

SAFETY DATA SHEET

03/23/2020

PremARC® 60-80 Urethane Binder

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Name: PremARC® 60-80 Urethane Binder
Material Type: Isocyanate
Product Material Weight: 45 lbs. Pail / 475 lbs Drums

Details of the supplier of the safety data sheet

Supplier: American Recycling Center, Inc.
655 Wabassee Drive
Owosso, MI 48867

Emergency telephone number

24-Hour Emergency Phone number: 800-424-9300
Customer Information Center: 989-725-5100

SECTION 2: HAZARDS IDENTIFICATION

· Classification of the substance or mixture



GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction. STOT SE 3 H335 May cause respiratory irritation.

· Storage:

Store in a well-ventilated place. Keep container tightly closed. In closed containers, there may be a risk of pressure build up due to water contamination (Liberated CO2 Gas). Store locked up.

· Label elements

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms



GHS07



GHS08

· **Signal word** Danger

· Hazard-determining components of labeling:

methylenediphenyl diisocyanate (MDI) Mixed Isomers 4,4'-methylenediphenyl diisocyanate
Polymeric Diphenylmethane Diisocyanate



· **Hazard statements**

- Causes skin irritation.
- Causes serious eye irritation.
- May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
- May cause respiratory irritation.
- May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

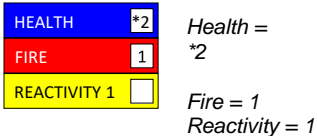
- Do not breathe dust/fume/gas/mist/vapors/spray.
- Wash thoroughly after handling.
- Use only outdoors or in a well-ventilated area.
- Contaminated work clothing must not be allowed out of the workplace.
- Wear protective gloves / eye protection / face protection.
- [In case of inadequate ventilation] wear respiratory protection. If on skin: Wash with plenty of water.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Call a poison center/doctor if you feel unwell.
- Specific treatment (see on this label).
- Get medical advice/attention if you feel unwell.
- Take off contaminated clothing and wash it before reuse.
- If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention.
- If experiencing respiratory symptoms: Call a poison center/doctor. Wash contaminated clothing before reuse.
- Store in a well-ventilated place. Keep container tightly closed. In closed containers, there may be a risk of pressure build up due to water contamination (Liberated CO₂ gas).
- Store locked up.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



· **Other hazards**

- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

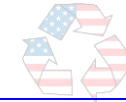
· **Chemical characterization: Mixtures**

· **Description:**

- Polyurethane Prepolymer
- Aromatic Isocyanate
- Prepolymer

· **Dangerous components:**

26447-40-5	methylenediphenyl diisocyanate (MDI) Mixed Isomers	20-30%
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9016-87-9	Polymeric Diphenylmethane Diisocyanate	5-10%
101-68-8	4,4'-methylenediphenyl diisocyanate	5-10%

· **Additional information:** CAS 101-68-8 is an MDI isomer that is a component of CAS 26447-40-5

SECTION 4: FIRST AID MEASURES

· **Description of first aid measures**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore, medical observation is required for at least 48 hours after the accident.

MDI vapors or mist at concentrations above the TLV can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat and lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function. Persons with a preexisting, nonspecific bronchial hyper reactivity can respond to concentrations below the TLV with similar symptoms as well as asthmatic attack.

· **After inhalation:**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness, place patient stably in side position for transportation.

In case of respiratory failure or breathing irregularities, commence resuscitation or administer oxygen.

If inhaled, remove victim from the immediate area to fresh air. Seek medical attention if respiratory irritation develops or if breathing becomes difficult.

· **After skin contact:**

Instantly wash with water and soap and rinse thoroughly. Remove any contaminated clothing. If skin irritation persists, seek medical advice.

· **After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** Do not induce vomiting; immediately call for medical help.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed**

Diisocyanate vapors or mist at concentrations above the TLV or PEL 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). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the TLV or PEL with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the TLV or PEL may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms (e.g., fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.

Acute Skin Contact: Causes irritation with symptoms of reddening, itching, and swelling. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Cured material is difficult to remove.

Chronic Skin Contact: Prolonged contact can cause reddening, swelling, rash, and, in some cases, skin sensitization. Animal tests and other research indicate that skin contact with diisocyanates can play a role in causing sensitization and respiratory reaction.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

SECTION 5: FIREFIGHTING MEASURES

· **Extinguishing media**

· **Suitable extinguishing agents:** CO₂, extinguishing powder or water spray. Fight larger fires with water spray.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **Special hazards arising from the substance or mixture**

Can be released in case of fire:

Nitrogen Oxides (NO_x)

Carbon Monoxide (CO)

Hydrogen Cyanide (HCN)

· **Advice for firefighters**

· **Protective equipment:**

Wear breathing apparatus

Wear full protective suit with self-contained breathing apparatus

See section 8

· **Additional information**

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Down-wind personnel must be evacuated. Do not reseal moisture contaminated containers as a chemical reaction generating carbon dioxide gas may occur resulting in an increase of pressure which may rupture the container. Dense smoke is emitted when the 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 be accelerated. Diisocyanate vapors and other gases may be generated by thermal decomposition.

SECTION 6: ACCIDENTAL RELEASE MEASURES

· **Personal precautions, protective equipment and emergency procedures**

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

Clean-up should only be performed by trained personnel. Personnel dealing with major spills should wear appropriate protective equipment including, but not limited to, the following items: Gloves, goggles and respiratory protection equipment.

· **Environmental precautions:** Do not allow product to reach sewage system or bodies of water.

· **Methods and material for containment and cleaning up:**

Dispose contaminated material as waste according to item

13. Ensure adequate ventilation

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Transfer to a waste container. Keep the material damp and exposed to the air in a secure area (CO₂-formation!) until completely solidified. The waste can then be disposed of on an approved landfill or a special refuse dump. Ensure adequate ventilation.

In the event of a large spill, treat spill area with decontamination solution. Preparation of decontamination solution: Prepare a mixture of 0.2 - 0.5% liquid detergent and 3 - 8% concentrated ammonium hydroxide in water (5 - 10% sodium carbonate may be substituted for the ammonium hydroxide).

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

· **Protective Action Criteria for Chemicals**

· PAC-1:		
26447-40-5	methylenediphenyl diisocyanate (MDI) Mixed Isomers	29 mg/m ³
9016-87-9	Polymeric Diphenylmethane Diisocyanate	0.15 mg/m ³
101-68-8	4,4'-methylenediphenyl diisocyanate	0.45 mg/m ³
· PAC-2:		
26447-40-5	methylenediphenyl diisocyanate (MDI) Mixed Isomers	40 mg/m ³
9016-87-9	Polymeric Diphenylmethane Diisocyanate	3.6 mg/m ³
101-68-8	4,4'-methylenediphenyl diisocyanate	5 mg/m ³
· PAC-3:		
26447-40-5	methylenediphenyl diisocyanate (MDI) Mixed Isomers	240 mg/m ³
9016-87-9	Polymeric Diphenylmethane Diisocyanate	22 mg/m ³
101-68-8	4,4'-methylenediphenyl diisocyanate	55 mg/m ³

SECTION 7: HANDLING AND STORAGE

· **Handling:**

· **Precautions for safe handling**

Ensure good ventilation/exhaust at the workplace.

Keep containers tightly sealed.

Prevent formation of aerosols.

Exhaust ventilation required during spraying or when material is being used at temperatures above 100 degrees F.

Avoid contact with skin, eyes and clothing. Avoid breathing vapor or mist. Wash after handling.

· **Information about protection against explosions and fires:**

Keep respiratory protective device available.

Pay attention to the general rules of internal fire prevention.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Recommended ideal storage temperature range: 59 - 77 degrees F. Product should not be stored below 40 degrees or above 110 degrees F.

Material can increase in viscosity if stored at lower temperatures for an extended period of time.

· **Information about storage in one common storage facility:**

Store away from foodstuffs.

Keep containers tightly closed. Store in cool, dry conditions.

· **Further information about storage conditions:**

Protect from frost.

Store in dry conditions.

Protect from humidity and water.

Keep container tightly sealed.

· **Specific end use(s)** No further relevant information available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the remaining constituent has no known exposure limits.

26447-40-5 methylenediphenyl diisocyanate (MDI) Mixed Isomers	
ACGIH TLV	Short-term value: 0.05 mg/m ³
NIOSH REL/CEILING	Short-term value: 0.2 mg/m ³
NIOSH REL/TWA	Short-term value: 0.05 mg/m ³
OSHA PEL	Short-term value: 0.2 mg/m ³
101-68-8 4,4'-methylenediphenyl diisocyanate	
PEL	Ceiling limit value: 0.2 mg/m ³ , 0.02 ppm
REL	Long-term value: 0.05 mg/m ³ , 0.005 ppm Ceiling limit value: 0.2* mg/m ³ , 0.02* ppm *10-min
TLV	Long-term value: 0.051 mg/m ³ , 0.005 ppm

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

Gases fumes and aerosols should not be inhaled.

· **Breathing equipment:**

· Airborne MDI concentrations greater than the ACGIH TLV-TWA (TLV) or OSHA PEL-C (PEL) can occur in inadequately ventilated environments when MDI is sprayed, aerosolized or heated. In such cases, respiratory protection must be worn. The type of respiratory protection selected must comply with the requirements set forth in OSHA's Respiratory Protection Standard (29 CFR 1910.134). The type of respiratory protection available includes (1) an atmosphere-supplying respirator such as a self-contained breathing apparatus (SCBA) or a supplied air respirator (SAR) in the positive pressure or continuous flow mode, or (2) an air-purifying respirator (APR). If an APR is selected then (a) the cartridge must be equipped with an end-of-service life indicator (ESLI) certified by NIOSH, or (b) a change out schedule, based on the objective information or data that will ensure that the cartridges are changed out before the end of their service life, must be developed and implemented. The basis for the change out schedule must be described in the written respirator program. Further, if an APR is selected, the airborne diisocyanate concentration must be no greater than 10 times the TLV or PEL. The recommended APR cartridge is an organic vapor/particulate filter combination cartridge (OV/P100).

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

The following glove types are recommended: neoprene, nitrile rubber, PVC or butyl rubber. Thin, disposable latex gloves should be avoided for repeated or long-term handling of the material. Recommended thickness of the glove material: 5 - 6 mil

Selection of the glove material should be based on the consideration of penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**

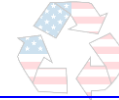


Tightly sealed goggles

· **Body protection:** Protective work clothing

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

· Information on basic physical and chemical properties	
· General Information	
· Appearance:	
· Form:	Liquid
· Color:	Light to dark amber
· Odor:	Characteristic
· Odor threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	Undetermined.
· Flash point:	>200 °C (>392 °F)
· Flammability (solid, gaseous):	Not applicable.
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
· Lower:	Not determined.
· Upper:	Not determined.
· Vapor pressure:	Not determined.
· Density at 20 °C (68 °F):	1.08 g/cm ³ (9.0126 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
· Water:	Insoluble, Reacts
· Partition coefficient (n-octanol/water): Not determined.	



· Viscosity: Dynamic at 20 °C (68 °F): Kinematic:	6,500 mPas Not determined.
· Solvent content: VOC content:	0.00 % 0.0 g/l / 0.00 lb/gal
· Solids content: · Other information	100.0 % No further relevant information available.

SECTION 10: STABILITY AND REACTIVITY

· **Reactivity**

Contact with moisture, other materials that react with isocyanates, or temperatures above 350 F (177 C), may cause polymerization

· **Chemical stability**

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

· **Possibility of hazardous reactions**

Exothermic reaction with amines and alcohols

Reacts with water to liberate CO₂ gas which may build pressure in closed containers

· **Conditions to avoid** No further relevant information available.

· **Incompatible materials:**

Exothermic reaction with amines and alcohols. Reacts with water forming heat, carbon dioxide and insoluble urea. The combined effect of carbon dioxide and heat can produce enough pressure to rupture a closed container.

· **Hazardous decomposition products:**

By Fire and High Heat: Carbon Monoxide, Carbon Dioxide, Oxides of Nitrogen and traces of HCN.

SECTION 11: TOXICOLOGICAL INFORMATION

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

26447-40-5 methylenediphenyl diisocyanate (MDI) Mixed Isomers

Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)
Inhalative	LC50/4 h	2,240 mg/l (rat)

101-68-8 4,4'-methylenediphenyl diisocyanate

Oral	LD50	2,200 mg/kg (mouse)
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· **Primary irritant effect:**

· **on the skin:** Irritant to skin and mucous membranes.

· **on the eye:** Irritating effect.

· **Sensitization:**

Sensitization possible through inhalation. Sensitization possible through skin contact.

· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations: Harmful
Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

9016-87-9	Polymeric Diphenylmethane Diisocyanate	3
101-68-8	4,4'-methylenediphenyl diisocyanate	3

· NTP (National Toxicology Program)
None of the ingredients is listed.
· OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

SECTION 12: ECOLOGICAL INFORMATION

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
 This product is not miscible with water. Reacts with water at the interface producing CO2 gas and forming a solid and insoluble product with high melting point (polyurea). This reaction is accelerated by surfactants (eg. detergents) or by water-soluble solvents. Previous experience demonstrates that polyurea is inert and non-degradable.
 Water hazard class 1 (self-assessment): slightly hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

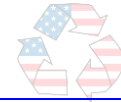
SECTION 13: DISPOSAL CONSIDERATIONS

- **Waste treatment methods**
- **Recommendation:**
 Can be disposed of with household garbage after solidification following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.
- **Uncleaned packagings:**
- **Recommendation:**
 Disposal must be made according to official regulations.
 Empty containers may only be disposed of after neutralising any product remaining on the walls of the containers with a mixture of isopropanol, ammonia and water and removal of the warning labels. For preparation of decontamination solution, refer to section 6.

SECTION 14: TRANSPORT INFORMATION

· UN-Number	Void
· DOT, ADR, ADN, IMDG, IATA	Void
· UN proper shipping name	Void
· DOT, ADR, ADN, IMDG, IATA	Void
· Transport hazard class(es)	Void
· DOT, ADR, ADN, IMDG, IATA	
· Class	Void
· Packing group	Void
· DOT, ADR, IMDG, IATA	Void
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Not applicable.

· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
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· Transport/Additional information:	
· DOT	Single containers less than 5,000 lbs are not regulated. Single containers with 5,000 lbs or more of 4,4' methylenediphenyl diisocyanate are regulated as Class 9, NA 3082, PG III.
· UN "Model Regulation":	Void

SECTION 15: REGULATORY INFORMATION

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

· Section 355 (extremely hazardous substances):
None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):
9016-87-9 Polymeric Diphenylmethane Diisocyanate
101-68-8 4,4'-methylenediphenyl diisocyanate

· TSCA (Toxic Substances Control Act):
All ingredients are listed.

- **Proposition 65**

· Chemicals known to cause cancer:
None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:
None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:
None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:
None of the ingredients is listed.

- **Carcinogenicity categories**

· EPA (Environmental Protection Agency)	
9016-87-9 Polymeric Diphenylmethane Diisocyanate	CBD
101-68-8 4,4'-methylenediphenyl diisocyanate	D, CBD

· TLV (Threshold Limit Value established by ACGIH)
None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients is listed.

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS07

GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

methylenediphenyl diisocyanate (MDI) Mixed Isomers
 4,4'-methylenediphenyl diisocyanate
 Polymeric Diphenylmethane Diisocyanate



· **Hazard statements**

Causes skin irritation.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves / eye protection / face protection.
[In case of inadequate ventilation] wear respiratory protection. If on skin: Wash with plenty of water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a poison center/doctor if you feel unwell.
Specific treatment (see on this label).
Get medical advice/attention if you feel unwell.
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention.
If experiencing respiratory symptoms: Call a poison center/doctor. Wash contaminated clothing before reuse.
Store in a well-ventilated place. Keep container tightly closed. In closed containers, there may be a risk of pressure build up due to water contamination (Liberated CO₂ gas).
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA) ICAO: International Civil Aviation Organisation

ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)

HMS: Hazardous Materials Identification System (USA) VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH:



National Institute for Occupational Safety OSHA:
Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit REL:
Recommended Exposure Limit

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A Resp.
Sens. 1: Respiratory sensitisation – Category 1

American Recycling Center urges each customer or recipient of this SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date of the SDS. However, no warranty, expressed or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that its activities comply with all applicable federal, state, provincial and local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of American Recycling Center, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, American Recycling Center, Inc. is not and cannot be responsible for (M)SDSs obtained from any source other than American Recycling Center, Inc. If you have obtained an American Recycling Center, Inc (M)(M)SDS from a non American Recycling Center, Inc. source or if you are not sure that the (M)(M)SDS is current, please contact American Recycling Center, Inc. for the most current version.

Department issuing M(M)SDS: EH&S Delivery
Contact: Customer Service 989-725-5100

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.



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