

PremARC™ Aliphatic 80

1. Identification of substance:

Product name: PremARC™ Aliphatic 80

Manufacturer/Supplier

American Recycling Center, Inc.

655 Wabassee Drive

Owosso, MI 48867

Ph: 989-725-5100

This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

Emergency Telephone Number:

CHEMTREC 800-424-9300

2. Hazards identification:

Route of Entry:

Skin and eye contact from liquid and aerosols. Inhalation – although this product is low in volatility, an inhaling hazard can exist from the aerosols or vapors formed during application.

Target Organs:

Skin; Eyes; Upper respiratory tract (Aerosol);

Inhalation:

ACUTE ESPOSURE: Vapors or mist at concentrations above the TLV can irritate (burning sensation) 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). Individuals with a pre-existing, non-specific bronchial hyperreactivity can respond to concentrations below the TLV with similar symptoms as well as asthma attack. Exposure well above the TLV may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in the lungs). These effects are usually reversible. Chemical or hypersensitive pneumonitis, with flu like symptoms (e.g. fever, chills) have also been reported. These symptoms can be delayed up to several hours after exposure.

CHRONIC EXPOSURE: As a result of previous repeated overexposures or a single large dose, certain individuals develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the TLV. These symptoms which can include chest tightness, wheezing, coughing, shortness of breath or asthma attack, could be immediate or delayed (up to several hours after



American Recycling Center, Inc

655 Wabassee Drive, Owosso, MI 48867
(989) 725-5100 www.americanrecycling.com

Continued on Next Page..

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. Overexposure to isocyanates has also been reported to cause lung damage (including decrease in lung function) which may be permanent. Sensitization can either be temporary or permanent.

Skin Contact:

ACUTE EXPOSURE: 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 EXPOSURE: Prolonged contact can cause reddening, swelling, rash, scaling, blistering, and in some cases, skin sensitization. Individuals who have developed a skin sensitization can develop these symptoms as a result of contact with very small amounts of liquid material or as a result of exposure to vapor.

Eye Contact:

ACUTE EXPOSURE: Liquid, aerosols or vapors are irritating and can cause tearing, reddening and swelling. If left untreated, corneal damage can occur and injury in slow to heal. However, damage is usually reversible.

CHRONIC EXPOSURE: None found.

Ingestion:

ACUTE EXPOSURE: Can result in irritation and corrosive action in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea. Product is moderately toxic and may be harmful if swallowed; may produce central nervous system depression. Ingestion may result in vomiting.

CHRONIC EXPOSURE: None found.

3. Composition/Information on Ingredients:

Ingredients

| Cas # | Chemical Name | Perc. |
|----------|---|--------|
| 25322694 | Poly [oxy(methyl-1, 2-ethanediyl)] | 60-70% |
| 5124301 | Cyclohexane, 1,1'-methylenebis[4-isocyan | 36-46% |
| 77587 | Stannane, dibutylbis[(1-oxododecyl)oxy]- | 1-3% |
| 6425394 | Morpholine, 4,4'-(oxydi-2, 1-ethanediyl)b | 1-3% |



American Recycling Center, Inc

655 Wabasse Drive, Owosso, MI 48867
(989) 725-5100 www.americanrecycling.com

Continued on Next Page...

OSHA Regulatory Status:

This MSDS Contains valuable information critical to the safe handling and proper use of this product. This MSDS should be retained and available for employees and other users of the product.

4. First aid measures:

Inhalation: Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed. Obtain medical attention. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Consult physician should this occur.

Skin Contact: Remove contaminated clothing. Wash affected skin thoroughly with soap and water. Wash contaminated clothing thoroughly 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 the area is washed.

Eye Contact: Flush with copious amounts of lukewarm water for at least 15 minutes, holding eyelids open at all times. Refer individual to physician or ophthalmologist for immediate follow-up.

Ingestion: DO NOT INDUCE VOMITING. Give 1 to 2 cups of milk or water to drink. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Get prompt, qualified medical attention. Ingestion may result in vomiting. If vomiting occurs spontaneously, do not allow vomit to be breathed into the lungs as even a small quantity in the lungs may result in aspiration pneumonitis.

NOTE TO PHYSICIAN

SKIN: This compound is a known skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burns. If burned, treat as thermal burn.

EYES: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic steroid preparation frequently. Workplace vapors may produce reversible corneal epithelial edema impairing vision.

RESPIRATORY: This compound is a known pulmonary sensitizer. Treatment is essentially symptomatic. An individual having a skin or pulmonary sensitization reaction to this material should be removed from exposure to any isocyanate.

INGESTION: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of this compound.

5. Fire fighting measures:

Flash Point:

Dry chemical (e.g. monoammonium phosphate, potassium sulfate, and potassium chloride), carbon dioxide, high expansion (proteinic) chemical foam, water spray for large fires. Full emergency



American Recycling Center, Inc

655 Wabasse Drive, Owosso, MI 48867
(989) 725-5100 www.americanrecycling.com

Continued on Next Page...

equipment with self-contained breathing apparatus and full protective clothing should be worn by fire fighters. During a fire, vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. A C), this product can be polymerized and decompose which can cause pressure build-up in closed containers. Explosive rupture is possible. Therefore, use cold water to cool fire-exposed containers.

UNUSUAL FIRE OR EXPLOSION HAZARDS:

Large fires can be extinguished with large volumes of water applied from a safe distance, since reaction between water and hot Diisocyanate can be vigorous.

6. Accidental release measures:

Cover the spill with sawdust, vermiculite, Fuller's earth or other absorbent material. Pour decontamination solution over spill area and allow to react for at least 10 minutes. Collect material in open containers and add further amounts of decontamination solution. Remove containers to safe place, cover loosely, and allow to stand for 24 to 48 hours. Wash down area with decontamination solutions. Decontamination solution: non-ionic surfactant Union Carbide's Tergitol TMN-10 (20%) and water (80%); concentrated ammonia (3-8%), detergent (2%) and water (90-95%). Respiratory protection is recommended during spill clean-up.

7. Handling and storage:

Handling Precautions: Avoid breathing vapors or mist; Avoid contact with eyes, skin or clothing; Do not expose containers to open flame, excessive heat, or direct sunlight.

Storage Requirements: Store in tightly closed containers to prevent moisture contamination. This product reacts slowly with water to form CO₂ gas. This gas can cause sealed containers to expand and possibly rupture. Do not reseal if contamination is suspected. Store in cool/dry area.

8. Exposure controls and personal protection:

Engineering Controls: Educate and train employees in safe use of this product. Follow all label instructions. Local exhaust should be used to maintain levels below the TLV whenever this product is processed, heated or spray applied. For spray applications, an air-supplied respirator must be worn. All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94).



American Recycling Center, Inc

655 Wabasse Drive, Owosso, MI 48867
(989) 725-5100 www.americanrecycling.com

Protective Equipment: An air-supplied respirator must be worn during spray applications, during long-term (over 1 hour) exposures when the product is heated or in environments of high concentrations near the TLV, an air-purifying respirator equipped with organic cartridges or canisters and dust filters can be used. However, due to the poor warning properties of this product, proper fit and timely replacement of filter elements must be ensured. Observe OSHA regulations for respirator use (29 CFR 1910.134). Chemical resistant gloves (butyl rubber, nitrile rubber). Cover as much of the exposed area as possible with appropriate clothing. If skin creams are used, keep the area covered only by the cream to a minimum. Liquid chemical goggles or full-face shield. Contact lenses should not be worn. **ADDITIONAL PROTECTIVE MEASURES:** Clean, fresh running water should be available.

**Exposure Guidelines/
Other:**

***OSHA PEL**

The Occupational Safety and Health Administration (OSHA) does not currently regulate methylene bis(4-cyclo-hexylisocyanate).

***NIOSH REL**

The National Institute for Occupational Safety and Health (NIOSH) has established a recommended exposure limit (REL) of 0.01 part per million (ppm) parts of air (0.11 milligram per cubic meter (mg/m³)) as a ceiling for methylene bis(4-cyclohexylisocyanate). A worker's exposure to methylene bis(4-cyclohexylisocyanate) shall at no time exceed this ceiling level [NIOSH 1992].

***ACGIH TLV**

The American Conference of Governmental Industrial Hygienists (ACGIH) has assigned methylene bis(4-cyclo-hexylisocyanate) a threshold limit value (TLV) of 0.005 ppm (0.054 mg/m³) as a TWA for a normal 8-hour workday and a 40-hour workweek [ACGIH 1994, p. 26].

...

***Rationale for Limits**

The NIOSH limit is based on the risk of pulmonary irritation, respiratory effects and sensitization [NIOSH 1992]. The ACGIH limit is based on the risk of pulmonary irritation [ACGIH 1991, p. 996].

***OSHA PEL**

The Occupational Safety and Health Administration (OSHA) does not currently regulate methylene bis(4-cyclo-hexylisocyanate).



American Recycling Center, Inc

655 Wabasse Drive, Owosso, MI 48867
(989) 725-5100 www.americanrecycling.com

Continued on Next Page...

*NIOSHA REL

The National Institute for Occupational Safety and Health (NIOSHA) has established a recommended exposure limit (REL) of 0.01 part per million (ppm) parts of air (0.11 milligram per cubic meter (mg/m³)) as a ceiling for methylene bis(4-cyclohexylisocyanate). A worker's exposure to methylene bis(4-cyclohexylisocyanate) shall at no time exceed this ceiling level [NIOSH 1992].

*ACGIH TLV

The American Conference of Governmental Industrial Hygienists (ACGIH) has assigned methylene bis (4-cyclo-hexylisocyanate) a threshold limit value (TLV) of 0.005 (0.054 mg/m³) as a TWA for a normal 8-hour workday and a 40-hour workweek [ACGIH 1994, p. 26].

*Rationale for Limits

The NIOSH limit is based in the risk of pulmonary irritation, respiratory effects and sensitizations [NIOSH 1992]. The ACGIH limit is based on the risk of pulmonary irritation [[ACGIH 1991, p. 996].

9. Physical and chemical properties:

| | |
|-----------------------------|--|
| Appearance: | Clear |
| Physical State: | Liquid |
| Odor: | Slightly musty |
| pH: | N.A. |
| Vapor Pressure: | Not established |
| Vapor Density: | Not established |
| VOC: | 0 g/L |
| Boiling Point: | Not established |
| Freezing/Melting Pt: | Not established |
| Solubility: | Reacts slowly with water to liberate CO ₂ gas |
| Spec Grav./Density: | 8.3 lbs/gal |

10. Stability and reactivity:

| | |
|--------------------|--|
| Stability: | Product is stable under normal conditions. |
| Conditions: | Oxidation promoting conditions (Heat, Sunlight and Air). |



American Recycling Center, Inc

655 Wabasse Drive, Owosso, MI 48867
(989) 725-5100 www.americanrecycling.com

Continued on Next Page...

**Materials to avoid
(incompatibility):**

Hazardous Decomposition products:

Water, amines, strong bases, alcohols.
By Fire and High Heat: hydrogen cyanide;
Carbon dioxide (CO₂), carbon monoxide (CO),
oxides of nitrogen (NO_x), dense black smoke,
Isocyanate, Isocyanate Acid, Other
undetermined compounds.

Hazardous Polymerization:

C).

11. Toxicological information:

ACUTE INHALATION LC50: 434 mg/cu.m. (rat); 295 mg/cu.m./28 ppm (male rat); 307 mg/cu.m./29 ppm (female rat). (4 hours) High toxicity.

ACUTE DERMAL LD50: 10,000 mg/kg. (rabbit) Slight to very low toxicity.

SKIN IRRITATION: Irritating.

EYE IRRITATION: Very mild to mildly irritating.

ACUTE ORAL LD50: 1065 mg/kg. (rat) Moderate toxicity.

SKIN SENSITIZATION: Sensitizer.

CARCINOGENICITY STATUS: This product is NOT listed as a carcinogen or suspected carcinogen by NTP, IARC, ACHIH, or OSHA.

MEDICAL CONDITIONS AGGRAVATED: Skin allergies, asthma, other respiratory disorders, eczema.

ACUTE INHALATION LC50:434 mg/cu.m. (rat); 295 mg/cu.m./28 ppm (male rat); 307 mg/cu.m./29 ppm (female rat). (4 hours). High toxicity

ACUTE DERMAL LD50:10,000 mg/kg. (rabbit) Slight to very low toxicity.



American Recycling Center, Inc

655 Wabassee Drive, Owosso, MI 48867
(989) 725-5100 www.americanrecycling.com

Continued on Next Page...

12. Ecological Information:

Bioaccumulative potential: Not established.

Ecotoxicity: Not established.

Elimination (persistence and degradability): Not established.

13. Disposal Considerations:

Waste and container disposal must be in accordance with federal, state, and local environmental control regulations. Incineration is the preferred method. Empty containers must be handled with care due to product residue. Decontaminate prior to disposal. DO NOT HEAT OR CUT EMPTY CONTAINERS WITH ELECTRIC OR GAS TORCH.

14. Transport Information:

DOT (HM-181; DOMESTIC SURFACE)

UN/NA NUMBER: NA 3082
D.O.T. SHIPPING NAME: **Other Regulated Substances, Liquid, N.O.S. (Dicyclohexylmethane Diisocyanate)**
D.O.T. HAZARD CLASS: 9
PACKAGING GROUP: PG III
D.O.T. LABEL: Miscellaneous
D.O.T. PLACARD: Miscellaneous Dangerous Goods

ICAO/IATA (AIR)

UN NUMBER: UN 3334
PROPER SHIPPING NAME: **Aviation Regulated Liquid, N.O.S. (Dicyclohexylmethane Diisocyanate)**
HAZARD CLASS DIVISION NUMBER: 9
SUBSIDIARY RISK: none
PACKAGING GROUP: PG III
HAZARD LABEL(S): Miscellaneous
RADIOACTIVE?: Non-radioactive
PASSANGER AIR-MAXIMUM QUANTITY: 100 L
PACKING INSTRUCTION NUMBER: 964
CARGO AIR-MAXIMUM QUANTITY: 220 L
PACKING INSTRUCTION NUMBER: 964

IMO/IMDG CODE (OCEAN)



American Recycling Center, Inc

655 Wabasse Drive, Owosso, MI 48867
(989) 725-5100 www.americanrecycling.com

Continued on Next Page...

| | |
|-------------------------------|-------------------------------|
| UN NUMBER: | none |
| PROPER SHIPPING NAME: | Aliphatic Diisocyanate |
| HAZARD CLASS DIVISION NUMBER: | NON REGULATED |
| PACKING GROUP: | none |
| HAZARD LABEL(S): | none |
| HAZARD PLACARD(S): | none |

15. Regulatory Information:

COMPONENT / (CAS/PERC) / CODES

*Cyclohexane, 1,1'-methylene bis[4-isocyanato – (5124301 20-30%) MASS, OSHAWAC, PA SARA313, TXAIR

TSCA: All components in this mixture are included in the TSCA inventory.

REGULATORY KEY DESCRIPTIONS

MASS = MA Massachusetts Hazardous Substances List

OSHA = OSHA Workplace Air Contaminants

PA = PA Right-to-Know List of Hazardous Substances

SARA313 = SARA 313 Title III Toxic Chemicals

TXAIR = TX AIR Contaminants with Health Effects Screening Level

16. Other Information:

Disclaimer:

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s). This data is based on our present knowledge. However, it shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Revision Date: 01.19.2012

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.



American Recycling Center, Inc

655 Wabasse Drive, Owosso, MI 48867
(989) 725-5100 www.americanrecycling.com