



1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

PRODUCT IDENTIFIER: MILLIONATE NM
MANUFACTURER / IMPORTER: TOSOH SPECIALTY CHEMICALS USA, Inc.
ADDRESS: 1720 Windward Concourse, Suite 125
Alpharetta, Georgia 30005

PHONE: 1-770-442-9501

EMERGENCY PHONE: CHEMTREC 1-800-424-9300 OR 1-703-527-3887

RECOMMENDED USE: General industrial products

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION

Acute toxicity	
Acute toxicity (inhalation: vapor, mist)	Category 4
Skin corrosion/irritation	Category 2
Eye damage/eye irritation	Category 2
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity – single exposure	Category 3
Specific target organ toxicity – repeat exposure	Category 1

HAZARD SYMBOL:



SIGNAL WORD:

DANGER

HAZARD STATEMENTS:

Harmful if inhaled.
Causes skin irritation.
Causes 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.



2. HAZARDS IDENTIFICATION (continued)

PREVENTION:

Avoid breathing dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
In case of inadequate ventilation, wear respiratory protection.
Contaminated clothing must not be allowed out of the workplace.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.

RESPONSE:

If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms, get medical advice/attention.
Call a poison control center/doctor if you feel unwell.
If in eyes: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do.
Continue rinsing.
If eye irritation persists: Get medical advice/attention.
If on skin (or hair): Wash with plenty of water.
If skin irritation or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
If exposed or concerned: Get medical advice/attention.

STORAGE:

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

DISPOSAL:

Dispose of contents/container in accordance with Federal and state regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>CAS #</u>	<u>OSHA Hazardous(Y/N)</u>	<u>Concentration (%)</u>
Methylenediphenyl			
Diisocyanate (MDI)	26447-40-5	Y	100
(includes 4,4'-diphenylmethane diisocyanate (4,4'-MDI), CAS # 101-68-8)			> 40

4. FIRST AID MEASURES

EYE CONTACT:

Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek medical attention if irritation develops or persists.

SKIN CONTACT:

Remove contaminated clothing and shoes. Wash with plenty of water, for at least 15 minutes. Seek medical attention if irritation develops or persists. Launder contaminated clothing and shoes before re-use.



4. FIRST AID MEASURES (continued)

INGESTION: Do not induce vomiting. If victim is conscious and alert, give 1-2 glasses of water to drink. Do not give anything by mouth to an unconscious person. Seek immediate medical attention. Do not leave victim unattended.

INHALATION: If respiratory irritation or distress occurs, remove victim to fresh air. Seek immediate medical attention.

NOTES TO PHYSICIAN: All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. Treat symptomatically. No specific antidote available.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Water spray, fog, dry chemical, foam, CO₂

UNUSUAL FIRE AND EXPLOSION HAZARDS: Closed containers may rupture due to buildup of pressure when exposed to extreme heat. Cool containers exposed to fire with water. After the fire is extinguished, neutralize the spilled material with decontaminant. Keep the area clear. Clean up residual material by washing area with water. Collect washings for disposal.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: Firefighters should wear NIOSH/MSHA-approved self-contained breathing apparatus and full protective clothing. Cool containers exposed to fire with water.

HAZARDOUS DECOMPOSITION MATERIALS UNDER FIRE CONDITIONS: Oxides of carbon, oxides of nitrogen, hydrogen cyanide.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Evacuate area. Wear appropriate protective gear for the situation. (See Personal Protection Information in Section 8).

ENVIROMENTAL PRECAUTIONS: Do not flush to drain. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

METHOD FOR CLEAN UP: (Small spill) Spray with a neutralizing agent to neutralize. Absorb with an inert absorbant. Dispose of absorbant and rags, waste paper, etc., remove and store in a container with a lid. (Large spill) Dike spill to contain it. Recover as much spill material as possible. Spray with a neutralizing agent to neutralize. Absorb with an inert absorbant. Clean up residual material by washing area with water. Collect washings for disposal. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.



7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Handle material with suitable protection (See Section 8). Handle with adequate ventilation. Avoid breathing vapors. Avoid contact with eyes, skin and clothing.

VENTILATION: General area dilution/exhaust ventilation.

CONDITIONS FOR SAFE STORAGE: Store upright in a cool, dry, well ventilated area out of direct sunlight. Keep away from heat, open flames and ignition sources. Keep container tightly closed. Do not reuse container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES: Set up hand-wash station and eyewash station near work area. General area dilution/exhaust ventilation.

EXPOSURE LIMITS:

4,4'-Diphenylmethane diisocyanate	0.005 ppm – ACGIH TWA
4,4'-Diphenylmethane diisocyanate	0.02 ppm – OSHA Ceiling Limit

PERSONAL PROTECTION MEASURES:

Respiratory protection: When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with regulatory standards and/or industrial recommendations. Self-contained or supplied-air respiratory equipment is recommended.

Eye protection: Safety glasses with side shields, goggles or face shield are recommended.

Skin protection: Skin contact should be minimized through the use of chemical-resistant gloves and boots, and suitable protective clothing.

The following general measures should be taken when working or handling this material:

- 1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
- 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
- 3) Wash exposed skin promptly to remove accidental splashes of contact with this material.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Liquid
COLOR:	Yellow
ODOR:	Slight
pH:	No data available
MELTING POINT:	55.4F (13C)
BOILING POINT:	No data available
FLASH POINT:	413.6F (212C)
AUTOIGNITION POINT:	No data available



9. PHYSICAL AND CHEMICAL PROPERTIES (continued)

EXPLOSIVE LIMITS(Lower):	No data available
EXPLOSIVE LIMITS(Upper):	No data available
VAPOR PRESSURE:	No data available
VAPOR DENSITY:	No data available
EVAPORATION RATE:	No data available
SPECIFIC GRAVITY:	1.18 @ 113F (45C)
SOLUBILITY IN WATER:	Insoluble
PARTITION COEFFICIENT:	No data available
DECOMPOSITION TEMPERATURE:	No data available

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY:	Material is reacts with water, forming carbon dioxide. Reacts exothermically with amines, water, and alcohols.
CONDITIONS TO AVOID:	Heat, open flame, sparks.
INCOMPATIBLE MATERIALS:	Strong oxidizing agents, strong acids, amines, water, and alcohols.
HAZARDOUS DECOMPOSITION PRODUCTS:	Oxides of carbon, nitrogen oxides, hydrogen cyanide.
HAZARDOUS POLYMERIZATION:	Not applicable

11. TOXICOLOGICAL INFORMATION

EYE CORROSION/IRRITATION:	Moderately irritating, rabbit.
SKIN CORROSION/IRRITATION:	Slightly irritating, rabbit.
ACUTE TOXICITY:	
ACUTE ORAL TOXICITY:	LD ₅₀ > 10000 mg/kg, rat. (Data for polyisocyanate class)
ACUTE DERMAL TOXICITY:	LD ₅₀ > 9400 mg/kg, rabbit. (Data for polyisocyanate class)
ACUTE INHALATION TOXICITY:	LC ₅₀ = 368 mg/m ³ /4 hour, male rat, 559 mg/ m ³ /4 hour, female rat (aerosol). Such aerosols are not encountered outside of the experimental laboratory.
SKIN SENSITIZATION	Positive dermal sensitizer (local lymph node assay, LLNA). Positive respiratory sensitization is reported in the literature.
GENETIC TOXICITY	Equivocal in the Ames test. Negative in the mouse micronucleus test



11. TOXICOLOGICAL INFORMATION (continued)

CARCINOGENICITY:

In a combined chronic toxicity and carcinogenicity study rats, were exposed for 6 hours/day, 5 days/week for 2 years to polymeric MDI aerosol concentrations of 0, 0.2, 1.0 or 6.0 mg/m³). Histopathology of the organs/tissues investigated showed that exposure to 6.0 mg/m³ was related to the occurrence of pulmonary tumors in males (6 adenomas and 1 adenocarcinoma) and females (2 adenomas). Although lifetime inhalation of PMDI aerosols by rats resulted in a small number of benign adenomas, they are considered to be of unlikely relevance to man. Such aerosols are not encountered outside of the experimental laboratory. This product does not contain any substances that are considered by OSHA, NTP, IARC or ACGIH to be “probable” or “suspected” human carcinogens.

REPRODUCTIVE TOXICITY:

In a reproductive study with inhalation exposure, the NOAEL (no-observed-adverse-effect level) for maternal toxicity was considered to be 4 mg/kg/day. The NOAEL for neonatal effects was considered to be 12 mg/kg/day. Fetotoxicity was seen only in the presence of maternal toxicity.

STOT-SINGLE EXPOSURE:

Inhalation is expected to be irritating.

STOT-REPEATED EXPOSURE:

In a combined chronic toxicity and carcinogenicity study rats, were exposed for 6 hours/day, 5 days/week for 2 years to polymeric MDI aerosol concentrations of 0, 0.2, 1.0 or 6.0 mg/m³). Histopathology of the organs/tissues investigated showed that exposure to 6.0 mg/m³ was related to the occurrence of pulmonary tumors in males (6 adenomas and 1 adenocarcinoma) and females (2 adenomas). Although lifetime inhalation of PMDI aerosols by rats resulted in a small number of benign adenomas, they are considered to be of unlikely relevance to man. Such aerosols are not encountered outside of the experimental laboratory. This product does not contain any substances that are considered by OSHA, NTP, IARC or ACGIH to be “probable” or “suspected” human carcinogens.

12. ECOLOGICAL INFORMATION

ECOTOXICITY:

96hr LC₅₀ > 1000 mg/L, zebra fish (Data for polyisocyanate class)
48hr EC₅₀ > 1000 mg/L, daphnia magna (Data for polyisocyanate class)
72hr EC₅₀ > 1640 mg/L algae, growth rate (Data for polyisocyanate class)

PERSISTENCE AND DEGRADABILITY: Not readily biodegradable (Data for polyisocyanate class)

MOBILITY IN SOIL: No data available



13. DISPOSAL CONSIDERATION (INCLUDING CONTAINER)

RESIDUAL WASTE:

Chemical additions, processing or otherwise altering this material may make the waste management information presented in this SDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from Federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

CONTAMINATED VESSELS AND CONTAINERS:

Rinse containers before disposal. Do not allow rinsate to enter the water systems.
EPA Hazardous Waste = No

14. TRANSPORTATION INFORMATION

PROPER SHIPPING NAME:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains Methylene diphenyl diisocyanate)

UN NUMBER:

UN3082

UN CLASS or DIVISION:

9

UN PACKING GROUP:

III

LABELS:

Environmental hazard

EMERGENCY GUIDE#:

171

The above transportation classification is only applicable when the product is shipped in bulk containers, where a single container contains greater than 5000 pounds. Single containers less than 5,000 pounds may be shipped as “not regulated”.

15. REGULATORY INFORMATION

Inventory Status:

US (TSCA): Yes
Canada (DSL): Yes
EU (REACH): No
Australia (AICS): Yes
Japan (METI): Yes
Korea (KECL): Yes

Where: Yes = all ingredients are listed on the inventory, Exempt = All ingredients are either on the inventory or exempt from the requirements of listing, No = Not determined, or one or more ingredients are not on the inventory and are not exempt from listing

SARA Title III Hazard Classes:

Fire Hazard: No
Reactive Hazard: No
Release of Pressure: No
Acute Health Hazard: Yes
Chronic Health Hazard: Yes



15. REGULATORY INFORMATION (continued)

SARA Extremely Hazardous Substances/CERCLA Hazardous Substances:

Diisocyanates (generic group) 100%

California Proposition 65: This product does not contain any components that are regulated under Proposition 65.

16. OTHER INFORMATION INCLUDING INFORMATION ON PREPARATION AND REVISION OF THIS SDS

National Fire Protection Association (“NFPA”) Hazard Ratings:

Health: 2 (Moderate)

Flammability: 1 (Slight)

Reactivity: 1 (Slight)

National Paint and Coatings Hazardous Materials Identification System (“HMIS”) Hazard Ratings:

Health: 2 (Moderate)

Flammability: 1 (Slight)

Physical Hazard: 1 (Slight)

HISTORY:

Date previous SDS:

None

Date of issue:

June 24, 2020

Reasons for Revision:

New product

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END OF SAFETY DATA SHEET