Section 1: IDENTIFICATION

Product Name:	WANNATE® 8353
Synonyms:	Modified Isocyanate.
Product Use:	Raw material, Binding agent, Chemical intermediate, Component for polyurethane products.
Restrictions on Use:	Not available.
Manufacturer/Supplier:	Wanhua Chemical (America) Co., Ltd. 3803 West Chester Pike, Suite 240 Newtown Square, PA 19073
Phone Number:	Customer service telephone: 610-566-5297 Telephone in Canada: 833-213-6057
Emergency Phone:	North America: Chemtrec 800-424-9300 (domestic) +1-703-527-3887 (International, collect calls accepted)
Date of Preparation of SDS:	July 23, 2024

Section 2: HAZARD(S) IDENTIFICATION

GHS INFORMATION

Classification:

Acute Toxicity - Inhalation, Category 4
Skin Irritation, Category 2
Eye Irritation, Category 2A
Sensitization - Respiratory, Category 1
Sensitization - Skin, Category 1
Carcinogenicity, Category 2
Specific Target Organ Toxicity (Single Exposure), Category 3 - Respiratory Irritation
Specific Target Organ Toxicity (Repeated Exposure), Category 2

LABEL ELEMENTS

Hazard Pictogram(s):

Signal Word: Danger

Hazard Statements:

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

Precautionary Statements

Prevention:

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.

Do not breathe mist, vapours, or spray.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves, protective clothing and eye protection.
Wear respiratory protection.

Response: 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.
IF exposed or concerned: Get medical attention.
Call a POISON CENTER or doctor if you feel unwell.
If skin irritation or rash occurs: Get medical attention.
If eye irritation persists: Get medical attention.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
Take off contaminated clothing and wash it before reuse.

Storage: Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal: Dispose of contents and container in accordance with applicable regional, national and local laws and regulations.

Hazards Not Otherwise Classified: Not applicable.

Ingredients with Unknown Toxicity: 70% of this product mixture consists of ingredient(s) of unknown acute toxicity.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Poly(oxy(methyl-1,2-ethanediyl)), alpha-hydro-omega-hydroxy-, polymer with 1,1'-methylenebis(4-isocyanatobenzene)	Not available.	9048-57-1	50 - 70
Benzene, 1,1'-methylenebis[4-isocyanato-	4,4'-Diphenylmethane diisocyanate; 4,4'-MDI	101-68-8	35 - 50

Section 4: FIRST-AID MEASURES

Inhalation: If inhaled: Remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a poison center or doctor.

Acute and delayed symptoms and effects: Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Allergy-

prone people who have been sensitized to isocyanates or even have not been previously exposed to isocyanates may experience symptoms at concentrations as low as 0.0014 ppm. Asthma sufferers or people who easily get contact dermatitis should therefore not be exposed to isocyanates. The isocyanate odour does not provide sufficient warning of overexposure due to the high odour thresholds.

Eye Contact: If in eyes: Rinse cautiously with water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Acute and delayed symptoms and effects: Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin Contact: If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical attention. Take off contaminated clothing and wash it before reuse.

Acute and delayed symptoms and effects: May cause an allergic skin reaction. Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching. Prolonged skin contact may cause redness, swelling, blistering and possible skin sensitization (dermatitis). MDI compounds have a mild tanning action on the skin.

Ingestion: If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Acute and delayed symptoms and effects: May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

General Advice: In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

Note to Physicians: Symptoms may not appear immediately.

Section 5: FIRE-FIGHTING MEASURES

FLAMMABILITY AND EXPLOSION INFORMATION

Product can burn if strongly heated or involved in a fire.

Sensitivity to Mechanical Impact: This material is not sensitive to mechanical impact.

Sensitivity to Static Discharge: This material is sensitive to static discharge at temperatures at or above the flash point.

MEANS OF EXTINCTION

Suitable Extinguishing Media: Small Fire: Dry chemical, CO_2, water spray or regular foam.

Large Fire: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk.

Unsuitable Extinguishing Media: Do not use straight streams.

Products of Combustion:	Oxides of carbon. Oxides of nitrogen. Hydrogen cyanide. Isocyanate vapours.
Protection of Firefighters:	Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

Section 6: ACCIDENTAL RELEASE MEASURES

Emergency Procedures:	Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.
Personal Precautions:	Do not touch or walk through spilled material. Use personal protection recommended in Section 8. When cleaning with Decontamination solution, harmful gases may evolve; ensure adequate ventilation or wear a respirator.
Environmental Precautions:	Prevent entry into waterways, sewers, basements or confined areas.
Methods for Containment:	Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors.
Methods for Clean-Up:	Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material.
Other Information:	See Section 13 for disposal considerations.

Section 7: HANDLING AND STORAGE

Handling:
Do not swallow. Do not breathe mist, vapours, or spray. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. See Section 8 for information on Personal Protective Equipment.

Storage:
Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines
Component

Poly(oxy(methyl-1,2-ethanediyl)), alpha-hydro-omega-hydroxy-, polymer with 1,1'-methylenebis(4-isocyanatobenzene) [CAS No. 9048-57-1]

ACGIH: No TLV established.

OSHA: No PEL established.

4,4'-Diphenylmethane diisocyanate (MDI) [CAS No. 101-68-8]

ACGIH: 0.005 ppm (TWA); (1988)

OSHA: 0.02 ppm (C), 0.2 mg/m³ (C);

PEL: Permissible Exposure Limit
TLV: Threshold Limit Value
TWA: Time-Weighted Average
C: Ceiling

Engineering Controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapour, gas, etc.) below recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Eye/Face Protection: Wear chemical safety goggles. Ensure that eyewash stations are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3:20 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

Hand Protection: Wear protective gloves. Consult manufacturer specifications for further information.

Skin and Body Protection: Wear protective clothing.

Respiratory Protection: Wear respiratory protection. If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-18, or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.

General Hygiene Considerations: Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Pale yellow liquid.

Colour: Pale yellow.

Odour: Musty.

Odour Threshold: Not available.

Physical State:	Liquid.
pH:	Not available.
Melting Point / Freezing Point:	Not available.
Initial Boiling Point:	> 300 °C (572 °F)
Boiling Range:	Not available.
Flash Point:	Not available.
Evaporation Rate:	Not available.
Flammability (solid, gas):	Not applicable.
Lower Flammability Limit:	Not available.
Upper Flammability Limit:	Not available.
Vapor Pressure:	Not available.
Relative Vapor Density:	Not available.
Relative Density:	1.14 (Water = 1)
Solubilities:	Immiscible in water.
Partition Coefficient: n-Octanol/Water:	Not available.
Auto-ignition Temperature:	Not available.
Decomposition Temperature:	Not available.
Kinematic Viscosity:	Not available.
Percent Volatile, wt. %:	Not available.
VOC content, wt. %:	Not available.
Density:	Not available.
Coefficient of Water/Oil Distribution:	Not available.
Particle Characteristics:	Not available.

Section 10: STABILITY AND REACTIVITY

Reactivity:	Contact with incompatible materials. Exposure to heat.
Chemical Stability:	Stable under normal storage conditions. Product decomposes slowly when stored at controlled room temperature and away from incompatible materials. Decomposition is accelerated at elevated temperatures.
Possibility of Hazardous Reactions:	Reacts slowly with water, forming carbon dioxide which could rupture closed containers. 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 CO2 gas.

MDI may undergo uncontrolled exothermic polymerization upon contact with incompatible materials or if heated above 170 °C. The resulting pressure build-up could rupture closed containers.

May attack and make brittle many plastic and rubber materials.

Conditions to Avoid: Contact with incompatible materials. Exposure to heat. Moisture. Strong light. Avoid freezing temperatures.

Incompatible Materials: Acids. Bases. Oxidizers. Amines. Water. Alcohols. Metal compounds.

Hazardous Decomposition Products: Not available.

Section 11: TOXICOLOGICAL INFORMATION

EFFECTS OF ACUTE EXPOSURE

Product Toxicity

Oral: Not available.

Dermal: Not available.

Inhalation: Not available.

Component Toxicity

Component	CAS No.	LD_{50} oral	LD_{50} dermal	LC_{50}
Poly(oxy(methyl-1,2-ethanediyl)), alpha-hydro-omega-hydroxy-, polymer with 1,1'-methylenebis(4-isocyanatobenzene)	9048-57-1	Not available.	Not available.	Not available.
4,4'-Diphenylmethane diisocyanate (MDI)	101-68-8	2200 mg/kg (mouse)	Not available.	178 mg/m³ (rat);

Likely Routes of Exposure: Eye contact. Skin contact. Inhalation. Ingestion.

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system.

Symptoms (including delayed and immediate effects)

Inhalation: Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Allergy-prone people who have been sensitized to isocyanates or even have not been previously exposed to isocyanates may experience symptoms at concentrations as low as 0.0014 ppm. Asthma sufferers or people who easily get contact dermatitis should therefore not be exposed to isocyanates. The isocyanate odour does not provide sufficient warning of overexposure due to the high odour thresholds.

Eye: Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin: May cause an allergic skin reaction. Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching. Prolonged skin contact may cause redness, swelling, blistering and possible skin sensitization (dermatitis). MDI

compounds have a mild tanning action on the skin.

Ingestion: May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Skin Sensitization: Hazardous by OSHA criteria. May cause sensitisation through skin contact.

Respiratory Sensitization: Hazardous by OSHA criteria. May cause sensitisation through inhalation.

Medical Conditions Aggravated By Exposure: Not available.

EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs.

Chronic Effects: Hazardous by OSHA criteria. May cause chronic effects. Prolonged or repeated contact may dry skin and cause irritation.

Carcinogenicity: Suspected of causing cancer.

Component Carcinogenicity

Component	ACGIH	IARC	NTP	OSHA	Prop 65
4,4'-Diphenylmethane diisocyanate (MDI)	Not listed.	Group 3	Not listed.	Not listed.	Not listed.

Mutagenicity: Not available.

Reproductive Effects: Not available.

Developmental Effects

Teratogenicity: Not available.

Embryotoxicity: Not available.

Toxicologically Synergistic Materials: Not available.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

Persistence / Degradability: Not available.

Bioaccumulation / Accumulation: Not available.

Mobility in Environment: Not available.

Other Adverse Effects: Not available.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Instructions: Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

Section 14: TRANSPORT INFORMATION

U.S. Department of Transportation (DOT)

Proper Shipping Name: Not regulated except when shipped in bulk. Bulk containers (>5000 lbs) must be transported as:

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Methylene Diphenyl Diisocyanate), 9, PG III

Class: 9

UN Number: UN3082

Packing Group: III

Placard(s):

Canada Transportation of Dangerous Goods (TDG)

Proper Shipping Name: Not regulated.

Class: Not applicable.

UN Number: Not applicable.

Packing Group: Not applicable.

Placard(s): Not applicable.

Section 15: REGULATORY INFORMATION

Chemical Inventories

US (TSCA)
The components of this product are in compliance with the chemical notification requirements of TSCA.

Canada (DSL)
The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

Federal Regulations

United States
This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III

Component	Section 302 (EHS) TPQ (lbs.)	Section 304 EHS RQ (lbs.)	CERCLA RQ (lbs.)	Section 313	RCRA CODE	CAA 112(r) TQ (lbs.)
4,4'-Diphenylmethane diisocyanate (MDI)	Not listed.	Not listed.	5000	313#	Not listed.	Not listed.

State Regulations
Massachusetts
US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

Component	CAS No.	RTK List
4,4'-Diphenylmethane diisocyanate (MDI)	101-68-8	Listed.

New Jersey
US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

Component	CAS No.	RTK List
4,4'-Diphenylmethane diisocyanate (MDI)	101-68-8	Listed.

Pennsylvania
US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

Component	CAS No.	RTK List
4,4'-Diphenylmethane diisocyanate (MDI)	101-68-8	E

Note: E = Environmental Hazard

California
California Prop 65: This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Section 16: OTHER INFORMATION

Disclaimer:
The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

Date of Preparation of SDS: July 24, 2024

Version: 1.0

GHS SDS Prepared by: **Aegis Regulatory Inc.**
Phone: 1 (519) 488-0351
www.aegisreg.com