

MATERIAL DATA SAFETY SHEET

Seal-A-Cast A-SIDE

Revised March 17, 2012

1. PRODUCT IDENTIFICATION

Product Name: Seal-A-Cast(tm) A-Side

Product Class: Isocyanate

2. COMPOSITION

<u>Component</u>	<u>%</u>	<u>CAS#</u>	<u>OSHA PEL</u>
Diphenylmethane Diisocyanate	50	101-68-8	>99
Modified MDI	50	Proprietary	0.3

HMIS RATINGS	
Health	2
Flammability	1
Reactivity	1
Protective Equipment	Yes

3. HAZARDS IDENTIFICATION

(As defined by OSHA Hazard Comm. Std.29 CFR 1910.1200)

** Physical Hazards: None (see section 5)

** Health Hazards: Based on MDI-irritant (eye, skin, respiratory, passages, skin sensitizer), Inhalation (TLV), Harmful (respiratory sensitizer, lung injury).

General: No toxicity information is available on this specific preparation as this health assessment is based on information available on the individual components.

Ingestion: A single dose of this product is practically non-toxic by ingestion. Irritation of the mouth, pharynx, esophagus and stomach can develop following consumption.

Eye Contact: This material will irritate the eye and eye protection must be used at times when handling this product. Consult physician immediately.

Skin Contact: This material may irritate the skin with prolonged use, latex gloves should always be used. Skin sensitization and irritation will develop with repeated contact with skin.

Preliminary data from a particular research study indicates MDI in corn oil injected intra-dermal In guinea pigs can cause a respiratory sensitization reaction. The potential for MDI to induce a respiratory reaction by inhalation in humans is well known and this new data indicates this effect may also be induced by repeated skin contact and/or absorption. Toxic concentrations of this product will not probably be absorbed through the human skin.

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Inhalation: Vapors and aerosols will irritate eyes, nose and respiratory passages. Severe over-exposure may lead to edema. MDI can induce respiratory sensitization with asthma-like symptoms similar to those induced by TDI (toluene diisocyanate). Symptoms include cough, tightness of chest with difficulty in breathing. These symptoms may be immediate or delayed up to several hours after exposure. There are reports that chronic exposures may result in permanent decreases in lung function. An over-exposure study was completed where groups of rats were exposed for 6 hours/day, 5 days/week to atmospheres of polymeric MDI aerosol. Overall, the tumor incidence, both benign and malignant, were not different from the control animals which were not subjected. However, at the top level only 96 mg/m³, there was a significant incidence of benign tumors of the lung (Adenoma) and one malignant tumor (Aden carcinoma). There were no lung tumors at 1mg/m³ and no effects at .2 mg/m³. The increased incidence of lung tumors is associated with prolonged respiratory exposure and the concurrent accumulation of yellow material in the lung, which occurred through the study. These high concentrations lead to chronic irritation and lung damage. Therefore, in the absence of these severe prolonged exposures, it is highly unlikely that tumor formation will occur.

4. FIRST AID

Skin Exposure: Wash with plenty of soap and water. If redness, itching or a burning sensation develops get immediate medical attention.

Eyes: Immediately flush with water for a continuous 15 minutes. Have eyes examined and treated by medical practices immediately.

Ingestion: Immediately drink 2 glasses of water. If gastrointestinal symptoms develop, get immediate medical attention.

Inhalation: Get to fresh air immediately. If difficult to breathe, give oxygen and consult physician.

5. FIRE FIGHTING

Flash Point: 300 F

Auto-ignition: 480 C

Flammability: No Data

Extinguishing Media: Dry Chemical, Foam, Caron Dioxide, Halogenated Agents. If water is used, use very large amounts as reaction between hot isocyanate and water will be vigorous.

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6. ACCIDENTAL SPILL

Always wear skin, eye and respiratory protection during cleanup. Soak up materials using absorbent and shovel into a chemical waste container. Secure container from work area and prepare a decontamination solution of .5% liquid detergent and 8% concentrated ammonium hydroxide in water (10% sodium carbonate may be substituted for the ammonium hydroxide. Follow the precautions regarding the hazards of the chemical used. Treat the spill area with the decontaminate solution and allow it to react for 15 minutes. Carbon dioxide will gas off leaving an insoluble material. Contact CHEMTRAC AT 800-424-9300.

7. HANDLING AND STORAGE

Always read product MSDS prior to handling. Always keep air-tight secure lid on this material.

8. EXPOSURE

TVL value: No ACGIH TLV or OSHA PEL is part of this mixture. Control of exposure to below the PEL for the ingredients may not be sufficient.

Minimize exposure must be a practice. The ACGIH TLV for MDI is .0005 ppm 8-hour TWA. The OSHA PEL for MDI is .02 ppm maximum. NIOSH recommends .005 ppm TWA and .02 ppm STEL.

These control limits do not apply to previously sensitized individuals or to people with existing respiratory diseases such as chronic bronchitis, emphysema or asthma. Do not subject sensitive people to this material.

Ventilation: Always provide local exhaust to extract air-borne concentrations below the TLV. Follow guidelines in the ACGIH publication "Industrial Ventilation". For high concentrations, exhaust air may need to be cleaned by scrubbers and/or filters to reduce environmental contamination.

Respiratory Protection: Because of low vapor pressure, ventilation is usually sufficient to keep vapors below the TVL at room temperatures except when these materials are heated and sprayed.

If air-borne concentrations exceed the TVL, use MSHA/NIOSH approved positive pressure air respirator with full-face-piece or an air supplied hood.

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If air-borne concentrations exceed the TVL, use MSHA/NIOSH approved positive pressure air respirator with full-face-piece or an air supplied hood.

In case of emergency, use a positive pressure self-contained breathing apparatus. Air purified cartridge respirators are not approved to protect against isocyanates.

Full protective clothing should always be worn. In close environments always use full body suits with full air-supplied hood.

Wash any contaminated clothing before re-wearing. Testing of commercially available protective suits constructed of butyl rubber, nitrile rubber, Saranex coated Tyvek and some neoprene garments have excellent resistance to permeation by MDIs. Care must be taken not to use clothing susceptible to MDI permeation as published by ACGIH.

Proper Eye protection, such as chemically tight goggles and/or full-face head gear should be used for all handling where splash is predictable. Always keep eyewash stations near work area.

SPECIAL PRECAUTIONS:

Prevent skin and eye contact and observe TLV limitations. Always avoid breathing vapors or aerosols. Workers should always shower and change to fresh clothing after exposure. Keep containers sealed tightly. Store containers in cool dry area. Do not expose sensitized individuals to chemicals of this nature. If prolonged exposure, always get 3 month medical examinations.

9. PHYSICAL INFORMATION

Appearance and odor: Clear with faint

odor. Boiling Point: decomposes at 646 F,

341 C Vapor Pressure mmHg at 20 C:

<0.0001 Vapor Density: no data

Solubility: Reacts with water, reduces with MEK, Toluenes and Acetones. SG: 1.2

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10. REACTIVITY

Reactive with water or any material containing active hydrogen such as alcohols, ammonia, amines, alkalis and acids. Stable under normal conditions. Reaction with water is accelerated at elevated temperatures and in the presence of alkalis, amines and metal compounds. Some reactions can be violent. Hazardous Combustion Products: carbon dioxide, carbon monoxide, nitrogen oxides, ammonia and trace amounts of cyanide. Hazardous Polymerization will occur at high temperatures involving alkalis, amines and metals. These types of reactions will create CO₂ which may rupture some closed containers.

1. TOXICOLOGY

Acute Eye Irritation: 0.1 ml rabbit

Acute Skin Irritation: 0.5 ml rabbit

Dermal Toxicity: LD₅₀– lethal dose of 50% of test species, >1.18 mg/l in rats.

Acute Respiratory: Studies indicate potential carcinogen for prolonged breathing of vapors.

Acute Oral Toxicity: LD₅₀– lethal dose 50% of test species, >5000mg/l rat.

2. ECOLOGICAL INFORMATION

Polymeric MDI. LC₅₀ > 1000 mg/l. EC 50 (Daphnia magna) (24 hour) > 1000 mg/l EC₅₀ (E. Coli) > 100 mg/l

Environmental Fate and Distribution: It is unlikely that significant environmental exposure in the air or water will arise based on consideration of the production and use of the substance.

Persistence and Degradation: Immiscible with water, but will react with water to produce inert and non-biodegradable solids

3. DISPOSAL

Stir the isocyanate waste into the decontamination solution and let stand for 48 hours while allowing the CO₂ to vent away. This decontaminated liquid is not considered a hazardous waste under RCRA and 40CFR 261.

Container Disposal: Drums containing residual decontaminated isocyanate must be thoroughly drained and then may be taken to appropriate hazardous waste facilities. Note that all containers sent to disposal may be subject to federal, state and/or local regulations. Seller shall not be liable for any incidental, consequential or indirect use of this product. Data herein must be confirmed by Buyer by testing for its intended use.

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4. TRANSPORT AND REGULATORY INFORMATION

Transportation Emergency Number 800-424-9300 (Chemtrac) or Earthlink Sciences 604-540-0605
DOT Classification: Single containers less than 5000 lbs are not regulated. Single containers with 5000 lbs or more of 4,4'-Methylene Diphenyl Diisocyanate are regulated as: Other Regulated Substances, Liquid, N.O.S. (Methylene Diphenyl Diisocyanate), 9, NA Number 3082, Packaging Group III, RQ.

5. REGULATORY INFORMATION:

US Federal Regulations

This material is classified as hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200). HCS Classification : Toxic, Irritating material, Sensitizing material. TSCA 8(b) inventory: All ingredients listed.

EPCRA Section 313 (40 CFR 372) Diisocyanate Compounds (Category Code N120) 74%
EPCRA Section 313 (40 CFR 372) CERCLA (Comprehensive Environmental Response, Compensation and Liability Act): 4,4-Methylene diphenyl diisocyanate (CAS 101-68-8) has a 5000 lb. RQ (reportable quantity). Any spill or release above the RQ must be reported to the National Response Center (800-424-8802)

6. DISCLAIMER INFORMATION:

The information given is to the best of our knowledge correct with no representation of warranty, expressed or implied. No statements herein are to be construed as inducements to infringe any relevant patent. Seller shall not be liable for any incidental, consequential or indirect use of this product. Data herein must be confirmed by Buyer by testing for its intended use.

MATERIAL DATA SAFETY SHEET

SEAL-A-CAST(TM) B-SIDE

Revised March 17, 2012

1. PRODUCT IDENTIFICATION

Product Name: Seal-A-Cast(tm)

B-Side Product Class: Polymeric

Polyol

2. COMPOSITION

<u>Component</u>	<u>%</u>	<u>CAS#</u>
Polyoxypropyleneglycol	50	9082-00-2
Di-Methylthio Toluenedediamine	50	111-46-6

HMIS RATINGS	
Health	2
Flammability	1
Reactivity	0
Protective Equipment	Yes

3. HAZARDS IDENTIFICATION

Effects of over-exposure: Eyes– possible injury. Inhalation: odor considered annoying. Skin: moderate irritation causing redness or drying. Ingestion: small amounts are not likely to cause injury. Avoid inhalation of atomized chemical and smoke when burning.

4. FIRST AID

Emergency procedures must be conducted for incidental eye contact. Flush immediately for 15 minutes and then obtain medical attention. For skin contact, simply wash with soap and water. For ingestion, induce vomiting and contact physician.

5. FIRE FIGHTING

Flash Point: NA. Extinguishing media: Water fog, CO₂, Dry Chemical, Chemical Foam. Low explosion hazard.

6. ACCIDENTIAL SPILLAGE

Contain spill using absorbent material or wipe up. Then place waste in open container to dry.

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7. HANDLING AND STORAGE

Effects of over-exposure: Eyes– possible injury. Inhalation: odor considered annoying. Skin: moderate irritation causing redness or drying. Ingestion: small amounts are not likely to cause injury. Avoid inhalation of atomized chemical and smoke when burning.

8. EXPOSURE

Emergency procedures must be conducted for incidental eye contact. Flush immediately for 15 minutes and then obtain medical attention. For skin contact, simply wash with soap and water. For ingestion, induce vomiting and contact physician.

9. PHYSICAL PROPERTIES

Flash Point: NA. Extinguishing media: Water fog, CO₂, Dry Chemical, Chemical Foam. Low explosion hazard.

10. REACTIVITY

This product is stable. It is incompatible with alkali, earth metals and strong acids. Hazardous decomposition products: CO₂, CO, NO₂. Hazardous polymerization will not occur. Avoid isocyanates and oxidizing materials.

11. TOXICOLOGICAL INFORMATION

NA

12. ECOLOGICAL INFORMATION

N/A.

13. DISPOSAL

Follow hazardous control procedures and deliver containers to hazardous waste facility.

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14. TRANSPORT AND REGULATORY INFORMATION

Transportation Emergency Number 800-424-9300 (Chemtrac) or Earthlink Sciences 604-540-0605

DOT Classification: Single containers less than 5000 lbs are not regulated.

Hazardous class: 9

ID Number: NA 3082

Packing Group: PG III

15. DISCLAIMER INFORMATION:

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