

TC-1630 PART A**Prevention:**

- P201: Obtain special instructions before use.
 P202: Do not handle until all safety precautions have been read and understood.
 P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P260: Do not breathe dust/fume/gas/mist/vapours/spray.
 P271: Use only outdoors or in a well-ventilated area.
 P284: In case of inadequate ventilation wear respiratory protection.
 P264: Wash thoroughly after handling.
 P272: Contaminated work clothing should not be allowed out of the workplace.
 P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response:

- P370+P378: In case of fire: Use water spray, carbon dioxide, dry chemical, or foam for extinction.
 P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physician.
 P302+P352: IF ON SKIN: Wash with plenty of soap and water.
 P333+P313: If skin irritation or rash occurs: Get medical advice/attention.
 P362+P364: Take off contaminated clothing and wash it before reuse.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
 Continue rinsing.
 P337+P313: If eye irritation persists: Get medical advice/attention.
 P308+P313: IF exposed or concerned: Get medical advice/ attention.

Storage:

- P403+P233: Store in a well-ventilated place. Keep container tightly closed.
 P405: Store locked up.

Disposal:

- P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS
Soda Lime Borosilicate Glass	30 - 60	65997-17-3
Polymeric diphenylmethane diisocyanate	10 - 30	9016-87-9
4,4'-Diphenylmethane diisocyanate	7 - 13	101-68-8
1-Isopropyl-2,2-dimethyltrimethylene diisobutyrate	5 - 10	6846-50-0
Calcium metasilicate	5 - 10	13983-17-0
2,4'-Diphenylmethane diisocyanate	1 - 5	5873-54-1
Solvent naphtha (petroleum), heavy aromatic	1 - 5	64742-94-5
Solvent naphtha (petroleum), medium aliphatic	1 - 5	64742-88-7
Silica, Crystalline	0.1 - 1	14808-60-7

4. FIRST AID MEASURES

- EYES:** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical advice/attention.
- SKIN:** Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical advice/attention if irritation or rash develops. Wash clothing before reuse.
- INGESTION:** If swallowed, call a physician immediately. Do not induce vomiting unless directed to do so by medical personnel. Provided the patient is conscious, wash out mouth with water. Never give anything by mouth to an unconscious person.
- INHALATION:** Remove to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get immediate medical attention.

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NOTES TO PHYSICIAN: Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Water spray, carbon dioxide, dry chemical, or foam.

HAZARDOUS COMBUSTION PRODUCTS: Carbon monoxide, carbon dioxide, nitrogen oxides, hydrocarbons, and hydrogen cyanide.

FIRE FIGHTING PROCEDURES: Cool fire exposed containers with water spray. Remove containers from the fire area if possible. Do not release runoff from fire control methods to sewers or waterways.

FIRE FIGHTING EQUIPMENT: Firefighters should wear positive pressure self-contained breathing apparatus (SCBA) and consider use of unmanned hose holders or monitor nozzles for fighting large fires.

SENSITIVE TO STATIC DISCHARGE: This material can accumulate static charges which can cause an incendiary electrical discharge.

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK PROCEDURES: Evacuate unnecessary personnel from the spill area. Eliminate all sources of ignition. Ensure adequate ventilation. Use personal protective equipment. Dike and contain spill. Prevent product from entering drains or waterways. Absorb with non-combustible material (such as sand, earth, diatomaceous earth, or vermiculite) and transfer to a container for disposal according to local/national regulations.

ENVIRONMENTAL PRECAUTIONS

WATER SPILL: Do not discharge into drains, surface waters, or groundwater.

GENERAL PROCEDURES: Refer to section 8 of SDS for personal protection details.

RELEASE NOTES: Composition and extent of any spill should be evaluated against local regulations and reported to the proper agencies, if necessary.

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Keep away from sources of ignition. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Avoid breathing vapor over open containers. Avoid open container exposure to damp air. Avoid breathing aerosols, mists, and vapors.

HANDLING: Use appropriate personal protective equipment as specified in Section 8. Handle in a well-ventilated area. Handle and use in a manner consistent with good industrial/manufacturing techniques and practices.

STORAGE: Store in a dry and well-ventilated place, away from excessive heat in the original or similar container. Avoid sources of ignition and incompatible materials. Protect from freezing. Containers should be tightly sealed to prevent contamination with foreign materials. Avoid unnecessary contact.

STORAGE TEMPERATURE: 65-80°F (18-27°C)

SHELF LIFE: 3 months from date of shipment under manufacturers recommended storage conditions.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**EXPOSURE GUIDELINES**

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)				
Chemical Name	Type	EXPOSURE LIMITS		
		ppm	mg/m ³	
Soda Lime Borosilicate Glass	OSHA PEL	TWA	-	-
		STEL	-	-
	ACGIH TLV	TWA	-	-
		STEL	-	-
	NIOSH REL	TWA	-	-
		STEL	-	-

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Polymeric diphenylmethane diisocyanate	OSHA PEL	TWA	-	-
		STEL	-	-
	ACGIH TLV	TWA	-	-
		STEL	-	-
	NIOSH REL	TWA	-	-
		STEL	-	-
4,4'-Diphenylmethane diisocyanate	OSHA PEL	TWA	-	-
		STEL	-	-
		C	0.02	0.2
	ACGIH TLV	TWA	0.005	-
		STEL	-	-
	NIOSH REL	TWA	0.005	0.05
		STEL	-	-
		C	0.02 ^[1]	0.2 ^[1]
	1-Isopropyl-2,2-dimethyltrimethylene diisobutyrate	OSHA PEL	TWA	-
STEL			-	-
ACGIH TLV		TWA	-	-
		STEL	-	-
NIOSH REL		TWA	-	-
		STEL	-	-
Calcium metasilicate	OSHA PEL	TWA	-	-
		STEL	-	-
	ACGIH TLV	TWA	-	-
		STEL	-	-
	NIOSH REL	TWA	-	-
		STEL	-	-
2,4'-Diphenylmethane diisocyanate	OSHA PEL	TWA	-	-
		STEL	-	-
	ACGIH TLV	TWA	-	-
		STEL	-	-
	NIOSH REL	TWA	-	-
		STEL	-	-
Solvent naphtha (petroleum), heavy aromatic	OSHA PEL	TWA	-	-
		STEL	-	-
	ACGIH TLV	TWA	-	-
		STEL	-	-
	NIOSH REL	TWA	-	-
		STEL	-	-

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Solvent naphtha (petroleum), medium aliphatic	OSHA PEL	TWA	-	-
		STEL	-	-
	ACGIH TLV	TWA	-	-
		STEL	-	-
	NIOSH REL	TWA	-	-
		STEL	-	-
Silica, Crystalline	OSHA PEL	TWA	-	0.1
		STEL	-	-
	ACGIH TLV	TWA	- [2]	0.025 [2]
		STEL	-	-
	NIOSH REL	TWA	-	0.05
		STEL	-	-
Footnotes: 1. 10-minute 2. Respirable fraction				

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Safety goggles or glasses are recommended. Plastic face shields should be used for complete face protection to protect against possible splashing or spraying of material. ANSI Z87.1 or approved equivalent.

SKIN: Chemical-resistant gloves and chemical goggles, face-shield, and synthetic apron or coveralls should be used to prevent contact with eyes, skin, or clothing. Wear nitrile or neoprene gloves. Chemical resistant gloves lined with polyethylene offer maximum protection.

RESPIRATORY: Exhaust ventilation recommended. An organic vapor cartridge or fresh air supplied respirator (NIOSH approved) may be necessary for certain applications. Consider the type of application, environmental concentrations, and other materials being used concurrently when determining respirator use and selection. Observe OSHA regulations for respirator use (29 CFR 1910.134).

PROTECTIVE CLOTHING: Protective clothing should be selected and used in accordance with 'Guidelines for the Selection of Chemical Protective Clothing' published by ACGIH.

WORK HYGIENIC PRACTICES: Contaminated clothing should be changed and washed before reuse. Eating, drinking and smoking in immediate work area should be prohibited. Wash hands before eating.

OTHER USE PRECAUTIONS: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Training is important. Follow all label precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid

ODOR: Aromatic hydrocarbon

COLOR: Black

pH: No data available

FLASH POINT AND METHOD: 73.3°C (164°F) Pensky-Martens CC

VAPOR PRESSURE: No data available

VAPOR DENSITY: No data available

BOILING POINT: No data available

SOLUBILITY IN WATER: Reacts slowly with water

SPECIFIC GRAVITY: 1.73 (water=1) at 25°C (77°F)

VISCOSITY #1: 900 Centipoise at 25°C (77°F)

(VOC): < 66.1 g/l Calculated. Theoretical VOC minus water and exempt solvents.

TC-1630 PART A**10. STABILITY AND REACTIVITY**

REACTIVITY: Hazardous reactions will not occur under normal transport or storage conditions.

STABILITY: This product is stable under normal ambient conditions of temperature and pressure.

CONDITIONS TO AVOID: High temperatures, moisture, and ignition sources.

POSSIBILITY OF HAZARDOUS REACTIONS: Reaction with water produces carbon dioxide. Exothermic reaction with materials containing active hydrogen groups. The reaction becomes progressively more vigorous and can be violent at higher temperatures if the miscibility of the reaction partners is good or is supported by stirring or by the presence of solvents. MDI is insoluble with, and heavier than water and sinks to the bottom but reacts slowly at the interface. A solid water-insoluble layer of polyurea is formed at the interface by liberating carbon dioxide gas.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, nitrogen oxides, hydrocarbons, and hydrogen cyanide.

INCOMPATIBLE MATERIALS: Water, amines, acids, bases, and strong oxidizing agents.

11. TOXICOLOGICAL INFORMATION**ACUTE TOXICITY**

Chemical Name	ORAL LD ₅₀	DERMAL LD ₅₀	INHALATION LC ₅₀
Soda Lime Borosilicate Glass	No data available	No data available	No data available
Polymeric diphenylmethane diisocyanate	> 10000 mg/kg Rat	> 9400 mg/kg Rabbit	490 mg/m ³ Rat (4 h)
4,4'-Diphenylmethane diisocyanate	> 2000 mg/kg Rat	> 9400 mg/kg Rabbit	2.24 mg/l Rat (1 h, dust/mist)
1-Isopropyl-2,2-dimethyltrimethylene diisobutylate	> 2000 mg/kg Rat	> 2000 mg/kg Guinea Pig	> 0.12 mg/l Rat (6 h)
Calcium metasilicate	No data available	No data available	No data available
2,4'-Diphenylmethane diisocyanate	No data available	> 9400 mg/kg Rabbit	0.49 mg/l Rat (4 h)
Solvent naphtha (petroleum), heavy aromatic	> 5000 mg/kg Rat	> 2000 mg/kg Rabbit	No data available
Solvent naphtha (petroleum), medium aliphatic	No data available	No data available	No data available
Silica, Crystalline	No data available	No data available	No data available

SKIN CORROSION/IRRITATION: Causes skin irritation.

SERIOUS EYE DAMAGE/IRRITATION: Causes serious eye irritation.

RESPIRATORY OR SKIN SENSITISATION: May cause sensitization by inhalation and skin contact.

GERM CELL MUTAGENICITY: No data available

CARCINOGENICITY

Chemical Name	NTP Status	IARC Status
Polymeric diphenylmethane diisocyanate		3
4,4'-Diphenylmethane diisocyanate		3
Calcium metasilicate		3
Silica, Crystalline	1	1

REPRODUCTIVE TOXICITY: Suspected of damaging fertility or the unborn child.

STOT-SINGLE EXPOSURE: May cause respiratory irritation.

STOT-REPEATED EXPOSURE: May cause damage to organs through prolonged or repeated exposure.

ASPIRATION HAZARD: No data available

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: No data available

ECOTOXICOLOGICAL INFORMATION: No specific ecological data are available for this product. Refer to Section 6 for information

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regarding accidental release and Section 15 for regulatory reporting information.

BIOACCUMULATION/ACCUMULATION: No data available

DISTRIBUTION: No data available

CHEMICAL FATE INFORMATION: No data available

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protections and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION): Not Regulated

AIR (ICAO/IATA): Not Regulated

VESSEL (IMO/IMDG): Not Regulated

15. REGULATORY INFORMATION**UNITED STATES****SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)**

311/312 HEALTH HAZARDS: Refer to Section 2 for hazard classification.

313 REPORTABLE INGREDIENTS: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

EPCRA SECTION 313 SUPPLIER NOTIFICATION

Chemical Name	Wt. %	CAS	Comments
Polymeric diphenylmethane diisocyanate	10 - 30	9016-87-9	Diisocyanate Compounds (Category Code N120)
4,4'-Diphenylmethane diisocyanate	7 - 13	101-68-8	Diisocyanate Compounds (Category Code N120)

CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA REGULATORY: This product contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical Name	Wt. %	CERCLA RQ
4,4'-Diphenylmethane diisocyanate	7 - 13	5,000 lbs.


TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA REGULATORY: This product does not contain any substances subject to TSCA Section 12(b) export notification.

TSCA STATUS: This product or its components are listed in or exempt from the TSCA inventory requirements.

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

29 CFR 1910.119---PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS: None of the chemicals in this product are considered highly hazardous by OSHA.

CALIFORNIA PROPOSITION 65:  **WARNING:** This product can expose you to chemicals including [see table below], which is [are] known to the State of California to cause cancer. For more information, go to www.P65Warnings.ca.gov.

Chemical Name	Wt. %	Listed
Carbon black	< 0.1	● Cancer
Naphthalene	< 0.1	● Cancer
Ethyl acrylate	< 0.0001	● Cancer

OSHA HAZARD COMM. RULE: The contents of the SDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TC-1630 PART A**CANADA**

WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM): This product has been classified according to the hazard criteria of the CPR and the SDS contains all the information required by the CPR.

DOMESTIC SUBSTANCE LIST (INVENTORY): All components in this product are listed in or exempted from the Domestic Substances List (DSL) or the Non-Domestic Substances List (NDSL).

GENERAL COMMENTS: No data available

16. OTHER INFORMATION

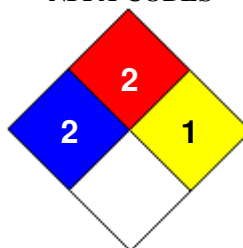
REASON FOR ISSUE: Revision

Date Revised: 12/27/2019

REVISION SUMMARY: This SDS replaces the 01/05/2017 SDS.

HMIS RATING

HEALTH	*	2
FLAMMABILITY		2
PHYSICAL HAZARD		1
PERSONAL PROTECTION		X

NFPA CODES

HMIS RATINGS NOTES: Personal Protection: See Section 8

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