacing the product. This warranty supersedes all previous warranties.

MATERIAL SAFETY DATA SHEET - PART 1

CLEAR|ERASE
MARK RESISTANT CLEAR COAT
TEKTURA
WALLCOVERINGS

Product and Company Identification

TRADE NAME: **ClearErase**
GENERAL USE: Part 1 (Polymer Hardener)
CHEMICAL FAMILY: Isocyanates
PRODUCT DESCRIPTION: Light Yellow liquid with a slight odor

MANUFACTURER: Master Coating Technologies
2777 Eagandale Boulevard
Eagan, MN 55121

DISTRIBUTOR: Tektura plc,
34 Harbour Exchange Sq
London
E14 9GE

TELEPHONE: 020 7536 3300
020 7536 3311

DATE OF PREPARATION: January 1, 2011

Hazards Identification

EMERGENCY OVERVIEW

Caution! Overexposure to aerosol, vapor or mist may cause eye, skin and respiratory tract irritation, dizziness, headache, nausea and/or flu like symptoms. Prolonged or repeated skin contact may defat the skin and cause irritation. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture. Irritating gases/fumes may be given off during burning or thermal decomposition.

HMIS HAZARD RATINGS

HEALTH:	**2***
FLAMMABILITY:	**1**
PHYSICAL HAZARD:	**1**

0 = Insignificant
1 = Slight
2 = Moderate
3 = High
4 = Extreme
* Chronic Health Hazard -- Sensitization

REQUIRED PERSONAL PROTECTIVE EQUIPMENT

HMIS Personal Protective Equipment Letter -- **See Notes**
NOTES -- Personal protective equipment must be selected to prevent inhalation of vapors and contact with skin and eyes. At a bare minimum, safety glasses, gloves, apron, and combination particle/vapor respirator should be worn. In some cases, supplied air, full body suits and boots will be needed.

POTENTIAL HEALTH EFFECTS

Acute Exposure Effects

INHALATION: Diisocyanate or polyisocyanate vapors or mist at concentrations above the exposure limits or guidelines can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) with symptoms of runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing difficulty). Persons with preexisting bronchial-hyperreactivity may respond to concentrations below the exposure limits or guidelines with similar symptoms or asthmatic type symptoms. Exposure well above the exposure limits or guidelines may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms (e.g. fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.

SKIN: Causes irritation with symptoms of reddening, itching, and swelling. Can cause sensitization. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Cured material is difficult to remove.

EYES: Causes irritation with symptoms of reddening, tearing, stinging, and swelling. May cause temporary corneal injury. Vapor may cause irritation with symptoms of burning and tearing.

INGESTION: May cause irritation; Symptoms may include abdominal pain, nausea, vomiting, and diarrhea.

Chronic Exposure Effects

As a result of previous repeated overexposures or a single large dose, certain individuals may develop a respiratory sensitization to diisocyanates or polyisocyanates that may cause them to react to a later exposure to diisocyanates or polyisocyanates at levels well below the exposure limits or guidelines. These asthmatic symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthmatic attack, may be delayed up to several hours after exposure. Extreme asthmatic reactions can be life threatening.There is evidence that once sensitized, an individual can experience these symptoms upon exposure to dust, cold air, or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Sensitization can be permanent. Chronic overexposure to diisocyanates has also been reported to cause lung damage (including fibrosis, decrease in lung function) that may be permanent. Prolonged skin contact may cause reddening, swelling, rash, and, in some cases, skin sensitization. Animal tests and other research indicate that skin contact with diisocyanates can play a role in causing isocyanates sensitization and respiratory reaction. This data reinforces the need to prevent direct skin contact with isocyanates. Prolonged vapor contact may cause conjunctivitis of the eyes.

CARCINOGENICITY: NTP/NO -- IARC Monographs/NO -- OSHA Regulated/NO -- Cal. Prop. 65/NO -- ESIS Notation/NO

Hazardous Ingredients

HAZARDOUS COMPONENTS	% BY WEIGHT	CAS#
Homopolymer of (HDI) Hexamethylene Diisocyanate	60-100%	28182-81-2
Polyisocyanate based on HDI	15-25%	NR
Hexamethylene-1,6-Diisocyanate	<0.1%	822-06-0

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First Aid Measures

INHALATION: Move to an area free from further exposure. Get medical attention immediately. Administer oxygen or artificial respiration as needed. Asthmatic symptoms may develop and may be immediate or delayed up to several hours. Extreme asthmatic reactions can be life threatening. Notes to physician: Treatment is essentially symptomatic. An individual having a dermal or pulmonary sensitization reaction to this material should be removed from further exposure to any diisocyanate.

EYES: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Use lukewarm water if possible. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Then remove contact lenses, if easily removable, and continue eye irrigation for not less than 15 minutes. Get medical attention if irritation develops. Notes to physician: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation as needed. Workplace vapors could produce reversible corneal epithelial edema impairing vision.

SKIN: Immediately remove contaminated clothing and shoes. Wash off with soap and water. Use lukewarm water if possible. Wash contaminated clothing before reuse. For severe exposures, immediately get under safety shower and begin rinsing. Get medical attention if irritation develops and persists.

INGESTION: Do NOT induce vomiting. Wash mouth out with water. Do not give anything by mouth to an unconscious person. Get medical attention. Notes to physician: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of the compound.

Fire Fighting Measures

DATA RELATED TO FIRE:

Flash Point: 135ºF/57ºC CC -- Auto-Ignition Temp: NE -- Flammable/Explosive Impact Limits: NA Lower: NA -- Upper: NA -- Sensitivity to Mechanical Impact/Static Discharge: None

GENERAL HAZARDS: Combustible liquid avoid sources of ignition. Decomposition products can be highly toxic and irritating.

SUITABLE EXTINGUISHING MEDIA: Water Fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

UNSUITABLE EXTINGUISHING MEDIA: None

FIRE FIGHTING PROCEDURES: Firefighters should wear NFPA compliant structural firefighting protective equipment, including self-contained breathing apparatus and NFPA compliant helmet, hood, boots and gloves. Avoid contact with product. Decontaminate equipment and protective clothing prior to reuse. During a fire, isocyanate vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Exposure to heated diisocyanate can be extremely dangerous.

UNUSUAL FIRE AN EXPLOSION HAZARDS: Closed container may forcibly rupture under extreme heat or when contents are contaminated with water (CO2 formed). Use coldwater spray to cool fire-exposed containers to minimize the risk of rupture. Large fires can be extinguished with large volumes of water applied from a safe distance, since reaction between water and hot diisocyanate can be vigorous.

HAZARDOUS COMBUSTION PRODUCTS: Carbon dioxide, carbon monoxide, oxides of nitrogen, dense black smoke., hydrogen cyanide, isocyanate, isocyanic acid

Accidental Release Measures

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Evacuate non-emergency personnel. Isolate the area and prevent access. Remove ignition sources. Notify management. Put on protective equipment. Control source of the leak. Ventilate. Contain the spill to prevent spread into drains, sewers, water supplies, or soil. To minimize vapor, cover the spillage with fire fighting foam (AFFF). Released material may be pumped into closed, but not sealed, metal container for disposal.Process can generate heat. Minor Spill or Leak (Wet surface): Cover spill area with suitable absorbent material (Kitty Litter, Oil-Dri®, etc). Saturate absorbent material with neutralization solution and mix. Wait 15 minutes. Collect material in open-head metal containers. Repeat applications of decontamination solution, with scrubbing, followed by absorbent until the surface is decontaminated. Check for residual surface contamination. Swype® test kits have been used for this purpose. Apply lid loosely and allow containers to vent for 72 hours to let carbon dioxide escape.

Additional Spill Procedures/Neutralization: Neutralization solutions:

(1) Colorimetric Laboratories Inc. (CLI) decontamination solution.

(2) A mixture of 75% water, 20% non-ionic surfactant (e.g. Plurafac SL-62, Tergitol TMN-10) and 5% n-propanol.

(3) A mixture of 80% water, 20% non-ionic surfactant (e.g. Plurafac SL-62, Tergitol TMN-10).

(4) A mixture of 90% water, 3-8% ammonium hydroxide or concentrated ammonia, and 2% liquid detergent.

Handling and Storage

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Storage temperature: minimum: -34 °C (-29.2 °F), maximum: 50 °C (122 °F)
Storage period: 6 Months @ 25 °C (77 °F): after receipt of material by customer.
Handling/Storage Precautions

Do not breathe vapors, mists, or dusts. Use adequate ventilation to keep airborne isocyanate levels below the exposure limits. Wear respiratory protection if material is heated, sprayed, used in a confined space, or if the exposure limit is exceeded. Warning properties (irritation of the eyes, nose and throat or odor) are not adequate to prevent overexposure from inhalation. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed to vapor or spray mist. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash thoroughly after handling. Do not breathe smoke and gases created by overheating or burning this material. Decomposition products can be highly toxic and irritating. Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. **Employee education and training in the safe use and handling of this product are required under the OSHA Hazard Communication Standard 29 CFR 1910.1200.**

Exposure Controls/Personal Protection

HAZARDOUS COMPONENTS	CAS#	ACGHI EXPOSURE LIMITS	OSHA Exposure Limits
Homopolymer of Hexamethylene Diisocyanate	28182-81-2	Bayer Exposure Limit 0.5 mg/m3	0.5 mg/m3
Polyisocyanate based on HDI	NR	NR	NR
examethylene-1,6-Diisocyanate.	822-06-0	0.005 ppm	NE

RESPIRATORY PROTECTION: A respirator that is recommended or approved for use in isocyanate-containing environments (air-purifying charcoal-based or fresh airsupplied) may be necessary for spray applications or other situations such as high temperature use which may produce inhalation exposures. A supplied-air respirator (either positive pressure or continuous flow-type) is recommended. Before an air-purifying respirator can be used, air monitoring must be performed to measure airborne concentrations of HDI monomer and HDI polyisocyanate. Specific conditions under which air-purifying (charcoal) respirators can be used are outlined in the following sections. Observe OSHA regulations for respirator use (29 CFR 1910.134). SPRAY APPLICATION: A. Good industrial hygiene practice dictates that when isocyanate-based coatings are spray applied, some form of respiratory protection should be worn.

While not recommended, during the spray application of coatings containing this product the use of a supplied-air (either positive pressure or continuous flowtype) respirator is mandatory when ONE OR MORE of the following conditions exists: -the airborne isocyanate concentrations are not known; or -the airborne isocyanate monomer concentrations exceed 0.05 ppm averaged over eight (8) hours (10 times the 8 hour TWA exposure limit); or -the airborne polyisocyanate (polymeric, oligomeric) concentrations exceed 5 mg/m3 averaged over 8 hours or 10 mg/m3 averaged over 15 minutes (10 times the 8 hour TWA or the 15 minute STEL exposure limits); or -operations are performed in a confined space (See OSHA Confined Space Standard, 29 CFR 1910.146).

A properly fitted air-purifying (combination organic vapor and particulate) charcoal-based respirator, proven by test to be effective in isocyanate-containing spray paint environments, and used in accordance with all recommendations made by the manufacturer, can be used when ALL of the following conditions are met: -The airborne isocyanate monomer concentrations are known to be below 0.05 ppm averaged over eight (8) hours (10 times 8 hour TWA exposure limit); and -the airborne polyisocyanate (polymeric, oligomeric) concentrations are known to be below 5 mg/m3 averaged over 8 hours or 10 mg/m3 averaged over 15 minutes (10 times the 8 hour TWA or the 15 minute STEL exposure limits) and - a NIOSH-certified End of Service Life Indicator or a change schedule based upon objective information or data is used to ensure that cartridges are replaced before the end of their service life. In addition, prefilters should be changed whenever breathing resistance increases due to particulate buildup.

NON-SPRAY OPERATIONS: A. During non-spray operations such as mixing, batch-making, brush or roller application, etc., at elevated temperatures (for example, heating of material or application to a hot substrate), it is possible to be exposed to airborne isocyanate vapors. Therefore, when the coatings system will be applied in a non-spray manner, a supplied-air (either positive pressure or continuous flow-type) respirator is mandatory when ONE OR MORE of the following conditions exists: - the airborne isocyanate concentrations are not known; or - the airborne isocyanate monomer concentrations exceed 0.05 ppm averaged over eight (8) hours (10 times the 8 hour TWA exposure limit); or - the airborne polyisocyanate (polymeric, oligomeric) concentrations exceed 5 mg/m3 averaged over 8 hours or 10 mg/m3 averaged over 15 minutes (10 times the 8 hour TWA or the 15 minute STEL exposure limits); or - operations are performed in a confined space (See OSHA Confined Space Standard, 29 CFR 1910.146). A properly fitted air-purifying (combination organic vapor and particulate) respirator, proven by test to be effective in isocyanatecontaining paint environments, and used in accordance with all recommendations made by the manufacturer, can be used when ALL of the following conditions are met: -the airborne concentrations of the isocyanate monomer are below 0.05 ppm averaged over eight (8) hours (10 times the 8 hour TWA exposure limit); and - the airborne polyisocyanate (polymeric, oligomeric) concentrations are known to be below 5 mg/m3 averaged over eight (8) hours or 10 mg/m3 averaged over 15 minutes (10 times the 8 hour TWA or the 15 minute STEL exposure limits) and - a NIOSH-certified End of Service Life Indicator or a change schedule based upon objective information or data is used to ensure that cartridges are replaced before the end of their service life. In addition, prefilters should be changed whenever breathing resistance increases due to particulate buildup.

PROTECTIVE GLOVES: Gloves should be worn., Nitrile rubber gloves., Butyl rubber gloves., Neoprene gloves.

EYE PROTECTION: When directly handling liquid product, eye protection is required. Examples of eye protection include a chemical safety goggle, or chemical safety goggle in combination with a full face shield when there is a greater risk of splash

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Avoid all skin contact. Emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of this product. Follow all label instructions.

ENGINEERING CONTROLS: Superior area ventilation is absolutely required when working with isocyanate containing products to keep airborne concentrations below the listed TLV/TWA's. Respiratory protection must also be worn at all times to avoid inhalation exposure.

WORK / HYGIENIC PRACTICES: Emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of this product. Follow all label instructions. Thoroughly wash up with soap and water after handling this product and before eating, drinking or smoking.

Physical and Chemical Properties

APPEARANCE AND ODOR: Light yellow liquid with a slight odor.

ODOR THRESHOLD: NE

FREEZING / MELTING POINT: NE

SOLUBILITY IN WATER: NR

pH: NA

FLASH POINT: 135ºF/57ºC CC

FLAMMABLE LIMITS: LEL-None -- UEL-None

AUTOIGNITION TEMPERATURE: NE

VOLATILE ORGANIC COMPOUND (voc): <5 g/L

VAPOR PRESSURE: HDI Polyisocyanate: 5.2 X 10-9 @ 68 F (20 C) mmHg.

SPECIFIC GRAVITY (water=1): Approximately 1.15 @ 20 °C (68 °F)

BOILING POINT/RANGE: NE

COEFFICIENT OF WATER / OIL DISTRIBUTION: NR

SOLUBILITY IN ORGANIC SOLVENTS: Soluble

VISCOSITY: NR

VAPOR DENSITY (Air = 1): >1

EVAPORATION RATE (water=1): <1

Stability and Reactivity

STABILITY: Stable under normal temperatures and pressures.

CONDITIONS TO AVOID: Excessive heat and incompatible substances.

INCOMPATIBILITY (MATERIALS TO AVOID): Water, amines, strong bases, alcohols, copper alloys.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke., Hydrogen cyanide, Isocyanate, Isocyanic Acid, Other undetermined compounds.

HAZARDOUS POLYMERIZATION: May occur under certain conditions as indicated under "conditions to avoid".

CONDITIONS TO AVOID: Contact with moisture, other materials that react with isocyanates, or temperatures above 350ºF (177ºC) may cause polymerization.

Toxicological Information

Oral LD_{50}	Product is likely to be a gastrointestinal irritant.
Dermal LD_{50}	> 5,000 mg/kg (rabbit)
Inhalation LC_{50}	LC50: 390-453 mg/m3, 4 h (Rat, Male/Female).
Irritation / Sensitization	Chemical and mechanical irritant to eyes; possible irritant to skin and respiratory tract.
Carcinogenicity	No Carcinogenic substances as defined by IARC, NTP and/or OSHA
Mutagenicity	Negative, Point mutation in mammalian cells (HPRT test). Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)
Reproductive Toxicity	Not Known
Teratogenicity	Not Known

COMPONENTS	CAS#	LD50 of Ingredient (Oral, Rat - unless otherwise specified)	LC50 of Ingredient (Inhalation, Rat - unless otherwise specified)
Homopolymer of Hexamethylene Diisocyanate	28182-81-2	>5,000 mg/kg (Rat)	LC50: 390-453 mg/m3, 4 h (Rat,)
Polyisocyanate based on HDI	NR	NR	NR
examethylene-1,6-Diisocyanate	822-06-0	738 mg/kg/4HR	NE

Ecological Data for Homopolymer of Hexamethylene Diisocyanate
Biodegradation: 0 %, Exposure time: 28 Days, Not readily biodegradable.
Acute and Prolonged Toxicity to Fish: LC0: > 100 mg/l (Zebra fish (Brachydanio rerio), 96 h)
Acute Toxicity to Aquatic Invertebrates: EC0: > 100 mg/l (Water flea (Daphnia magna), 48 h)
Toxicity to Aquatic Plants: EC50: > 1,000 mg/l, (Green algae (Scenedesmus subspicatus), 72 h)
Toxicity to Microorganisms: EC50: > 1,000 mg/l, (Activated sludge microorganisms, 3 h)
Ecological Data for Hydrophilic Aliphatic Polyisocyanate based on Hexamethylene Diisocyanate:
No data available for this component.

Disposal Considerations

WASTE DISPOSAL METHOD:

Waste Disposal Method: Waste disposal should be in accordance with existing federal, state and local environmental control laws. Incineration is the preferred method. Empty Container Precautions: Empty containers retain product residue; observe all precautions for product. Do not heat or cut empty container with electric or gas torch because highly toxic vapors and gases are formed. Do not reuse without thorough commercial cleaning and reconditioning. If container is to be disposed, ensure all product residues are removed prior to disposal.

Transportation Information

PROPER SHIPPING NAME: Other regulated substances, liquid, n.o.s. contains Hexamethylene Diisocyanate.

DOT HAZARD CLASS / Pack Group: 9/PGIII

REFERENCE: 49CFR, IATA, IMDG.

UN / NA IDENTIFICATION NUMBER: UN3082 & NA3082

IATA HAZARD CLASS / Pack: Not regulated

IMDG HAZARD CLASS: Not regulated

RID/ADR Dangerous Goods Code: UN3082, 9 UN3082, 9

Hazard Identification Number (HIN): 90 EAC= •3Z

When in individual containers of less than the Product RQ, (45,359 kg) this material ships as non-regulated.

Note: Transportation information provided is for reference only. Client is urged to consult CFR 49 parts 100 - 177, IMDG, IATA, EU, United Nations TDG, and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

Regulatory Information

TSCA (USA - Toxic Substance Control Act): Ingredients are TSCA referenced.

SARA TITLE III (USA - Superfund Amendments and Reauthorization Act): No ingredients in this product are subject to SARA 313 (40 CFR 372.65C) Supplier Notification.

Acute Health: **YES** Chronic Health: **YES**
Fire: **NO** Sudden Release of Pressure: **NO**
Reactive: **YES**

SARA 313 REPORTABLE INGREDIENTS: No supplier notification required for any components of this product.

CERCLA (USA - Comprehensive Response Compensation and Liability Act): CAS# 822-06-0 (Hexamethylene-1,6- Diisocyanate): 100 lb final RQ; 45.4 kg final RQ.

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986: No listed components.

State Right to Know: CAS-No's 822-06-0 and 28182-81-2 (HDI and Homopolymer of HDI) appear on the following RTK lists: MA, NJ, PA.

CPR (Canadian Controlled Products Regulations): "This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations. **WHMIS Classifications: B3, D2.**

IDL (Canadian Ingredient Disclosure List): **CAS# 822-06-0 is listed on Canada's Ingredient Disclosure List.**
DSL / NDSL (Canadian Domestic Substances List / Non-Domestic Substances List): Listed on DSL
EINECS (European Inventory of Existing Commercial Chemical Substances): Referenced
WGK Water Quality Index: **2**

Other Information

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. The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information. WARRANTY: Master Coating Technologies warrants the components of this Finish system against manufacturing defect for a period of ten years from the date of application when applied to a wall surface according to manufacturer's current printed instructions. Manufacturing defect is defined to be a failure of the coating system to adhere to a wall surface when applied according to manufacturer's printed instructions, and does not include subsequent failure or damage caused by exogenous factors such as substrate failure or defect, sharp objects, persons, or acts of God. In the event of a failure resulting from manufacturing defect, the product will be replaced. Master Coating Technologies shall have no obligation to or otherwise participate in labor or other costs associated with replacing the product. This warranty supersedes all previous warranties.