

Safety Data Sheet (SDS)

1. Identification

PRODUCT NAME: LEAKMASTER C601D PART A
 SYNONYM: Aromatic Isocyanate
 CHEMICAL FAMILY: Polymeric Diphenylmethane Diisocyanate
 MANUFACTURER / SUPPLIER: ANDERSON MANUFACTURING CO., INC.
 2885 Country Drive, Suite 190, St. Paul, MN 55117

 EMERGENCY TELEPHONE: 1-800-348-1316

2. Hazard(s) Identification

Skin Contact: No irritation is likely to develop following short contact periods with skin. Prolonged or repeated exposure can cause skin irritation, reddening, dermatitis and in some individuals, sensitization. Skin contact may result in allergic skin reactions or respiratory sensitization but is not expected to result in absorption or amounts sufficient to cause other adverse effects. May stain skin.

Eye Contact: As a liquid or dust may cause irritation, inflammation and or damage to sensitive eye tissue. Symptoms include watering or discomfort of eyes. Corneal injury is unlikely.

Ingestion: Single dose oral toxicity is considered to be extremely low. Can result in irritation and corrosive action in mouth, stomach tissue and digestive tract.

Precautionary Statements: Do not handle until all safety precautions have been read and understood. Do not breathe vapors. In case of inadequate ventilation wear respiratory protection. Wear protective gloves and eye protection. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Store locked up. Keep away from children. Dispose of contents and container in accordance with applicable local, regional and national regulations.

Signal Word: WARNING



Signal Word: DANGER

Hazard Statement : Chronic: As a result of previous repeated overexposure or a single large dose, certain individuals develop isocyanine sensitization (chemical asthma) or tissue injury in the upper respiratory tract. Animal tests indicate skin contact alone may also lead to allergic respiratory reaction. These effects may be permanent. Any person developing asthmatic reaction or other sensitization should be removed from further exposure.

Potential Health Effects: At room temperature, MDI vapors are minimal due to low vapor pressure. However, heating, foaming or otherwise dispersing (drumming, venting or pumping) operations may generate more vapor or aerosol concentrations of isocyanate. Excessive exposure may cause irritation of the eyes, upper respiratory tract and lungs. Severe overexposure may lead to pulmonary edema. Respiratory sensitization with asthma like symptoms may occur in susceptible individuals. MDI concentration below the exposure guidelines may cause allergic respiratory reactions in individuals already sensitized. Symptoms may include coughing, dryness of throat, headache, nausea, difficulty breathing and feeling of tightness in the chest. Effects may be delayed. Impaired lung function (decreased ventilators capacity) has been associated with overexposure to isocyanate.

Persons With Known Respiratory or Allergy Problems Must Not Be Exposed to This Product.

Carcinogenicity: MDI and polymeric MDI are not listed by the NTP, IARC or regulated by OSHA as carcinogens. Lung tumors have been observed in laboratory animals exposed to aerosol droplets of MDI/Polymeric MDI (6mg/m³) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects.

3. Composition / Information on Ingredients

INGREDIENT	% BY WEIGHT	EXPOSURE LIMITS	CAS #
4.4' Diphenylmethane diisocyanate (MDI)	Trade Secret	N.E.	101-68-8

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4. First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes. Materials containing MDI may react with the moisture of the eye forming a thick material that may be difficult to wash from the eyes. Seek medical attention.

Skin: Wash off in flowing water or shower. Remove and wash contaminated clothing and discard contaminated shoes. Seek medical attention if redness, itching or a burning sensation develops or persists after the area is washed.

Ingestion: If swallowed, drink 1 or 2 glasses of water or milk. Do not induce vomiting unless directed to do so by medical personnel. If gastrointestinal symptoms develop, consult medical personnel. (Never give anything by mouth to an unconscious person.)

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility immediately.

NOTE TO PHYSICIAN:

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

Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated of the irritating nature of this product.

5. Fire Fighting Measures

Fire Degradation Products: Harmful if inhaled. Toxic fumes are released in fire situations

Extinguishing Media: Dry chemical, carbon dioxide foam, water spray for large fires

Protective equipment: In case of fire, use normal fire fighting equipment including a NIOSH approved, self contained breathing apparatus (SCBA). Use water to cool containers.

Flammable Limits: LEL (%) N.D. UEL: (%) N.D.

6. Accidental Release Measures

Spill: Evacuate spill area. With adequate ventilation and appropriate personal protective equipment, cover the area with an inert absorbent such as clay or vermiculite and transfer to metal waste containers. Saturate with water or decontamination solution below, but do not seal the container with the isocyanate mixture. Larger quantities of liquid may be transferred directly to drums for disposal.

Clean up: The area should then be flushed with a decontamination solution. The decontamination solution is a 5-10% mixture of sodium carbonate and .5% liquid detergent in water solution or a 3% concentrated ammonium hydroxide and .5% liquid detergent in water. Use 10 parts decontamination solution to 1 part spilled material. If the ammonium hydroxide solution is used, ammonia will be evolved as a vapor. Use caution to avoid exposure to high concentrations of ammonia. Allow to stand for 48 hours letting evolved carbon dioxide to escape.

Note: Isocyanate will react with water and generate carbon dioxide. This could result in the rupture of any closed container.

Disposal: Any disposal practice must be in compliance with all federal, state and local laws and regulations. Chemical additions, processing, storage, or otherwise altering this material may make the waste management information presented in this SDS incomplete, inaccurate or otherwise inappropriate. Waste characterization and disposal compliance is the responsibility solely of the party generating the waste or deciding to discard or dispose of the material. Refer to

RCRA 40 CFR 261 and/or any other appropriate federal, state or local requirements for proper classification information.

Container Disposal: Drums/containers must be thoroughly drained to process or storage vessels before removal to an appropriate area for subsequent decontamination. Drums/containers must be decontaminated in properly ventilated areas by personnel protected from the inhalation of isocyanate vapors. Spray or pour 1 to 5 gallons of decontamination solution into the drum making sure the walls are well rinsed. Let the drum/container soak unsealed for 48 hours. Pour out the decontamination solution and triple rise the empty container. Puncture or otherwise destroy the rinsed container before disposal. **Do not heat or cut empty containers with electric or gas torch.**

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7. Handling and Storage

Storage: When stored between 60°F and 85°F (15° and 30°C) in sealed containers, typical shelf life is 6 months or more from the date of manufacture. Consult technical data sheet for shelf life requirements affecting performance quality. Should freezing occur, the material must be thawed thoroughly and mixed until uniform. Opened containers must be handled properly to prevent moisture contamination.

Handling: Heating: Use personal protective equipment when transferring material to or from drums, totes or other containers. Safety glasses and gloves are the minimum protection. Additional precautions must be used when splash hazards are present. The reaction of polyols and isocyanates generate heat. Contact of the reacting materials with skin or eyes can cause severe burns and may be difficult to remove from the affected areas. Immediately wash affected areas with plenty of water and seek medical attention. In addition, such contact increases the risk of exposure to isocyanate vapors. Do not smoke or use naked lights, open flames, space heaters or other ignition sources near pouring or frothing operations.

8. Exposure Controls / Personal Protection

Exposure: MDI contains reactive isocyanate groups. Use with adequate ventilation to keep airborne isocyanate level below TLV or 0.005 ppm TWA (ACGIH) and PEL 0.02 ppm ceiling (OSHA). These control limits do not apply to previously sensitized individuals or to individuals with existing respiratory disease, such as bronchitis, emphysema or asthma. Respiratory protection may be needed where material is heated, sprayed or used in confined space, or if TLV is exceeded. Never try to detect MDI vapor by odor.

Persons with known respiratory or allergic problems must not be exposed to this product.

Respiratory Protection: A supplied air, full face piece, positive pressure or continuous flow respirator or a supplied air hood is required when airborne concentrations are unknown or exceed threshold values. A positive pressure self-contained breathing apparatus can be used in emergencies or other unusual situations. All equipment must be NIOSH/MSHA approved and maintained. Air purifying (cartridge type) respirators are not approved for protections against isocyanates.

Ventilation: MDI has a very low vapor pressure at room temperature. General/local ventilation typically controls exposure levels very adequately. More aggressive engineering controls or personal protective equipment may be required in some applications such as heating. Monitoring is required to determine engineering controls.

Eye Protection: Chemical splash goggles or safety glasses or full face shield must be used consistent with splash hazard present. If vapor exposure causes eye discomfort, use a full face piece respirator or air supplied hood.

Protective Clothing: Wear clothing and gloves impervious to MDI under conditions of use. Materials may include butyl rubber, nitrile rubber, neoprene and Saranex coated Tyvek. **Protective Gloves:** Rubber or polyethylene.

9. Physical and Chemical Properties

VP: < 10 - 5 (NW HG)

VD: 1.5 (MDI) AIR = 1

Color: Dark brown

Solubility in Water: Resin reacts slowly to liberate CO₂ gas

Flammable Limits: LEL (%) N.D. UEL – (%) N.D.

Odor: Mild.

% Volatile by wt: ND

Boiling Point: 406°F 5 mm Hg

Flash Point: 398 DEG F' (method= PMCC)

Evaporation Rate: Slower than ethyl ether

10. Stability and Reactivity

Stability: Polyisocyanates are highly reactive chemicals and should be handled and stored in a way to avoid exposure to many common substances, including water and moisture. Material is stable when stored in sealed containers under normal conditions.

Reactivity: Reacts with water, acids, bases, alcohols, metal compounds. The reaction with water is very slow under 120°F (50°C), but is accelerated at higher temperatures and in the presence of alkalis, tertiary amines and metal compounds. Some reactions can be vigorous or even violent.

Hazardous Polymerization: May occur with incompatible reactants especially strong bases, water or temperatures over 320°F (160°C). Possible evolution of carbon dioxide gas from overheating or exposure to contaminants may rupture closed containers.

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11. Toxicological Information

Toxicological Data: This material is designed and intended to be pumped, not sprayed. MDI becomes more hazardous when atomized (sprayed). Harmful if inhaled. Toxic fumes are released in fire situations.

Exposure: MDI contains reactive isocyanate groups. Use with adequate ventilation to keep airborne isocyanate level below TLV or 0.005 ppm TWA (ACGIH) and PEL 0.02 ppm ceiling (OSHA). These control limits do not apply to previously sensitized individuals or to individuals with existing respiratory disease, such as bronchitis, emphysema or asthma. Respiratory protection may be needed where material is heated, sprayed or used in confined space, or if TLV is exceeded. Never try to detect MDI vapor by odor. Persons with known respiratory or allergic problems must not be exposed to this product.

Routes of Entry: Inhalation, skin contact, eyecontact, ingestion.

Carcinogenic Categories:

NTP: Not classified as a carcinogen

IARC: Not classified as a carcinogen

OSHA: Not classified as a carcinogen

12. Ecological Information

Comments: No information.

13. Disposal Considerations

Disposal: Any disposal practice must be in compliance with all federal, state and local laws and regulations. Chemical additions, processing, storage, or otherwise altering this material may make the waste management information presented in this SDS incomplete, inaccurate or otherwise inappropriate. Waste characterization and disposal compliance is the responsibility solely of the party generating the waste or deciding to discard or dispose of the material.

Refer to RCRA 4 CFR 261 and/or any other appropriate federal, state or local requirements for proper classification information.

Container Disposal: Drums/containers must be thoroughly drained to process or storage vessels before removal to an appropriate area for subsequent decontamination. Drums/containers must be decontaminated in properly ventilated areas by personnel protected from the inhalation of isocyanate vapors. Spray or pour 1 to 5 gallons of decontamination solution into the drum making sure the walls are well rinsed. Let the drum/container soak unsealed for 48 hours. Pour out the decontamination solution and triple rise the empty container. Puncture or otherwise destroy the rinsed container before disposal. **Do not heat or cut empty containers with electric or gas torch.**

RCRA/EPA Waste Information:The generation of waste should be avoided or minimized whenever possible. Chemical waste, even small quantities, should never be poured down drains, sewers or waterways.

14. Transport Information

DOT (Domestic surface): Shipping name; Compound resin. Not regulated (Class 55)

IMO (Ocean): Not restricted.

ICAO (AIR): Not restricted.

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15. Regulatory Information

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

TSCA Status: On the TSCA inventory

CERCLA Reportable Quantity: 4,4, Diphenylmethane Diisocyanate = 5,000 lbs

SARA Title III :

Section 311/312 Hazard Categories: None

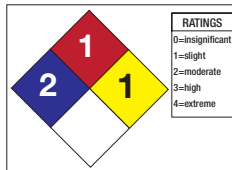
Section 313 Toxic Chemicals: Immediate Health Hazard, Delayed Health Hazard, Reactive Hazard

RCRA Status: MDI is not a hazardous waste. Under RCRA, it is the responsibility of the product user to determine at the time of disposal whether a material containing the product or derived from the product should be classified as a hazardous waste (40 CFR 261.20-24)

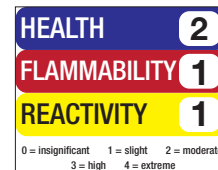
16. Other Information

This material is designed and intended to be pumped, not sprayed. MDI becomes more hazardous when atomized(sprayed). The following data is derived from tests performed when the material is sprayed and should be considered but may not apply to pumping operations as recommended by the manufacturer. Harmful if inhaled. Toxic fumes are released in fire situations.

NFPA Ratings:



HMIS Ratings:



All statements, technical information and recommendations contained herein are based upon available scientific test or data which we believe to be reliable since we cannot anticipate all conditions under which this information and our products or the products of other manufacturers in combination with our products may be used. Anderson Manufacturing makes no warranties, express or implied, and assumes no responsibility in connection with any use of this information.

Safety Data Sheet (SDS)

1. Identification

PRODUCT NAME: LEAKMASTER C601D PART B
 SYNONYM:
 CHEMICAL FAMILY: Polyol Component Of A Water-Blown Rigid Polyurethane Foam System
 MANUFACTURER / SUPPLIER: ANDERSON MANUFACTURING CO., INC.
 2885 Country Drive, Suite 190, St. Paul, MN 55117
 EMERGENCY TELEPHONE: 1-800-348-1316

2. Hazard(s) Identification

Signal Word: WARNING



Skin Contact: Exposure may cause moderate irritation.

Eye Contact: May cause moderate irritation. Prolonged contact with the eyes may cause reversible corneal opacity to occur, with no visual impairment expected.

Ingestion: Ingestion may cause irritation of the gastrointestinal tract and gastrointestinal discomfort with any or all of the following systems: nausea, vomiting, lethargy or diarrhea.

Ingestion: Inhalation of vapors or mists at high concentrations can cause respiratory tract irritation (nose, throat, lungs).

Precautionary Statements: Do not handle until all safety precautions have been read and understood. Do not breathe vapors. In case of inadequate ventilation wear respiratory protection. Wear protective gloves and eye protection. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Store locked up. Keep away from children. Dispose of contents and container in accordance with applicable local, regional and national regulations.

Hazard Statements:

- Causes skin and eye irritation.
- May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- May cause an allergic skin reaction.
- May cause respiratory irritation.

Acute: High concentrations of vapor can cause irritation of respiratory tract, nausea, and vomiting.

Chronic: Prolonged or repeated exposure may cause asthma and skin sensitization or other allergic response.

Carcinogenicity: In order to comply with California Proposition 65, we feel obligated to advise that some of our products may conceivably contain trace contaminants of some of the listed chemicals. While not necessarily added to our products as ingredients, some listed chemicals may be present in the raw materials from suppliers and over which we have no control. Therefore, even though some of the listed substances may not be present, a significant risk as defined by the regulations in order to comply with California law, we feel obligated to make the following statement:

Warning: Our products may contain trace amounts of some chemicals considered by the State of California to be carcinogens or reproductive toxicants.

3. Composition / Information on Ingredients

INGREDIENT	% BY WEIGHT	EXPOSURE LIMITS	CAS #
Diethylene Glycol	< 5	NE.	111-46-6
Ethylene Glycol	< 8	NE.	107-21-1

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4. First Aid Measures

Eyes: Open lids wide and flush with large quantities of water for at least 15 minutes. Seek medical attention if irritation persists.

Skin: Remove contaminated clothing and shoes. Wash affected areas thoroughly with soap and water. Wash clothing before reuse. Consult a physician if irritation continues after washing or if swelling or rash develops.

Ingestion: Immediately drink large quantities of water. Do Not induce vomiting. Seek medical attention immediately.

Inhalation: Remove the patient from the contaminated area to fresh air, keep warm and at rest. Call a physician immediately if respiratory distress occurs.

5. Fire Fighting Measures

Flashpoint and Method: > 200 °F (93.3 °C) - Closed cup.

Extinguishing Media: Foam, dry chemicals, carbon dioxide, water fog. Where the fire is of major proportions, water spray may also be used. Water or foam may cause frothing if liquid is burning, but it still may be a useful extinguishing agent if carefully applied to the fire.

Protective equipment: In case of fire, avoid breathing smoke, use normal fire fighting equipment including a NIOSH approved, self contained breathing apparatus (SCBA). Use water to cool fire exposed surfaces and containers. (avoid spreading burning liquid with water used for cooling purposes.

Hazardous Combustion Products: Carbon monoxide, carbon dioxide, various hydrocarbons.

6. Accidental Release Measures

Small Spill: Absorb with dry chemical absorbent, sand, earth or other inert material. Wear proper personal protective equipment. Place in a chemical waste container for proper disposal.

Large Spill: Evacuate spill area. Remove all sources of flames, heating elements, gas engines, etc. Emergency clean-up personnel should wear chemical goggles, rubber or plastic gloves and clothing as required to protect against contact. If mist and or hot vapors are present, use air purifying respirator or self-contained breathing apparatus as required. The type of respirator selected should prevent exposure from traces of propylene oxide which may be present. Prevent spreading and contamination of surface waters and drinking supplies. Notify local health officials and other appropriate agencies if such a contamination should occur.

Disposal: Any disposal practice must be in compliance with all federal, state and local laws and regulations. Chemical additions, processing, storage, or otherwise altering this material may make the waste management information presented in this SDS incomplete, inaccurate or otherwise inappropriate. Waste characterization and disposal compliance is the responsibility solely of the party generating the waste or deciding to discard or dispose of the material.

7. Handling and Storage

Storage: Store in tightly sealed containers to avoid contamination. Store in a cool, dry, well ventilated area away from heat and open flame. Protect from moisture.

Handling: Avoid contact with skin, eyes, and clothing. Do not take internally. Use personal protective equipment when transferring material to or from drums, totes or other containers. Safety glasses and gloves are the minimum protection. Additional precautions must be used when splash hazards are present. Avoid physical damage to containers.

Storage Temperature: 55°F - 120 °F (12.8 °C to 48.9 °C)

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8. Exposure Controls / Personal Protection

Respiratory Protection: Avoid breathing vapors. Use appropriate respiratory protection if exposure can exceed the PEL/TLV. Use adequate ventilation.

Ventilation: : Normal ventilation should be adequate. Local if vapors are vented.

Protective Gloves: Rubber or impervious gloves recommended.

Eye Protection: Chemical splash goggles or safety glasses and side shields.

Protective Clothing: Wear impervious clothing and gloves to cover exposed skin. Materials may include butyl rubber, nitrile rubber, neoprene and Saranex coated Tyvek.

Work Hygienic Practices: Follow good normal hygien practices. Avoid contact with skin. Avoid eating, drinking or smoking while using this product. Wash hands thoroughly after use.

9. Physical and Chemical Properties

VP: N.D.

VD: Not determined (air = 1)

Color: Yellow to brown

Odor: Slightly musty

Solubility In Water: Partially soluble

SP GR: 1.12 to 1.15 (water = 1) at 77 °F (25 °C)

Vapor Pressure: <1 mm Hg at 77 °F (25 °C)

Boiling Point: Not Determined (>200 °F)

Appearance: Liquid

Flash Point: > 200 °F (93.3 °C) - Closed cup

10. Stability and Reactivity

Stability: Stable under recommended storage conditions.

Reactivity: Incompatibility Materials to Avoid: Oxidizing agents, strong acids, strong bases.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, various hydrocarbons.

Conditions to Avoid: Temperature extremes, container contamination and moisture.

11. Toxicological Information

Diethylene Glycol

Oral
LD₅₀ (rat)

Dermal
LD₅₀ (rabbit)

Inhalation
LD₅₀ (rat)

12000 mg/kg

11890 mg/kg

> 4.4 mg/L/4h

Ethylene Glycol

4700 mg/kg

9500 uL/kg

Routes of Entry: Inhalation, skin contact, eye contact, ingestion.

Carcinogenic Categories:

NTP: Not classified as a carcinogen **IARC:** Not classified as a carcinogen **OSHA:** Not classified as a carcinogen

12. Ecological Information

Comments: No information.

Safety Data Sheet (SDS)

13. Disposal Considerations

Disposal: Any disposal practice must be in compliance with all federal, state and local laws and regulations. Chemical additions, processing, storage, or otherwise altering this material may make the waste management information presented in this SDS incomplete, inaccurate or otherwise inappropriate. Waste characterization and disposal compliance is the responsibility solely of the party generating the waste or deciding to discard or dispose of the material.

RCRA: If discarded in its purchased form, this material is not hazardous waste under RCRA 40 CFR 261

Container Disposal: Drums/containers should be decontaminated and either passed to an approved drum recycler or destroyed.

RCRA/EPA Waste Information: The generation of waste should be avoided or minimized whenever possible. Chemical waste, even small quantities, should never be poured down drains, sewers or waterways.

14. Transport Information

DOT (Domestic surface): Shipping name; Not regulated (Class 55)

IMO (Ocean): Not restricted.

ICAO (AIR): Not restricted.

15. Regulatory Information

TSCA Status: All ingredients are on TSCA inventory

CERCLA Reportable Quantity: Ethylene Glycol (CAS 107-21-1 has a 5,00 lb RQ. Any release above the RQ must be reported to the National Response center (800-424-8802)

SARA Title: III

Section 311/312 Hazard Categories: Acute, chronic.

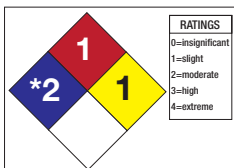
Section 313 Toxic Chemicals: This product does not contain any chemical components which exceed their *de minimis* reporting levels.

RCRA Status: Not hazardous if discarded in its purchased form. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal whether a material containing the product or derived from the product should be classified as a hazardous waste (40 CFR 261.20-24)

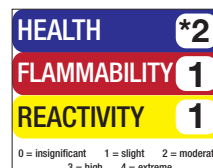
16. Other Information

All statements, technical information and recommendations contained herein are based upon available scientific test or data which we believe to be reliable since we cannot anticipate all conditions under which this information and our products or the products of other manufacturers in combination with our products may be used. Anderson Manufacturing makes no warranties, express or implied, and assumes no responsibility in connection with any use of this information.

NFPA Ratings:



HMIS Ratings:



* = Signifies a chronic health hazard