

1 C RED BINDER SPRAY

Isocyanate

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 1C Red Binder Spray CAR-40A-260

Customer Information Center: 989-725-5100

24 HOUR EMERGENCY TELEPHONE NUMER: CHEMTREC: 800-424-9300

2. COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL NAME	Wt.%	CAS NUMBER	EINECS
TDI Prepolymer	20-40	Not Disclosed	
Toluene Diisocyanate (TDI)	<= 2	26471-62-5	209-544-5
MDI Prepolymer	20-40	Not Disclosed	
Methylene Bisphenyl Isocyanate (MDI)	<= 10	101-68-8	202-966-02
Polymeric Diphenylmethane Diisocyanate	<= 6	9016-87-9	
Heavy aromatic naphtha	15-25	64742-94-5	265-198-5
1,2,4-trimethylbenzene	<= 3	95-63-6	202-436-9
Naphthalene	<= 2	91-20-3	202-049-5

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Liquid. Various colors, including but not limited to: black, gray, brown, blue, orange, red, yellow.

IMMEDIATE CONCERNS: Severely irritating to eyes. Irritating to respiratory system and skin. Risk of severe damage to respiratory system. May cause sensitization by inhalation and skin contact. Repeated inhalation at levels above the occupational exposure limit could cause respiratory sensitization. The onset of the respiratory symptoms may be delayed for several hours after exposure. A hyper-reactive response to even minimal concentrations of diisocyanates may develop in sensitized persons. May cause cardiac sensitization. Aspiration hazard. Overexposure may cause central nervous system depression.

POTENTIAL HEALTH EFFECTS

EYES: Vapor and liquid is discomforting and may cause temporary impairment of vision, inflammation, and ulceration. Direct contact with liquid may cause burning, or stinging, watering and inflammation of the conjunctiva and temporary corneal clouding.



American Recycling Center, Inc

655 Wabasse Drive, Owosso, MI 48867

(989) 725-5100 www.americanrecycling.com

Continued on Next Page...

SKIN: Prolonged contact can cause reddening, swelling, rash, scaling, or blistering. In those who have developed a skin sensitization, these symptoms can develop as a result of very small amounts of liquid material or vapors. Defatting agent.

INDESTION: May cause irritation of the mouth, throat, and gastrointestinal tract. Symptoms may include salivation, pain, nausea, vomiting and diarrhea.

ROUTES OF ENTRY: Inhalation, skin contact, eye contact, ingestion.

TARGET ORGAN STATEMENT: Central nervous system, respiratory system, heart.

SENSITIZATION: Any individual with isocyanate sensitization should not be exposed to this product. These individuals can react to exposure well below the TLV. Symptoms can occur immediately or several hour after exposure.

WARNING CAUTION LABELS: Combustible liquid. Keep away from ignition sources.

4. FIRST AID MEASURES

EYES: Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN: Remove contaminated clothing. Wash affected areas thoroughly with soap and water. Wash clothing thoroughly before reuse. Discard contaminated leather goods. For severe exposure, seek medical attention immediately. For lesser exposure, seek medical attention if swelling or redness occurs, or if irritation persists after being washed.

INGESTION: Aspiration hazard. If swallowed, vomiting may occur spontaneously, but DO NOT INDUCE. If vomiting occurs, keep head below hips to prevent aspiration into lungs. Never give anything by mouth to an unconscious person. Call a physician immediately.

INHALATION: Remove individual from exposure, keep warm and at rest. Obtain immediate medical attention. Treatment is symptomatic for primary irritation or bronchospasm. If breathing is labored, oxygen should be administered by qualified personnel. Apply artificial respiration if breathing has ceased or shows signs of failing. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours.

NOTES TO PHYSICIAN: Symptomatic and supportive therapy as needed. Following severe exposure, medical follow-up should be monitored for at least 48 hours. May cause respiratory sensitization or asthma-like symptoms. Respiratory symptoms, including pulmonary edema, may be delayed. Gastric lavage may be indicated if ingested. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing for at least 48 hours. Aspiration hazard.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: > (145°F) TAG CC

GENERAL HAZARD: Vapors are heavier than air and can travel to a source of ignition and flash back.

EXTINGUISHING MEDIA: Dry Chemical, Carbon Dioxide, Chemical Foam, Water fog or spray.

Continued on Next Page...

HAZARDOUS COMBUSTION PRODUCTS: Carbon Monoxide, Carbon Dioxide, Nitrogen Oxides, Sulfur Oxides, and HCN.

EXPLOSION HAZARDS: Containers may burst under intense heat. Due to reaction with water, a hazardous build-up of pressure could result if contaminated containers are resealed. Vapors are heavier than air and can travel to a source of ignition and flash back.

FIRE FIGHTING PROCEDURES: Isolate fuel supply from fire. Use water spray to cool fire-exposed surfaces and containers. Fire fighters should wear self-contained breathing apparatus in addition to emergency fire fighting protective clothing.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Eliminate all ignition sources. Absorb with dry chemical absorbent, earth, sand or any other inert material. Do not use combustible materials such as sawdust. Place in an open-top chemical waste container. Move to outside well-ventilated area away from ignition sources. Allow material to harden.

LARGE SPILL: Eliminate all ignition sources. Evacuate and ventilate the area. Create a dike or trench to contain materials. Prevent entry into waterways, sewers, basements or confined areas. Clean-up personnel should wear appropriate personal protection equipment. (see section 8) Absorb with dry chemical absorbent, earth, sand, or any other inert material. Do not use combustible materials such as sawdust. Place in an open-top chemical waste container. Move to outside well-ventilated area away from ignition sources. Allow material to harden.

GENERAL PROCEDURES: Decontamination solution: concentrated ammonia (5%), detergent (2%), and water (93%)

RELEASE NOTES: spills and releases may have to be reported to federal and/or local authorities. See Section 15 regarding reporting requirements.

SPECIAL PROTECTIVE EQUIPMENT: See Section 8. Clean-up crews should always wear Personal Protective Equipment.

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Precautions: Containers, even those that have been emptied, can contain explosive vapors. Do not cut, drill, grind, weld or perform similar operations on or near containers. Vapors may accumulate and travel to ignition sources distant from the handling site and flash-fire can result.

HANDLING: Wear proper personal protective equipment. Use in a well ventilated area. Avoid smoking, bare lights, or ignition sources. Keep containers securely sealed when not in use. Avoid physical damage to containers.

STORAGE: Containers can rupture if exposed to high heat. Protect from atmospheric moisture. Keep containers sealed in order to avoid contamination. Do not reseal if contaminated. After container has been opened, blanket with nitrogen before resealing. Store indoors in a cool, well-ventilated area.

Continued on Next Page...

STORAGE TEMPERATURE: (50°F) minimum to (100°F) maximum

SHELF LIFE: 6 months.

SPECIAL SENSITIVITY: Material is hygroscopic and reacts with water. It will form cured particles or a film when exposed to atmospheric moisture. Blanket containers with nitrogen before resealing.

ELECTROSTATIC ACCUMULATION HAZARD: Material will accumulate static charges which may cause an electrical spark. Use proper bonding and/or grounding procedures.

COMMENTS: See Section 10 for more information on precautions concerning storage and handling of this material.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES:

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200)

EXPOSURE LIMITS

Chemical Name		OSHA PEL		ACGIH TLV		Supplier OEL	
		ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³
TDI Prepolymer	TWA	NE ⁽¹⁾	NE	NE	NE		
Toluene Diisocyanate (TDI)	TWA			.005			
	STEL	.02* ⁽²⁾	.14*	.02			
MDI Prepolymer	TWA	NE	NE	NE	NE		
Methylene Bisphenyl Isocyanate (MDI)	TWA		0.20*		0.05		
Polymeric Diphenylmethane Diisocyanate	TWA		0.20*		0.05		
Heavy aromatic naphtha	TWA		100		100		
1,2,4-trimethylbenzene	TWA	25	123	25(V) ⁽³⁾	123(V)		
Naphthalene	TWA	10(V)	50(V)	10** ⁽⁴⁾			
	STEL			15**			

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Wear safety glasses with side shields (or goggles) and a face shield.

SKIN: The following protective materials are recommended: Gloves-neoprene, nitrile rubber, butyl rubber. Thin latex disposable gloves should be avoided for repeated or long term use. Protective clothing should be selected and used in accordance with 'Guidelines for the Selection of Chemical Protective Clothing' published by ACGIH.

RESPIRATORY: During application, if exposure of product can exceed the PEL/TLV, use appropriate respiratory protection to protect from overexposure. Appropriate respiratory protection includes approved supplied air respirators (SAR) operated in a positive pressure mode or, in non-IDLH (immediately dangerous to life and health) atmospheres, NIOSH approved air purifying respirators (APR), provided an appropriate cartridge change out schedule is implemented. [29 CFR 1910.134 (d)(3)(iii)] All respirators use should follow the OSHA Respiratory Standard 29 CFR 1910.134.

Continued on Next Page...

PROTECTIVE CLOTHING: Avoid skin contact with material. Wear solvent resistant protective clothing to cover all exposed skin.

WORK HEYGIENIC PRACTICES: Follow good normal hygiene practices. Avoid contact with skin. Avoid eating, drinking, or smoking while using this product. Wash hands thoroughly after use.

OTHER USE PRECAUTIONS: Medical supervision of all employees who handle or come in contact with respiratory sensitizers is recommended. Persons with respiratory problems including asthmatic type conditions, chronic bronchitis, or other chronic respiratory diseases or recurrent skin eczema or skin allergies should be evaluated for their suitability of working with this product. Once a person is diagnosed as sensitized, no further exposure of the material that caused the sensitization should be permitted. The Occupational Exposure limits do not apply to previously sensitized individuals.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid

ODOR: Slight solvent odor.

APPEARANCE: Various colors, including but not limited to: black, gray, brown, blue, orange, red, yellow.

VAPOR DENSITY: Heavier than air.

SOLUBILITY IN WATER: Reactive with water.

SPECIFIC GRAVITY: 1,200 to 1,450 (water = 1) at (74°F)

VISCOSITY: 2000 to 2600-Centipoise at (74°F)

COMMENTS: Odor threshold for TDI is approximately 2.1 ppm.

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Temperature extremes. Open flame. Container contamination. Moisture.

STABILITY: Stable under recommended storage conditions.

POLYMERIZATION: Polymerization may occur at elevated temperatures in the presence of alkalies, tertiary amines, and metal compounds.

INCOMPATIBLE MATERIALS: Materials containing active hydrogens such as water, alcohol, amines, and metal compounds.

11. TOXICOLOGICAL INFORMATION

INGREDIENT(S)	ORAL LD 50 (rat)	DERMAL LD 50 (rabbit)	INHALATION 50 (rat)
Toluene Diisocyanate (TDI)	5800 mg/kg	> 16000 mg/kg	100 – 360 mg/m ³ /4h
Methylene Bisphenyl Isocyanate (MDI)	> 5000 mg/kg	> 10000 mg/kg	369 mg/ m ³ /4h (respirable aerosol)
Polymeric Diphenylmethane Diisocyanate	> 5000 mg/kg	> 5000 mg/kg	490 mg/ m ³ /4h (respirable aerosol)
Heavy aromatic naphtha	10 mL/kg	> 4 mL/kg (rat)	> 710 ppm/4h (vapors)
1,2,4-trmethylbenzene	5000 mg/kg	not available	18000 mg/ m ³ /4h
Naphthalene	490 mg/kg	> 20000 mg/kg	> 340 mg/ m ³ /1h

Continued on Next Page...

EYE EFFECTS: The vapor, aerosol, and liquid are irritant.

SKIN EFFECTS: Some components of this formulation may cause skin irritation. May cause allergic skin reaction in susceptible individuals.

CARCINOGENICITY:

IARC: The IARC evaluated Naphthalene and concluded that there was sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans. Accordingly, IARC classified Naphthalene as a possible human carcinogen. Toluene Diisocyanate is listed as a substance that may reasonably be anticipated to be a carcinogen.

NTP: Naphthalene and Toluene Diisocyanate are listed as substances that may reasonably be anticipated to be a carcinogen.

OSHA: Naphthalene is regulated as an OSHA carcinogen.

GENERAL COMMENTS: (1) A study was conducted where groups of rats were exposed for 6 hours/day, 5 days/week for a lifetime of atmospheres of respirable polymeric MDI aerosol at concentrations of 0, 0.2, 1 or 6 mg/ m³. No adverse effects were observed at 0.2 mg/ m³. At the 1 mg/ m³ concentration, minimal nasal and lung irritant effects were seen. Only at the top concentration (6.0 mg/ m³) was there an increased incidence of a benign tumor of the lungs (adenoma). One malignant pulmonary tumor (adenocarcinoma) was seen in the 6.0 mg/ m³ group. MDI administration to rats in this study did not change the distribution and incidence of tumors from those seen in control animals. The increased incidence of lung tumors is associated with prolonged respiratory irritation and the concurrent accumulation of yellow material in the lung. 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. (2) Rat and mouse toxicity and carcinogenicity studies were conducted with two years of inhalation exposure to vapors of TDI at concentrations of 0.05 and 0.15 ppm. No indications of carcinogenic effects were observed. However, mice exposed to 0.15 ppm for two years showed reduced weight gain and signs of irritation in the upper and lower respiratory tract. No other effect of toxicological significance was observed. There are two studies which allege that workers exposed to TDI at or near the current TLV have experienced impaired ventilatory capacities. These findings have not been independently substantiated. (3) There are reports that chronic exposure to diisocyanates by inhalation may result in permanent decreases in lung function.

12. ECOLOGICAL INFORMATION

CHEMICAL FATE INFORMATION: Immiscible with water, but will react with water to produce inert and non-biodegradable solids.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Disposal should be in accordance with local, stat, provincial or national regulations.

EMPTY CONTAINER: Empty containers retain product residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, static electricity or any other source of ignition. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Continued on Next Page...

GENERAL COMMENTS: The generation of waste should be avoided or minimized whenever possible. Chemical waste, even small quantities, should never be poured down drains, sewers, or waterways.

COMMENTS: Refer to Section 6 for additional information.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Not regulated in non-bulk packaging.

OTHER SHIPPING INFORMATION: In containers of 119 gallons or less, this product is not regulated for transportation. Bulk containers are regulated as: Combustible Liquid, N.O.S. (Petroleum Naptha), NA 1993, III.

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: Immediate health hazard. Delayed health hazard. Toxic hazard. Reactive hazard. Fire hazard.

313 REPORTABLE INGREDIENTS:

Toluene Diisocyanate CAS# 26471-62-5

Naphthalene CAS# 91-20-3

Diisocyanate Compounds (Category Code N120)

1,2,4-Trimethyl benzene (CAS# 95-63-6)

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA RQ:

Toluene Diisocyanate (CAS# 26471-62-5) = 100 lbs

Naphthalene (CAS# 91-20-3) = 100 lbs

4,4 Methylene Diphenyl Diisocyanate (CAS# 101-68-8) = 5000 lbs

REPORTABLE SPILL QUANTITY: 5000 lbs

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA REGULATORY: All ingredients are on TSCA inventory.

RCRA STATUS: Not hazardous if discarded in its purchased form. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal whether a material containing the product or derived from the product should be classified as a hazardous waste (40 CFR 261.20-24).

OSHA HAZARD COMM. RULE: This material is classified as a hazardous material under the criteria outlined in the OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200).

CALIFORNIA PROPOSITION 65: This product contains chemicals known to the state of California to cause cancer or birth defects.

Continued on Next Page...

GENERAL COMMENTS: Spills or releases resulting in the loss of any ingredients at or above it RQ requires immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

16. OTHER INFORMATION

REASON FOR ISSUE: Update MSDS format to ANSI Standard. Revision number reset to “0” or “New”.

REVISION SUMMARY Revision #: 7 This MSDS replaces the March 16, 2006 MSDS. Any changes in information are as follows: In Section 11 NTP OSHA

HMIS RATING

HEALTH:	*	3
FLAMMABILITY:		2
PHYSICAL HAZARD:		2
PERSONAL PROTECTION:		

HMIS RATINGS NOTES:

If present, the asterisk signifies a chronic health hazard.

Rating system: 0 = low hazard to 4 = high hazard

MANUFACTURER DISCLAIMER: The information in this MSDS was obtained from sources that we believe are reliable. The information is provided without warranty, implied or expressed, concerning accuracy. The manufacturer assumes no legal responsibility for use or reliance on this information. This MSDS is provided solely for the purpose of conveying health, safety, and environmental information. This MSDS is not a specification data sheet. Some of the information and conclusions may be derived from sources other than test data on the material itself.

COMMENTS:

Key Legend Information:

ACGIH – American Conference of Governmental Industrial Hygienists

EPA – Environmental Protection Agency

IARC – International Agency for Research on Cancer

NTP – National Toxicology Program

OEL – Occupational Exposure Limit

OSHA – Occupational Safety and Health Administration

PEL – Permissible Exposure Limit

STEL – Short Term Exposure Limit

TLV – Threshold Limit Value

TWA – Time Weighted Average

Initial: 06/23/04

Revision: 04/13/06

ARC MSDS 1 C Red Binder Spray CAR-40A-260

The information herein is to assist customers in determining whether our products are suitable for their applications. Our products are intended for sale to industrial and commercial customers. We request that customers inspect and test our products before use and satisfy themselves as to contents and suitability. We warrant that our products will meet our written specifications. Nothing herein shall constitute and other warranty express or implied, including any warranty of merchantability or fitness, nor is protection from any law or patent to be inferred. All patent rights are reserved. The exclusive remedy for all proven claims is replacement of our materials and in no event shall we be liable for special, incidental or consequential damages.