Material Safety Data Sheet

Product: UT-R20 Hardener

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Product Name: UT-R20 Hardener

Product Use: Cross Linking Agent

MSDS Preparation Date: May 13, 2005

Manufacturer: REMA TIP TOP/NO. AMERICA, 119 Rockland Avenue, Northvale, NJ 07647

24-Hour Emergency Phone Number: 800-424-9300

2. PRODUCT INGREDIENTS

CHEMICAL NAME:	CAS NUMBER:	% RANGE:	OSHA PEL:
* Dichloromethane [1]	75-09-2	75-100%	25 ppm TWA
* Diphenylmethane diisocyanate[2] (isomers and homologues)	9016-87-9	15-25%	

[1] Synonym: Methylene Chloride
[2] Synonym: Polymethylene polyphenylene isocyanate

*Denotes chemical subject to reporting requirements of Section 313 of Title III of the 1986 Superfund Amendments and Reauthorization Act (SARA) and 40 CFR Part 372

3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS:

EYE: Direct contact may cause pain. May cause moderate eye irritation, which may be slow to heal. May cause slight corneal injury. Vapors may irritate eyes.

SKIN: Prolonged or repeated exposure may cause skin irritation, even a burn. Repeated contact may cause drying or flaking of skin. May cause more severe response if confined to skin. Extensive skin contact with product, such as immersion, may cause an intense burning sensation followed by a cold, numb feeling which will subside after contact. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

INGESTION: Single dose oral toxicity is considered to be low. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury. If aspirated (liquid enters the lung), may be rapidly absorbed through the lungs and result in injury to other body systems.

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INHALATION: In confined or poorly ventilated areas, excessive vapor release can readily accumulate and can cause unconsciousness and death. Excessive overexposure may cause irritation to upper respiratory tract. Excessive exposure may cause carboxyhemoglobinemia, thereby impairing the blood's ability to transport oxygen. Minimal anesthetic or narcotic effects may be seen in the range of 500-1000 ppm. Progressively higher levels over 1000 ppm can cause dizziness, drunkenness, and, as low as 10,000 ppm, unconsciousness and death. These high levels may also cause cardiac arrhythmias (irregular heartbeats).

SYSTEMIC: Signs & symptoms of excessive exposure may be central nervous system effects. Excessive exposure may cause carboxyhemoglobinemia, thereby impairing the blood's ability to transport oxygen. Observations in animals include liver and kidney effects.

CANCER INFORMATION: For Hazard Communication purposes, under OSHA Standard 29 CFR Part 1910.1200, this main ingredient of this product is listed as a potential carcinogen by IARC and NTP. This ingredient, Methylene Chloride has been shown to increase the incidence of malignant tumors in mice and benign tumors in rats. Studies have shown that tumors observed in mice are unique to that species. Other animal studies, as well as several human epidemiology studies, failed to show a tumorigenic response. The ingredient Dichloromethane (Methylene Chloride) is not believed to pose a measurable carcinogenic risk to man when handled as recommended. IARC lists the second ingredient, Diphenylmethane diisocyanate, as Group 3, not classifiable.

TERATOLOGY (BIRTH DEFECTS): None

REPRODUCTIVE EFFECTS: None

4. FIRST AID

EYES: Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel.

INGESTION: Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

SKIN: Wash off in flowing water or shower.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, qualified personnel should administer oxygen. Call a physician or transport to medical facility.

NOTE TO PHYSICIAN: Because rapid absorption may occur through lungs if aspirated and cause systemic effects, the decision of whether to induce vomiting or not should be made by a physician. If ravage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Exposure may increase "myocardial irritability." Do not administer sympathomimetic drugs unless absolutely necessary. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient. Carboxyhemoglobinemia may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemia's.

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5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES: Flash Point > 200°F (93°C) Method used – TOC, TCC & COC.
Autoignition Temperatures - 1033°F (556°C).

FLAMMABLE LIMITS: LFL = 14% @ 77°F (25°C); UFL = 22%@ 77°F(25°C).

HAZARDOUS COMBUSTION PRODUCTS: During a fire, smoke may contain the original material in addition to unidentified toxic and/or irritating compounds. Hazardous combustion products may include and are not limited to hydrogen chloride. Hazardous combustion products may include trace amounts of phosgene, chlorine.

EXTINGUISHING MEDIA: Water fog or fine spray. Carbon dioxide chemical. Foam. Water fog, applied gently may be used as a blanket for fire extinguishment.

FIRE FIGHTING INSTRUCTIONS: Keep people away. Isolate fire area and deny unnecessary entry. Contain fire run-off if possible. Fire water run-off, if not contained may cause environmental damage. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Immediately withdraw all personnel from area in case of rising sound from venting safety device or discoloration of the container. Move container from fire area if this is possible without hazard. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Eliminate ignition source.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots and gloves). If protection equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES

In case of accidental release of a large volume of this product, clear all personnel from area. Do not breathe vapors. Ventilate area of leak or spill. Wear protective equipment including positive pressure self-contained or air supplied breathing apparatus. Follow confined space entry procedures if applicable, ASTM D-4276 and OSHA 29CFR 1910.146. Contain liquid to prevent contamination of soil, surface water or groundwater. Material is heavier than water and has limited water solubility. It will collect on the lowest surface. For large spills; contain liquid; transfer to properly labeled closed metal containers. For small spills: mop or soak up immediately. Place in properly labeled metal containers. Notify National Response Center (800-424-8802) of uncontained releases to the environment in excess of the Reportable Quantity (RQ). For all transportation accidents, call CHEMTREC at 800-424-9300.

7. HANDLING & STORAGE

HANDLING: This product is shipped only in small bottles, packed in kits with other REMA products. Very large quantities of these packages, if mishandled, may accumulate enough liquid or vapor to cause a harmful atmosphere; however, the probability of this type of release is quite small. If large numbers of these bottles are broken, releasing the contents, evacuate the area and call for emergency personnel.

STORAGE: Keep packaged in original containers until use. Store in cool, dry place. Do not store in aluminum, zinc, aluminum alloys and plastic containers.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS
Provide general and/or local exhaust ventilation to control airborne levels to below exposure guidelines.

PERSONAL PROTRECTIVE EQUIPMENT

EYE/FACE PROTECTION: Use splash goggles. If vapor exposure causes eye discomfort, use a full-face respirator.

SKIN PROTECTION: Use protective clothing impervious to this material. Selection of specific items such as face shield, gloves, boots, apron, or full body suit will depend on operation. Remove contaminated clothing immediately; wash skin area with soap and water and launder clothing before reuse.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. In the unlikely event where vapor concentration exceeds or is likely to exceed the OSHA PEL, a NIOSH-approved, continuous flow supplied air-respirator, hood or helmet is acceptable. A NIOSH approved self-contained breathing apparatus or supplied-air respirator, with full facepiece, is required for vapor concentrations exceeding exposure limits. A NIOSH approved self-contained positive pressure breathing apparatus, with full facepiece, is required for spills and/or emergencies. The minimum requirements for respiratory protection for Dichloromethane (Methylene Chloride) appear in 29 CFR 1910.1052 (f). For emergencies in confined or poorly ventilated areas, call for properly trained emergency personnel.

EXPOSURE GUIDELINE(s): The OSHA Final Rule on Occupational Exposure to Dichloromethane (Methylene Chloride) (29 CFR Part 1910.1052) was published in the Federal Register on 1-10-97 and became effective 4-10-97. In addition to the new exposure limits, the rule also establishes and action level which triggers the requirement for additional compliance activities including medical surveillance. Dichloromethane (Methylene Chloride): ACGIH TLV is 50 ppm; OSHA PEL is 25 ppm TWA, 125 ppm STEL with 12.5 ppm TWA Action level .

The following Provincial Exposure Limits apply for the Dichloromethane (Methylene Chloride) component in Canada: Alberta: 50 ppm TWA; 174 mg/m3 TWA; British Columbia: 25 ppm TWA; Manitoba: 100 ppm TWA; 350 mg/m3 TWA; 500 ppm STEL; 1740 mg/m3 STEL; New Brunswick: 50 ppm TWA; 174 mg/m3 TWA; NW Territories: 100 ppm TWA; 347 mg/m3 TWA; 500 ppm STEL; 1737 mg/m3 STEL; Nova Scotia: 50 ppm TWA; Nunavut: 100 ppm TWA; 347 mg/m3 TWA; 500 ppm STEL; 1737 mg/m3 STEL; Ontario: 50 ppm TWAEV; 175 ppm TWAEV; Quebec; 50 ppm TWAEV; 174 mg/m3 TWAEV; Saskatchewan: 174 mg/m3 TWA; 50 ppm TWA; 218 mg/m3 STEL; 63 ppm STEL: Yukon; 200 ppm TWA; 700 mg/m3 TWA (listed as methylene chloride); 720 mg/m3 TWA (listed as dichloromethane); 250 ppm STEL; 870 mg/m3 STEL; 200 ppm STEL (listed as dichloromethane); 720 mg/m3 STEL (listed as dichloromethane)

The following Provincial Exposure Limits apply for the Diphenylmethane diisocyanate component in Canada: Alberta: 0.005 ppm TWA; 0.07 mg/m3 TWA

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9. PHYSICAL & CHEMICAL PROPERTIES

APPEARANCE: Brownish Liquid

ODOR: Irritating, sweet solvent odor; Odor Threshold = 200-300 ppm.

BOILING POINT: Approximately 104°F (40°C)

SOLUBILITY IN WATER: Near insoluble; average saturation in water ≥140 ppm.

SPECIFIC GRAVITY: 1.32 G/cm3 @ 73°F (23°C)

VAPOR PRESSURE: 355 mmHg @ 68°F (20°C)

% VOLATILE BY VOLUME: 75%

10. STABILITY & REACTIVITY

INCOMPATIBILITY WITH OTHER MATERIALS: Product is stable under recommended storage conditions. Materials to avoid are water, amines, alcohols, acids and alkali. Dichloromethane (Methylene Chloride) may react with unprotected aluminum and zinc surface as well as sodium, potassium and magnesium. Avoid open flames and welding arcs, which can cause thermal degradation.

HAZARDOUS POLYMERIZATION: Will not occur.

DECOMPOSITION PRODUCTS: Hazardous decomposition products may include and are not limited to hydrogen chloride and trace amounts of chlorine and phosgene (Intense heat of fire)

11. DISPOSAL CONSIDERATIONS

DISPOSAL: Do not dump into any sewers, on the ground, or into any body of water. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility of the waste generator.

UNUSED & UNCONTAMINATED PRODUCT: The preferred options include sending to a licensed, permitted recycler, reclaimer, incinerator or other thermal destruction device.

RCRA WASTE NUMBERS: Dichloromethane: U080

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12. TRANSPORT INFORMATION

DOT INFORMATION:

SHIPPING DESCRIPTION (49 CFR 172.101): Dichloromethane mixture, 6.1, UN 1593, PG III, RQ

PLACARD (WHEN REQUIRED): POISON, 6

SHIPPING LABEL (WHEN REQUIRED): POISON

EXCEPTIONS: DOT Paragraphs 172.153 & 172.202

ALTERNATE SHIPPING ARRANGEMENTS: Based on package or shipping container size, this product may be shipped as a, "Limited Quantity", or, renamed, "Consumer Commodity" and reclassified as, "ORM-D" Material.

TDG INFORMATION: Dichloromethane mixture, 6.1, UN1593, PG III

IMO REQUIREMENTS: EmS No. = F-A, S-A IMDG Code Page: Vol. 2, Pg. 75

ICAO/IATA: 6.1

13. REGULATORY INFORMATION

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws. The following specific information is made for the purpose of complying with numerous laws and regulations.

US FEDERAL REGULATIONS

SARA 313 INFORMATION: Components identified with an asterisk (*) in Section 2 are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of SARA Title III and is considered, under applicable definitions, to meet the following categories:

IMMEDIATE HEALTH HAZARD
DELAYED HEALTH HAZARD

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COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA): This product contains the following substance listed as "Hazardous Substances" under CERCLA which may require reporting of releases:

CATEGORY CHEMICAL NAME:	CAS NUMBER:	RQ:	% IN PRODUCT:
Dichloromethane	75-09-2	1,000 lbs	75-100%

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are listed on the TSCA inventory.

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200

STATE RIGHT-TO-KNOW: The following product component(s) are cited on certain State lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

CHEMICAL NAME:	CAS NUMBER:	LIST:
Dichloromethane (Methylene Chloride)	75-09-2	CA, MA, MN, NJ, PA, RI

CALIFORNIA PROPOSITION 65: The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986: "WARNING – THIS PRODUCT CONTAINS A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER."

CANADIAN REGULATIONS

WHMIS INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is:

D1B – Poisonous substance defined by TDG regulations
D2A – Possible, probable or known human carcinogen according to classifications by IARC or ACGIH
D2B – Eye or skin irritant

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 the information required by the CPR.

HAZARDOUS PRODUCTS ACT INFORMATION: This product contains the following ingredient(s) which are Controlled Products and/or on the Ingredient Disclosure List (Canadian HPA section 13 & 14):

COMPONENTS:	CAS #	AMOUNT (%W/W)
Dichloromethane	75-09-2	0.1% (English Item 1044, French Item 508)

EUROPE: Dichloromethane: EINECS No. = 200-838-9

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14. OTHER INFORMATION

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

Health = 2 Flammability = 1 Reactivity = 0

MEDICAL EMERGENCIES:	**FOR ANY OTHER INFORMATION:**
Call CHEMTREC 24 hours a Day for emergency information 800-424-9300	**REMA TIP TOP/NO. AMERICA 119 Rockland Ave. NORTHVALE, NJ 07647 201-768-8100**

NOTICE: REMA TIP/TOP USA believes that the information contained on this material safety data sheet is accurate. The suggested procedures are based on experience as of the date of publication. They are not necessarily all-inclusive nor fully adequate in every circumstance. Also, the suggestions should not be confused with nor followed in violation of applicable laws, regulations, rules or insurance requirements.

NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERHWISE.