



Revision 003.2

Issue Date: 06/28/2011

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Alackrack® Concrete Crack Filler Part A	IDH Number: 1292743
Product Type: Epoxy Resin	Item Number: 1291113-210517
	Region: United States
Company Address:	Contact Information:
Apun LLC	MEDICAL EMERGENCY Phone: Poison Control Center
2130 E. Dimond Blvd.	1-877-671-4608 (toll free) or 1-303-592-1711
Anchorage, Alaska 99507	TRANSPORT EMERGENCY Phone: CHEMTREC
Telephone: 907-336-7958 Internet: www.apunak.com	1-800-424-9300 (toll free) or 1-703-527-3887

2. HAZARDS IDENTIFICATION

<u>EMERGENCY OVERVIEW</u>			
		<u>HMIS:</u>	
Physical State:	Liquid	HEALTH:	1
Color:	Amber	FLAMMABILITY:	0
Odor:	Slight	PHYSICAL HAZARD:	0
		Personal Protection:	See MSDS Section 8
WARNING: MAY CAUSE EYE IRRITATION. MAY CAUSE RESPIRATORY TRACT IRRITATION.			

Relevant Routes of Exposure: Eyes, Skin, Inhalation, Ingestion, Aerosols or vapors can be formed during heating, foaming or spraying.

Potential Health Effects

Inhalation: Methylene bisphenyl isocyanate (MDI) vapors or mist at concentrations above the TLV can irritate the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with preexisting, nonspecific bronchial hyper-reactivity can respond to concentrations below the TLV with similar symptoms as well as lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). Chronic: As a result of previous repeated overexposures or a single large dose, certain individuals will develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the TLV. Chronic overexposure to isocyanates has been reported to cause lung damage. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthma attack, could be immediate or delayed (up to several hours after exposure). Similar to many non-specific asthmatic responses, there are reports 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. Over exposure to isocyanates has also been reported to cause lung damage (including decreased lung function) which may be permanent. Sensitization can either be temporary or permanent.

Skin Contact: Isocyanates react with skin protein and moisture and can cause irritation which may include the following symptoms: reddening, swelling, rash, scaling or blistering. Cured material is difficult to remove. Chronic: Prolonged contact can cause reddening, swelling, rash, scaling, blistering and in some cases, skin sensitization. Individuals who have skin sensitization can develop these symptoms from contact with liquid or vapor. Animal tests have indicated that respiratory sensitization can result from skin contact with MDI. These data reinforce the need to prevent direct skin contact with MDI.

Eye Contact: Liquid, aerosols or vapor are irritating and can cause tearing, reddening and swelling. If left untreated, corneal damage can occur and injury is slow to heal. Damage however is usually reversible. See Section 4 for first aid measures.

Ingestion: Irritation and corrosive action can occur in the mouth, stomach tissue and digestive tract if swallowed. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea.

Existing Conditions Aggravated By Exposure: Asthma. Other respiratory disorders (bronchitis, emphysema, bronchial hyperreactivity). Skin allergies. Eczema.

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910-1200)

See Section 11 for additional toxicological information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components	CAS NUMBER	%
Polyurethane Resin	Unknown	60-100
Methylenebis (phenylisocyanate)	101-68-8	10-30

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If symptoms develop and persist, get medical attention.

Skin Contact: Remove contaminated clothing and footwear. Wash with soap and water. Wash clothing before reuse. For severe exposures, get under safety shower after removing clothing, then get medical attention. For lesser exposure, seek medical attention if irritation develops or persists after area is washed.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, holding eyelids open all the time. Get medical attention.

Ingestion: Get medical attention. DO NOT induce vomiting. Never give anything by mouth to an unconscious person.

Notes to Physician: Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic steroid preparation frequently. Workplace vapors have produced reversible corneal epithelial edema impairing vision. Skin: Treat symptomatically as for contact dermatitis or thermal burns. This compound is known skin sensitizer. Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of this compound. Respiratory: This compound is a known pulmonary sensitizer.

5. FIRE FIGHTING MEASURES

Flash Point: > 93°C (>199°F)

Autoignition: Not available

Flammable/Explosive Limits – Lower: Not available

Flammable/Explosive Limits – Upper: Not available

Extinguishing Media: Water spray (fog), foam, dry chemical or carbon dioxide

Special Firefighting Procedures: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. During a fire, MDI vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. At temperatures above 400°F (204°C), polymeric MDI can polymerize and decompose which can cause pressure build-up in closed containers. Explosive rupture is possible.

Unusual Fire or Explosion Hazards:

In case of fire, keep containers cool with water spray.

Hazardous Combustion Products:

Oxides of carbon. Oxides of nitrogen. Hydrogen Cyanide. Methylene bisphenyl isocyanate

6. ACCIDENTAL RELEASE MEASURES**Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.****Environmental Precautions:**

Do not allow product to enter sewer or waterways.

Clean-up Methods:

Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment during clean-up. If temporary control of isocyanate vapor is required, a blanket of protein foam (available at most fire departments) may be placed over spill. Large quantities may be pumped into closed, but not sealed containers for disposal. For minor spills, absorb isocyanates with sawdust or other absorbent, shovel into suitable unsealed containers, transport to well ventilated area (outside) and treat with neutralizing solution: mixture of 80% water and 20% non-ionic surfactant Tergitol TMN-10; or 90% water, 3-8% concentrated ammonia and 2% detergent. Add about ten parts of neutralizer per part of isocyanate, with mixing. Allow to stand uncovered for 48 hours to let carbon dioxide escape. Decontaminate floor with decontamination solution letting stand for at least 15 minutes.

7. HANDLING AND STORAGE**Handling:**

Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists of this product. Exposure to vapors of heated MDI can be extremely dangerous. Wash thoroughly after handling. Protect from moisture.

Storage:

Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. MDI reacts slowly with water to form carbon dioxide gas. This gas can cause sealed containers to expand and possible rupture. If container is exposed to high heat (400°F (204°C)), it can be pressurized and possibly rupture.

For information on product shelf life contact Apun Customer Service at (907) 336-7958

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Components	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Polyurethane Resin	None	None	None	None
Methylenebis (pheyliisocyanate)	.005ppm TWA	.02ppm (.2mg/m3) ceiling	None	None

Engineering Controls:

Local exhaust should be used to maintain levels below the TLV whenever MDI is processed, heated or spray applied. Standard reference sources regarding industrial ventilation (i.e., ACGIH Industrial Ventilation) should be consulted for guidance about adequate ventilation. Air monitoring: Monitoring of airborne isocyanates in the breathing zone of individuals should become part of the overall employee exposure characterization program. Isocyanate exposure levels must be monitored. Monitoring techniques have been

developed by NIOSH and OSHA. Medical surveillance: Medical supervision of all employees who handle or come in contact with isocyanates is recommended. These should include preemployment and periodic medical examinations with pulmonary function tests (FEV, FVC as a minimum). Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with isocyanates. Once a person is diagnosed as sensitized to an isocyanate, no further exposure can be permitted.

Respiratory Protection:

Concentrations greater than the TLV can occur when MDI is sprayed, heated or used in a poorly ventilated area. In such cases, or whenever concentrations of MDI exceed the TLV, respiratory protection must be worn. A positive pressure, supplied-air respirator or a self-contained breathing apparatus is recommended. In situations where MDI is not sprayed, heated, or used in a poorly ventilated area, and a supplied-air or self-contained breathing apparatus is unavailable or its use impractical, at least an air-purifying cartridge and particulate pre-filters must be worn. However, this should be permitted only for short periods of time (less than one hour) at relatively low concentrations (at or near the TLV). However, due to the poor warning properties of MDI, proper fit and timely replacement of filter elements must be ensured. Observe OSHA regulations for respirator use. (29 CFR 1910.134).

Eye/Face Protection:

Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing. Full face protection should be used if the potential for splashing or spraying of product exists.

Skin Protection:

Permeation resistant gloves, (butyl rubber, nitrile rubber, polyvinyl alcohol). However, please note that polyvinyl alcohol degrades in water. Cover as much of the exposed skin area as possible with appropriate clothing. If skin creams are used, keep the area covered by the cream to a minimum.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Color:	Amber
Odor:	Slight
Odor Threshold:	Not available
pH:	Not available
Vapor Pressure:	Not available
Boiling Point/Range:	404°F (207°C)
Melting Point/Range:	Not available
Specific Gravity:	1.09
Vapor Density:	Not available
Flash Point:	>200°F (>93°C)
Flammable Explosive Limits – Lower:	Not available
Flammable Explosive Limits – Upper:	Not available
Autoignition Temperature:	Not available
Evaporation Rate:	Not available
Solubility in Water:	Reacts slowly with water to liberate carbon dioxide gas
Partition Coefficient (n-octanol/water):	Not available
VOC Content:	7.84 g/l (value as mixed for use)

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Reactions:	Contact with moisture, other materials which can react with isocyanates, or temperatures above 400°F (205°C), may cause polymerization.
Hazardous Decomposition Products:	Thermal decomposition can lead to release of irritating gases and vapors. Oxides of carbon. Oxides of nitrogen. Hydrogen cyanide. MDI vapors and aerosols.
Incompatible Materials:	Water. Alcohols. Amines. Ammonia. Acids.
Conditions to Avoid:	Contamination with water. Heat.

11. TOXICOLOGICAL INFORMATION

Hazardous Components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Polyurethane Resin	No	No	No
Methylenebis (phenylisocyanate)	No	No	No

Hazardous Components	Health Effects/Target Organs
Polyurethane Resin	No Data
Methylenebis (phenylisocyanate)	Irritant, Respiratory, Allergen

12. ECOLOGICAL INFORMATION

Ecological Information:	For both polymeric and monomeric MDI: Aquatic toxicity – LC50 – 24 hour (static): greater than 500 mg/l for Daphnia magna, Limnea stagnalis, and Zebra fish (Brachydanio rerio).
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13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal:	Dispose of according to Federal, State and local governmental regulations.
Hazardous Waste Number:	Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

U.S. Department of Transportation Ground (49 CFR)

Proper Shipping Name:	Not regulated.
Hazard Class or Division:	None.
Identification Number:	None.
Packing Group:	None.

International Air Transportation (ICAO/IATA)

Proper Shipping Name:	Not regulated
Hazard Class or Division:	None
Identification Number:	None
Packing Group:	None

Water Transportation (IMO/IMDG)

Proper Shipping Name: Not regulated
Hazard Class or Division: None
Identification Number: None
Packing Group: None

15. REGULATORY INFORMATION

United States Regulatory Information

TCSA 8(b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory

TCSA 12(b) Export Notification: None above reporting the minimum

CERCLA/SARA Section 302 EHS: None above reporting the minimum.

CERCLA/SARA Section 311/312: Immediate Health. Delayed Health

CERCLA/SARA Section 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right To Know Act of 1986 (40 CFR 372). Methylenebis (phenylisocyanate) (CAS# 101-68-8)

California Proposition 65: No California Proposition 65 listed chemicals are known to be present.

Canada Regulatory Information

CEPA DSL/NDL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List

WHMIS Hazard Class: D.1.A, D.2.A, D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: New Material Safety Data Sheet format.

Prepared by: Robert Bond, Manager, Regulatory Affairs

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