ADVANCED RESINS

CRACK MENDER FAST
Polyurethane Alloy Concrete Repair
Part A

SAFETY DATA SHEET

Section 1. Identification	
Product identifier	Crack Mender Fast - Part A
Other means of identification	Crack Mender Fast
Recommended use and restrictions on use	Floor coating
Supplier informations	11530 Chairman Dr, Dallas, TX 75243 927.293.4444 contact@advancedresins.com
Emergency telephone number/restriction on use	Canada – CANUTEC 24-hour number 613-996-6666

Section 2. Hazard identification

Classification of hazardous product (name of the category or subcategory of the hazard class)

Specific Target Organ Toxicity -Single Exposure (Respiratory Tract Irritation) - Category 3
Specific Target Organ Toxicity - Repeated Exposure - Category 2
Skin Irritation - Category 2
Respiratory Sensitizer (Solid/Liquid) - Category 1
Skin Sensitizer - Category 1
Carcinogenicity - Category 2
Eye Irritation - Category 2
Acute toxicity, Oral - Category 5

Information elements (symbols, signal words, hazard statements and precautionary statements of the category/subcategory)

Warning
Hazardous Statements - Health: H335 - May cause respiratory irritation. **H373** - May cause damage to organs through prolonged or repeated exposure. **H315** - Causes skin irritation. **H334** - May cause allergy or asthma symptoms or breathing difficulties if inhaled. **H317** - May cause an allergic skin reaction. **H351** - Suspected of causing cancer. **H319** - Causes serious eye irritation.
Precautionary Statements - General: P101 - If medical advice is needed, have product container or label at hand. **P102** - Keep out of reach of children. **P103** - Read label before use.
Precautionary Statements - Prevention: P261 - Avoid breathing dust/fume/gas/mist/vapors/spray. **P271** - Use only outdoors or in a well-ventilated area. **P233** - Keep container tightly closed. **P260** - Do not breathe dust/fume/gas/mist/vapors/spray. **P264** - Wash thoroughly after handling. **P280** - Wear protective gloves/protective clothing/eye protection/face protection. **P284** - <In case of inadequate ventilation> wear respiratory protection. **P272** - Contaminated work clothing should not be allowed out of the workplace. **P201** - Obtain special instructions before use. **P202** - Do not handle until all safety precautions have been read and understood.
Precautionary Statements - Response: P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. **P312** - Call a POISON CENTER/doctor if you feel unwell. **P314** - Get Medical advice/attention if you feel unwell. **P302 + P352** - IF ON SKIN: Wash with plenty of water. **P321** - Specific treatment (see section 4 on this SDS). **P332 + P313** - If skin irritation occurs: Get medical advice/attention. **P362 + P364** - Take off contaminated clothing. And wash it before reuse. **P342** - If experiencing respiratory symptoms: **P311** - Call a POISON CENTER/doctor. **P333** - If skin irritation or a rash occurs: **P308** - IF exposed or concerned: **P305 + P351 + P338** - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. **P337 + P313** - If eye irritation persists: Get medical advice/attention. **P342 + P311** - If experiencing respiratory symptoms: Call a POISON CENTER/doctor. **P333 + P313** - If skin irritation or a rash occurs: Get medical advice/attention. **P308 + P313** - IF exposed or concerned: Get medical advice/attention.
Precautionary Statements - Storage: P403 - Store in a well-ventilated place. **P405** - Store locked up.
Precautionary Statements - Disposal: P501 - Dispose of contents/ container to an approved waste disposal plant.

Section 3. Composition/information on ingredients

Chemical name (common name/synonyms)	CAS number or other	Concentration (%)
4,4'-METHYLENEDIPHENYL DIISOCYANATE	0000101-68-8	23% - 43%
POLYMETHYLENE POLYPHENYL ISOCYANATE	0009016-87-9	23% - 43%
DIPHENYLMETHANE-2,4'- DIISOCYANATE	0005873-54-1	6% - 11%

Section 4. First-aid measures	
Inhalation	Take action to eliminate the source of exposure or relocate the individual to an area with fresh air, ensuring comfort while breathing. In case of respiratory symptoms, contact a POISON CENTER or seek medical assistance. If breathing becomes challenging, follow the guidance of trained personnel who may administer emergency oxygen under the recommendation of a POISON CENTER or medical professional. If exposed, feeling unwell, or harboring concerns, contact a POISON CENTER or seek medical attention. Additionally, if safe, remove all potential ignition sources.
Ingestion	Flush the mouth with water. Refrain from causing vomiting deliberately. Contact a POISON CENTER or seek medical help immediately. If vomiting happens naturally, lie on your side in the recovery position. If exposed or worried, seek medical advice or attention promptly.
Skin contact	Remove any clothing, shoes, or leather items that have come into contact with the substance. Carefully blot or brush off any excess product. Rinse the affected area thoroughly with abundant lukewarm water for 15-20 minutes. Should skin irritation or a rash develop, seek medical advice or attention. Launder contaminated clothing before reusing or consider discarding it. If exposed or harboring concerns, seek medical advice or attention promptly.
Eye contact	Steer clear of direct contact and, if needed, use chemical protective gloves. If the eyes come into contact with the substance, gently rinse them with lukewarm flowing water for several minutes, ensuring the eyelids are open. If wearing contact lenses, remove them if possible and straightforward. Continue rinsing the eyes for 15-20 minutes, being careful not to let the contaminated water reach the unaffected eye or face. If irritation persists in the eyes, seek medical advice or attention.
Indication of immediate medical attention/ special treatment	In all cases, call a doctor. Also consider the other instructions of this section document.

Section 5. Fire-fighting measures
Specific hazards
Vapors have the potential to gather and reach distant ignition sources, leading to the possibility of a flash fire. Containers might explosively rupture due to excessive pressure or temperature. Water contamination will generate carbon dioxide. Avoid resealing contaminated containers to prevent potential ruptures caused by pressure buildup.
Suitable and unsuitable extinguishing media
Dry chemical, foam, or carbon dioxide extinguishing agents are advised. Utilize water spray to cool down or shield exposed materials or structures. Exercise caution with carbon dioxide application in confined spaces as it can displace oxygen. Avoid applying foam and water simultaneously on the same surface as water can disrupt the foam's efficacy. Reserve the use of sand or earth for addressing small fires exclusively. If opting for water, employ substantial amounts of cold water, considering the potentially vigorous reaction between water and hot isocyanate.
Special protective equipment and precautions for fire-fighters
Utilize a NIOSH-approved self-contained breathing apparatus with a full-face piece, operating in positive pressure mode. Additionally, wear boots, neoprene gloves, goggles, and complete protective clothing. Exercise caution consistently in areas with dust or mist.
Fire-fighting Procedures
Secure the immediate hazard zone and prevent unauthorized access. Halt the spill/release if it can be managed safely. If possible without risk, relocate intact containers away from the hazard zone. Employ water spray to potentially minimize or disperse vapors and safeguard personnel. While water might not always be effective, it can still help cool containers exposed to heat or flames. Use caution when using water or foam as frothing may arise, especially when sprayed into containers with hot, burning liquid. Dispose of fire remnants and any extinguishing water contaminated by adhering to official regulations.

Section 6. Accidental release measures
Personal precautions, protective equipment and emergency procedures
Eliminate all potential sources of ignition (no smoking, flares, sparks, or flames in the immediate vicinity). Refrain from touching or walking through spilled material. Isolate the hazardous area and keep unnecessary individuals away. Remove any conceivable ignition sources from the surrounding vicinity. Notify authorities in case of exposure to the general public or potential environmental impact. Cleaning up spilled material with a regulated solvent might subject the resulting waste mixture to regulation. Utilize a positive pressure, full-face piece self-contained breathing apparatus (SCBA), or a positive pressure supplied air respirator with an escape SCBA (NIOSH approved). Avoid inhaling vapors and prevent contact with skin, eyes, or clothing. Refrain from handling damaged containers or spilled materials unless wearing appropriate protective clothing.
Environmental Precautions
Halt the spill or release if it's possible to do so safely. Use sand, earth, or suitable barriers to block the spilled material from entering sewers, storm drains, unauthorized drainage systems, or natural waterways.

Methods and materials for containment and cleaning up

Place a cover over the container without sealing it, then relocate it from the working area. Create a decontamination solution composed of 2.0% liquid detergent and 3-8% concentrated ammonium hydroxide in water (or substitute 5-10% sodium carbonate for the ammonium hydroxide), adhering to the precautions detailed in the supplier's safety data sheets. Treat the spill area with the decontamination solution, using approximately 10 parts of the solution for every part of the spill, and allow it to react for at least 15 minutes. This reaction will produce carbon dioxide, resulting in insoluble polyureas. Despite treating the spill residues in this manner, they may still fall under RCRA provisions, requiring storage and disposal as hazardous waste. Slowly incorporate the isocyanate waste into the aforementioned decontamination solution. Let it stand for 48 hours, allowing the evolved carbon dioxide to disperse. Despite this treatment, residues might still need to comply with RCRA storage and disposal regulations. Dispose of these materials in accordance with all relevant local, state, and federal laws and regulations governing treatment.

Section 7. Handling and storage

Precautions for safe handling

After usage, wash your hands thoroughly. Avoid contact with eyes, skin, or clothing. Do not inhale vapors or mists. Maintain proper personal hygiene practices. Prohibit eating, drinking, or smoking in work areas. Before entering eating areas, remove contaminated clothing and protective equipment. Utilize only in spaces with sufficient ventilation to manage air contaminants within their exposure limits. Consider employing local ventilation to regulate emissions close to the source.

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed and appropriately labeled. Store them in cool, dry, well-ventilated areas, away from heat, direct sunlight, strong oxidizers, and any incompatible substances. Ensure storage in approved containers, safeguarding them against physical damage. Seal containers securely when not in use, maintaining indoor storage that aligns with OSHA standards and relevant fire codes. Carefully reseal opened containers to prevent leaks; even empty containers can retain residue and pose a hazard. Employ non-sparking ventilation systems, approved explosion-proof equipment, and intrinsically safe electrical systems in areas where this product is used and stored. Ground and bond containers and receiving equipment to prevent static electricity. Refrain from activities like cutting, drilling, grinding, welding, or performing similar operations near containers. Avoid pressurizing containers for emptying. Ground all structures, transfer containers, and equipment in accordance with the national electrical code. Follow procedures that prevent the occurrence of static electrical sparks, which could accumulate and pose a fire hazard.

Section 8. Exposure controls/Personal protection

Eye/Skin/Respiratory Protection

EYE: Use eye protection, either with side shields or goggles. When handling liquids, utilize indirect-vent, impact-resistant, and splash-resistant goggles. If further safeguarding for the entire face is necessary, consider using a face shield in combination with goggles.
SKIN: Using gloves compliant with relevant standards, made from materials like PVC, neoprene, or nitrile rubber, may offer appropriate chemical protection. The effectiveness and endurance of these gloves depend on various factors, including how often and for how long they are used, the chemical resistance of the glove material, thickness, and dexterity. Always consult glove suppliers for guidance and recommendations. Replace contaminated gloves as necessary. For added safety against skin sensitization, consider using an apron and over-boots made of chemically impervious materials such as neoprene or nitrile rubber. The choice of protective gear should align with the concentration and quantity of hazardous substances in the specific work environment. Launder dirty clothes or appropriately dispose of contaminated materials that cannot be decontaminated. Based on usage conditions, additional protective gear like aprons, arm covers, or full-body suits might be necessary. Wash contaminated clothing thoroughly before reuse.
RESPIRATORY: When airborne concentrations surpass or are anticipated to exceed the TLV, utilize MSHA/NIOSH approved positive pressure supplied air respiratory gear, equipped with a full-face piece or an air-supplied hood. In emergency situations, rely on a positive pressure self-contained breathing apparatus. Please note that air-purifying (cartridge type) respirators are not endorsed for safeguarding against isocyanates.

Appropriate engineering controls

Establish exhaust ventilation or employ alternative engineering mechanisms to maintain airborne vapor concentrations below their respective threshold limit values.

Chemical Name	OSHA TWA (ppm)	OSHA TWA (mg/m3)	OSHA STEL (ppm)	OSHA STEL (mg/m3)	OSHA Tables (Z1, Z2, Z3)	OSHA Carcinogen	OSHA Skin designation	NIOSH TWA (ppm)	NIOSH TWA (mg/m3)	NIOSH STEL (ppm)	NIOSH STEL (mg/m3)	NIOSH Carcinogen
4,4'-METHYLENEDIPHENYL DIISOCYANATE	0.02 ceiling	0.2 ceiling			1			0.005	0.050			

Chemical Name	ACGIH TWA (ppm)	ACGIH TWA (mg/m3)	ACGIH STEL (ppm)	ACGIH STEL (mg/m3)
4,4'-METHYLENEDIPHENYL DIISOCYANATE	0.005	0.051		

Section 9. Physical and chemical properties			
Density	8.35 lb/gal	**Lower Explosion Level**	Not available
Specific Gravity	1.00	**Upper Explosion Level**	Not available
VOC Regulatory	0.00 lb/gal	**Vapor Pressure**	Not available
VOC Part A & B Combined	Not available	**Vapor Density**	Heavier than air
Appearance, physical state/colour	Liquid	**Freezing Point**	Not available
Odour threshold	Not available	**Melting Point**	Not available
Odour description	Aromatic	**Low Boiling Point**	150 °C
pH	Not available	**High Boiling Point**	Not available
Water Solubility	Reacts with Water	**Auto Ignition Temperature**	Not available
Flammability	Not available	**Decomposition Pt**	Not available
Flash Point Symbol	Not available	**Evaporation Rate**	Slower than ether
Flash Point	110 °C	**Coefficient Water/Oil**	Not available
Viscosity	Not available		

Section 10. Stability and reactivity	
Stability	The material remains stable under normal temperature and pressure conditions.
Possibility of hazardous reactions	Under standard conditions, this process doesn't typically occur. However, at elevated temperatures and in the presence of alkalis, tertiary amines, and metal compounds, polymerization may accelerate. This acceleration could potentially result in the release of carbon dioxide gas, causing ruptures in closed containers.
Conditions to avoid (static discharge, shock or vibration)	Exposure to heat, high temperatures, open flames, sparks, or moisture, along with contact with incompatible materials in a closed system, will lead to the release of carbon dioxide and an increase in pressure buildup.
Incompatible materials	The product exhibits reactivity with substances containing active hydrogens, including water, alcohol, ammonia, amines, alkalis, and acids. While its reaction with water is gradual below 50°C, it speeds up at higher temperatures, especially in the presence of alkalis, tertiary amines, and metal compounds. Certain reactions might be highly energetic. Additionally, the material can interact with potent oxidizing agents.
Hazardous decomposition products	During combustion, the process may generate carbon dioxide, carbon monoxide, nitrogen oxides, trace quantities of hydrogen cyanide, and unidentified organic compounds.

Section 11. Toxicological information	
Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact)	SKIN: Isocyanates have the potential to react with skin proteins and moisture, leading to irritation. Extended contact may result in redness, swelling, rash, scaling, blistering, and in certain instances, skin sensitization. Individuals sensitive to these substances might experience these symptoms even with minimal contact with liquid or exposure to vapor. Skin irritation is a common effect caused by isocyanates. EYE: Exposure to liquid, aerosols, or vapors can lead to severe irritation, resulting in pain, tearing, reddening, and swelling. Extended exposure to vapors might lead to conjunctivitis. Any form of contact, regardless of the level, should receive prompt attention and not be left untreated. This substance causes serious eye irritation. RESPIRATORY: Inhalation of this substance might trigger allergy, asthma symptoms, or respiratory difficulties. CARCINOGENICITY: Believed to be a potential cause of cancer.

Specific Target Organ Toxicity - Single Exposure	May cause respiratory irritation
Specific Target Organ Toxicity - Repeated Exposure	May cause damage to organs through prolonged or repeated exposure.
Germ Cell Mutagenicity	No data available
Reproductive Toxicity	No data available
Aspiration Hazard	No data available
Acute Toxicity	No data available

0000101-68-8 4,4'-METHYLENEDIPHENYL DIISOCYANATE
LC50 (rat): 369-490 mg/m3 (aerosol) (4-hour exposure) (1)
LC50 (rat): 178 mg/m3 (17.4 ppm) (duration of exposure not reported) (2)
LD50 (oral, rat): greater than 10,000 mg/kg (1,2)
LD50 (dermal, rabbit): greater than 10,000 mg/kg (1)
LD50 (oral, mouse): 2,200 mg/kg (3)

0009016-87-9 POLYMETHYLENE POLYPHENYL ISOCYANATE
LC50 (rat): 490 mg/m3 (aerosol) 4-hour exposure (22)
LD50 (oral, rat): greater than 10000 mg/kg (PMPPI) (2)
LD50 (dermal, rabbit): greater than 5 mL/kg (6200 mg/kg) (PMPPI) (2)

Section 12. Ecological information

Toxicity	No data available.
Persistence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
Other adverse effects	No data available

Section 13. Disposal considerations

Information on waste disposal	According to RCRA regulations, the user must assess whether the product meets hazardous waste criteria at the time of disposal. Waste management should adhere to federal, state, and local laws. Empty containers may still contain hazardous residues, so avoid pressurizing, cutting, glazing, welding, or using them for other purposes. Return drums to reclamation centers for appropriate cleaning and reuse.

Section 14. Transport information

U.S. DOT	Not regulated
IMDG	Not regulated
IATA	Not regulated

Section 15. Regulatory information

CAS	Chemical Name	% By Weight	Regulation List
0000101-68-8	4,4'-METHYLENEDIPHENYL DIISOCYANATE	23% - 43%	DSL,CERCLA,HAPS,SARA312,VHAPS,VOC,TSCA
0009016-87-9	POLYMETHYLENE POLYPHENYL ISOCYANATE	23% - 43%	DSL,SARA312,VOC,TSCA
0005873-54-1	DIPHENYLME-THANE-2,4'-DIISOCYANATE	6% - 11%	DSL,SARA312,VOC,TSCA

Section 16. Other information	
Date of the latest revision of the safety data sheet	November 27, 2023
References	Safety Data Sheets from manufacturer/supplier & from Canadian Centre for Occupational Health and Safety, CCOHS.
Other informations	Note: As per GHS, category 1 is the greatest level of hazard within each class.
Abbreviations	
ACGIH	American Conference of Governmental Industrial Hygienists
ANSI	American National Standards Institute
CA Prop65	California Proposition 65
Canadian TDG	Canadian Transportation of Dangerous Goods
CAS	Chemical Abstract Service
Chemtrec	Chemical Transportation Emergency Center (US)
CHIP	Chemical Hazard Information and Packaging
DSL	Domestic Substance List
EC	Equivalent Concentration
EH40	EH40 Occupational Exposure Limits
EPCRA	Emergency Planning and Community Right-To-Know Act
ESL	Effects Screening Levels
HMIS	Hazardous Material Information Service
LC	Lethal concentration
LD	Lethal Dosage
NFPA	National Fire
OEL	Occupational Exposure Limits
OSHA	Occupational Safety and Health Administration (U.S.A.)
PEL	Permissible Exposure Limit
SARA (Title III)	Superfund Amendments and Reauthorization Act
SARA 313	Superfund Amendments and Reauthorization Act, Section 313
SCBA	Self-Contained Breathing Apparatus
STEL	Short Term Exposure Limit
TCEQ	Texas Commission on Environmental Quality
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act Public Law 94-469
TWA	Time Weighted Value
US DOT	US Department of Transportation
WHMIS	Workplace Hazardous Materials Information System

To the best of our knowledge, the information provided here is accurate. However, neither the mentioned supplier nor any of its subsidiaries accepts liability for the accuracy or completeness of the information. The user is solely responsible for determining the suitability of any material. All materials may have unknown hazards and should be used cautiously. While specific hazards are outlined, we cannot guarantee these are the only hazards present. This information pertains to the current formulation of the product based on available data.The addition of reducers or other additives may significantly alter the composition and hazards. As usage conditions are beyond our control, we make no warranties, express or implied, and assume no liability for any use of this information.