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MATERIAL SAFETY DATA SHEET

Issue Date: 12/05/2005

Revised:

1. Identification

Product Name: Armadillo HP ISO
Product Type: MDI-based prepolymer
Contact: CHEMTREC 1-800-424-9300 (24 hours)

NFPA: Health - 2, Flammability - 1, Reactivity - 1, Other - None
HMS: Health - 2, Flammability - 1, Reactivity - 1, Other - None

2. Composition/Information on Ingredients

<u>Chemical Name:</u>	<u>CAS No.</u>	<u>% Content</u>
Polyurethane Polymer	trade secret	60 to 90
Diphenylmethane-4,4'-diisocyanate	101-68-8	35 to 55
Diphenylmethane-2,4'-diisocyanate	5873-54-1	5 to 15

3. Hazards Identification

Hazard Description:

Eye

May cause mild irritation. Symptoms include stinging, tearing, and redness.

Skin

May cause mild skin irritation. Symptoms include redness and burning of skin. Additional symptoms of skin contact include allergic reaction characterized by delayed blistering, scaling, and other skin effects.

Ingestion

Swallowing small amounts of this material during its intended use is not likely to cause harmful effects. Ingestion of large amounts may be harmful.

Inhalation

Breathing of vapor or mist is possible when material is sprayed.

Symptoms of Exposure

Symptoms of exposure through inhalation, ingestion, and skin contact may include stomach or intestinal upset (nausea, vomiting, diarrhea); irritation of the nose, throat and breathing passages, coughing, tightness of chest, headache, shortness of breath, allergic reactions, sweating, flushness, hives, increased heart rate, and lowered blood pressure.

Target Organ Effects

Overexposure to this material or its components has been suggested as a cause of the following in humans: skin sensitization, respiratory sensitization.

4. First Aid Measures

Inhalation:

Move affected individual to fresh air, administer oxygen and artificial respiration if necessary. Seek medical attention if problems persist.

Eye Contact:

Flush eyes with water for at least 20 minutes while holding eyelids open. Seek medical attention.

Skin Contact:

Remove contaminated clothes immediately, and wash skin thoroughly with soap and warm water. Seek medical attention if irritation or sensitization develops or persists.

Ingestion:

Product is not intended to be ingested or eaten. If this product is ingested, severe irritation of the gastrointestinal tract may occur, and should be treated symptomatically. Seek medical attention.

5. Fire Fighting Measures

General fire hazards:

Down-wind personnel must be evacuated. Do not reseal contaminated containers; a chemical reaction generating carbon dioxide gas pressure may occur resulting in rupture of the container. Dense smoke is emitted when product is burned without sufficient oxygen. When using water spray, boil-over may occur when product temperature reaches the boiling point of water, and the reaction forming carbon dioxide will accelerate. MDI vapor and other gases may be generated by thermal decomposition.

Special hazards in fire:

In case of fire, formation of carbon monoxide, carbon dioxide, nitrogen oxide, isocyanate vapor, and traces of hydrogen cyanide is possible.

Extinguishing media:

Carbon dioxide, dry powder, and foam. In cases of large scale fires, alcohol-resitant foams are preferred. If water is used, it should be used in very large quantities. The reaction between water and isocyanate may be vigorous.

Required special protective equipment for fire-fighters:

Fire fighters should wear full-face, self-contained breathing apparatus and impervious protective clothing. Fire fighters should avoid inhaling and combustion products.

6. Accidental release measures

Personal precautions:

Wear full protective clothing and respiratory protection as required to maintain exposures during clean-up below the applicable exposure limits.

Environmental precautions:

Do not discharge spillage into drains. Dam remainders with sand, earth, or other suitable absorbent. MDI in contaminated areas can be neutralized with an ammonia/water solution (90% water, 5% ammonia, plus 2% detergent. Use 10 parts neutralizer per one part MDI.)

Clean-up procedures:

Dispose of spilled material in accordance with federal, state, and local regulations in permitted hazardous waste management facility. Incineration is the preferred method of disposal. Empty containers must be handled with care due to product residue. Do not heat or cut empty containers with electric or gas torch.

7. Handling and storage

Handling:

Avoid skin and eye contact. Avoid inhalation of fumes. Smoking, eating, and drinking are not allowed in the work-place. Personal protection: see Section B.

Storage:

Keep product away from sources of alcohols, amines, or other materials that react with diisocyanates. Avoid prolonged heating above 160°C/ 320°F. Store product in tightly closed containers in a well-ventilated place and in accordance with national regulations. Keep out of reach of children.

8. Exposure controls/ Personal protection

Exposure Limits (TWA)	ACGIH (TLV)	OSHA (PEL)	OTHER
Polyisocyanate (MDI) 0.051 mg/m³		0.200 mg/m³ 0.005 ppm	None 0.020 ppm

Personal protection equipment:

General: Wear suitable protective clothing, protective gloves and protective goggles/ mask.

Respiratory protection: Must be used if concentration above TLV.

Hand protection: Use protective gloves.

Eyes protection: Chemical goggles or full face shields are recommended. An eyewash station and safety -shower should be available in the work area. Contact lenses should not be worn when working with this product.

Skin protection: Wear gloves and working clothes to avoid skin irritation or sensitization. Depending on operation, chemical resistant boots, overshoes, and apron may be required.

Ventilation: If vapor or mist is generated during processing or use, local exhaust ventilation should be provided to maintain exposures below TLVs.

9. Physical and chemical properties

Physical form:	liquid
Color:	dark amber
Odor:	slight
Boiling point:	368°F
Flash point:	>190°F
Vapor pressure:	<0.00001 mbar at 68°F
Specific gravity:	1.1 to 1.2 g/cm ³ @ 75°F
Viscosity:	approx. 800 cps @ 75°F
Solubility in water:	reacts
pH:	not applicable
Percent volatile	not determined

10. Stability and reactivity

Stability:

The product is stable under the recommended handling and storage conditions (see section 7).

Hazardous decomposition products:

By exposure to high temperature, hazardous decomposition products may develop, such as isocyanate vapor and mist, carbon dioxide, carbon monoxide, nitrogen oxide, and traces of hydrogen cyanide.

Hazardous reaction:

Exothermic reaction with amines and alcohols; reacts with water forming heat, CO₂, and insoluble polyurea. The combined effect of CO₂ and heat can produce enough pressure to rupture a closed container.

11. Toxicological information No Data

12. Ecological information

No Data

13. Disposal considerations

The product remnants are classified as chemical waste. Dispose of waste according to Local, State Federal, and Provincial Environmental Regulations.

14. Transportation information

DOT Information - 49 CFR 172.101

DOT Description: Non-regulated Material

Land transport

Transport class: -NA
Risk code: -NA
Name according to bill for freight: -Non-Regulated Material
Other information: -NA

15. Regulation information

Federal Regulations

TSCA

The components of this product are listed.

CERCLA RQ - 40 CFR 302.4(a)

Component	RQ(ibs)
Polyisocyanate	5000

SARA 302 Components - 40 CFR 355 Appendix A

None

SARA 313 Components - 40 CFR 372.65

Section 313 Component	CAS#	Percentage
Polyisocyanate	101-68-8	45%

OSHA Process Safety Management 29 CFR 1910

None Listed

EPA Accidental Release Prevention 40 CFR 68

None Listed

California Proposition 65

The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains the following substances known to the State of California to cause cancer: **NONE**

New Jersey Right to Know Label Information None

Pennsylvania Right to Know Label Information

None

Any existing national regulations on the handling of isocyanates must be observed.

The information herein is presented in good faith and believed to be accurate as of the effective date given. However, no warranty, expressed or implied, is given. It is the buyer's responsibility to ensure that its activities comply with Federal, State, Provincial, and Local laws.