



This is a kit that contains the following components:

EUCO TAMMOSHIELD CLEAR MATTE PART B

EUCO TAMMOSHIELD MATTE PT A

SAFETY DATA SHEET

1. Identification

Product identifier: EUCO TAMMOSHIELD CLEAR MATTE PART B
Product Code: TD2356505M

Recommended use and restriction on use

Recommended use: Coatings
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

EUCLID CHEMICAL COMPANY
19218 REDWOOD ROAD
CLEVELAND OH 44110
US

Contact person: EH&S Department
Telephone: 216-531-9222
Emergency telephone number: 1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Not classified

Label Elements

Hazard Symbol:	No symbol
Signal Word:	No signal word.
Hazard Statement:	Not applicable
Precautionary Statements	Not applicable

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Triethanolamine	102-71-6	1 - 5%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Description of necessary first-aid measures

Inhalation:	Move to fresh air.
Skin Contact:	Remove contaminated clothing and wash the skin thoroughly with soap and water after work.
Eye contact:	Rinse immediately with plenty of water.
Ingestion:	Rinse mouth thoroughly.
Personal Protection for First-aid Responders:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Most important symptoms/effects, acute and delayed

Symptoms:	May cause skin and eye irritation.
Hazards:	No data available.

Indication of immediate medical attention and special treatment needed

Treatment:	Get medical attention if symptoms occur.
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5. Fire-fighting measures

General Fire Hazards:	No unusual fire or explosion hazards noted.
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Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media:	Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical:	During fire, gases hazardous to health may be formed.
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Special protective equipment and precautions for fire-fighters

Special fire-fighting procedures:	No data available.
Special protective equipment for fire-fighters:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**6. Accidental release measures**

Personal precautions, protective equipment and emergency procedures:	No data available.
Accidental release measures:	In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.
Methods and material for containment and cleaning up:	Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.
Environmental Precautions:	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer. Environmental manager must be informed of all major spillages.

7. Handling and storage**Handling**

Technical measures (e.g. Local and general ventilation):	Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.
Safe handling advice:	Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Contact avoidance measures:	No data available.
Hygiene measures:	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

Storage

Safe storage conditions:	Store away from incompatible materials. Store in original tightly closed container.
Safe packaging materials:	No data available.

8. Exposure controls/personal protection**Control Parameters****Occupational Exposure Limits**

Chemical Identity	Type	Exposure Limit Values	Source
Triethanolamine	TWA	5 mg/m3	US. ACGIH Threshold Limit Values, as amended (2008)



Chemical name	Type	Exposure Limit Values	Source
Triethanolamine	TWA	5 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
Triethanolamine	TWA	5 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Triethanolamine	TWA	0.5 ppm 3.1 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (12 2007)
Triethanolamine	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)

Appropriate Engineering Controls

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment**Eye/face protection:**

Wear goggles/face shield.

Skin Protection**Hand Protection:**

Additional Information: Use suitable protective gloves if risk of skin contact.

Skin and Body Protection:

No data available.

Respiratory Protection:

In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures:

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

9. Physical and chemical properties**Appearance****Physical state:**

liquid

Form:

liquid

Color:

Off-white

Odor:

Mild

Odor threshold:

No data available.

pH:

7 - 8

Melting point/freezing point:

-0.00 °C 32 °F

Initial boiling point and boiling range:

100 °C 212 °F

Flash Point:

No data available.

Evaporation rate:

Slower than Ether

Flammability (solid, gas):

No

Upper/lower limit on flammability or explosive limits



Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper:	No data available.
Explosive limit - lower:	No data available.
Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	1.05
Solubility(ies)	
Solubility in water:	Soluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Avoid heat or contamination.
Incompatible Materials:	Strong acids. Strong bases.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Moderately irritating to skin with prolonged exposure.
Eye contact:	Eye contact is possible and should be avoided.
Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.

Ingestion: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 90,037.21 mg/kg

Dermal
Product: ATEmix: 85,480.79 mg/kg

Inhalation
Product:

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Specified substance(s):
Triethanolamine in vivo (Rabbit): Not irritant , 24 - 72 h

Serious Eye Damage/Eye Irritation
Product: No data available.

Respiratory or Skin Sensitization
Product: No data available.

Carcinogenicity
Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended:
No carcinogenic components identified

**Germ Cell Mutagenicity**

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information**Ecotoxicity:****Acute hazards to the aquatic environment:**

Fish
Product: No data available.

Specified substance(s):
Triethanolamine LC 50 (Pimephales promelas, 96 h): 11,800 mg/l Experimental result, Key study

Aquatic Invertebrates
Product: No data available.

Specified substance(s):
Triethanolamine EC 50 (Ceriodaphnia dubia, 48 h): 609.88 mg/l experimental result
Experimental result, Key study

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

**Aquatic Invertebrates****Product:** No data available.**Specified substance(s):**Triethanolamine
NOAEL (Daphnia magna): 125 mg/l experimental result Experimental result, Key study**Toxicity to Aquatic Plants****Product:** No data available.**Persistence and Degradability****Biodegradation****Product:** No data available.**Specified substance(s):**Triethanolamine
100 % (35 d) Sediment Experimental result, Key study**BOD/COD Ratio****Product:** No data available.**Bioaccumulative potential****Bioconcentration Factor (BCF)****Product:** No data available.**Specified substance(s):**Triethanolamine
Cyprinus carpio, Bioconcentration Factor (BCF): < 3.9 Aquatic sediment
Experimental result, Key study**Partition Coefficient n-octanol / water (log Kow)****Product:** No data available.**Specified substance(s):**Triethanolamine
Log Kow: -1.00
Log Kow: -1.75 - -1.32 No Estimated by calculation, Weight of Evidence
study**Mobility in soil:** No data available.**Other adverse effects:** No data available.**13. Disposal considerations****Disposal methods:** Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.**Contaminated Packaging:** No data available.

14. Transport information

TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

Further Information:

The above shipping description may not be accurate for all container sizes and all modes of transportation.
Please refer to Bill of Lading.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

**US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs)
(40 CFR 721, Subpt E)**

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity

Reportable quantity

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Not listed.

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

US. EPCRA (SARA Title III Section 313 Toxic Chemical Release Inventory (TRI) Reporting

Chemical Identity

% by weight

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

International regulations

Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

Not applicable

VOC: When appropriately mixed with the other part, product has a VOC less water and exempt solvent of:
22 g/l

Regulatory VOC (less water and
exempt solvent) : 36 g/l

VOC Method 310 : 1.26 %

Inventory Status:

Australia AICS:	One or more components in this product are not listed on or exempt from the Inventory.
Canada DSL Inventory List:	All components in this product are listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	One or more components in this product are not listed on or exempt from the Inventory.
US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.

16. Other information, including date of preparation or last revision
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Revision Date: 11/17/2022

Version #: 2.1

Further Information: No data available.

Disclaimer: For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.

SAFETY DATA SHEET

1. Identification

Product identifier: EUCLID TMMOSHIELD MATTE PT A
Product Code: TD2356505M

Recommended use and restriction on use

Recommended use: Curative
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

EUCLID CHEMICAL COMPANY
19218 REDWOOD ROAD
CLEVELAND OH 44110
US

Contact person: EH&S Department
Telephone: 216-531-9222
Emergency telephone number: 1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards

Acute toxicity (Inhalation - dust and mist)	Category 4
Acute toxicity (Inhalation - vapor)	Category 1
Acute toxicity (Inhalation - dust and mist)	Category 2
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Respiratory sensitizer	Category 1
Skin sensitizer	Category 1
Specific Target Organ Toxicity - Single Exposure	Category 3 ¹ .

Target Organs

1. Respiratory tract irritation.

Unknown toxicity - Health

Acute toxicity, oral	20 %
Acute toxicity, dermal	20 %
Acute toxicity, inhalation, vapor	99 %
Acute toxicity, inhalation, dust or mist	20.5 %

Label Elements

Hazard Symbol:



Signal Word:

DangerDanger

Hazard Statement:

Causes skin irritation.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Harmful if inhaled.Fatal if inhaled.
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.
May cause respiratory irritation.

Precautionary Statements

Prevention:

Do not breathe dust or mists. Use only outdoors or in a well-ventilated area. [In case of inadequate ventilation] wear respiratory protection. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing should not be allowed out of the workplace.Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. [In case of inadequate ventilation] wear respiratory protection. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing should not be allowed out of the workplace.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. 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: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Immediately call a POISON CENTER or doctor/ physician. Specific treatment is urgent (see on this label). Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician. 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: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Immediately call a POISON CENTER/doctor. Specific treatment is urgent (see on this label). Wash contaminated clothing before reuse.

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

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Homopolymer of HDI	28182-81-2	50 - <100%
Hexamethylene diisocyanate (HDI)	822-06-0	0.1 - <1%
N,N-Dimethylcyclohexylamine	98-94-2	0.1 - <1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Description of necessary first-aid measures

Inhalation: Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. Move to fresh air. If breathing is difficult, give oxygen.

Skin Contact: Get medical attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

Ingestion: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

Personal Protection for First-aid Responders: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Most important symptoms/effects, acute and delayed

Symptoms: Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping. Respiratory tract irritation.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for fire-fighters

Special fire-fighting procedures: No data available.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Ventilate closed spaces before entering them. Evacuate area. See Section 8 of the SDS for Personal Protective Equipment. Keep upwind. Keep unauthorized personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Accidental release measures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Methods and material for containment and cleaning up: Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation): Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.



Safe handling advice: Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Avoid contact with eyes. Wash hands thoroughly after handling. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin. Avoid contact with eyes, skin, and clothing.

Contact avoidance measures: No data available.

Hygiene measures: Avoid contact with eyes. Observe good industrial hygiene practices. Wash contaminated clothing before reuse. Avoid contact with skin. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace.

Storage

Safe storage conditions: Store away from incompatible materials. Store in original tightly closed container.

Safe packaging materials: No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Hexamethylene diisocyanate (HDI)	TWA	0.005 ppm	US. ACGIH Threshold Limit Values, as amended (2008)

Chemical name	Type	Exposure Limit Values	Source
Hexamethylene diisocyanate (HDI)	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Hexamethylene diisocyanate (HDI)	TWA	0.005 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Hexamethylene diisocyanate (HDI)	TWA	0.005 ppm 0.034 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)



Chemical name	Type	Exposure Limit Values	Source
Hexamethylene diisocyanate (HDI)	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Hexamethylene diisocyanate (HDI)	TWA	0.005 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Hexamethylene diisocyanate (HDI)	TWA	0.005 ppm 0.034 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
N,N-Dimethylcyclohexylamine	STEL	5 ppm 26 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
Hexamethylene diisocyanate (HDI) (Hexamethylenediamine (with hydrolysis): Sampling time: End of shift.)	15 µg/g (Creatinine in urine)	ACGIH BEI (03 2015)

Appropriate Engineering Controls

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment**Eye/face protection:**

Wear safety glasses with side shields (or goggles).

Skin Protection**Hand Protection:**

Additional Information: Use suitable protective gloves if risk of skin contact.

Skin and Body Protection:

Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection:

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hygiene measures: Avoid contact with eyes. Observe good industrial hygiene practices. Wash contaminated clothing before reuse. Avoid contact with skin. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Colorless
Odor:	Mild
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	No data available.
Flash Point:	No data available.
Evaporation rate:	Slower than Ether
Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper:	No data available.
Explosive limit - lower:	No data available.
Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	1.15
Solubility(ies)	
Solubility in water:	Practically Insoluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Avoid heat or contamination.
Incompatible Materials:	Alcohols. Amines. Strong acids. Strong bases. Water, moisture.

Hazardous Decomposition Products: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Inhalation: In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.

Skin Contact: Causes skin irritation. May cause an allergic skin reaction.

Eye contact: Causes serious eye irritation.

Ingestion: May be ingested by accident. Ingestion may cause irritation and malaise.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Ingestion: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product: ATEmix: 43,520 mg/kg

Dermal Product: ATEmix: 60,800 mg/kg

Inhalation Product: ATEmix: 0.24 mg/l
ATEmix : 0.43 mg/l

Repeated dose toxicity Product: No data available.

Skin Corrosion/Irritation Product: No data available.

Specified substance(s):

Homopolymer of HDI in vivo (Rabbit): Irritating , 24 - 72 h

Hexamethylene diisocyanate (HDI) in vivo (Rabbit): Corrosive , 4 - 72 h

N,N-Dimethylcyclohexylamine in vivo (Rabbit): Corrosive , 72 h

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

Homopolymer of HDI Rabbit, 24 - 72 hrs: Not irritant

N,N-Dimethylcyclohexylamine Rabbit, 72 hrs: Corrosive

Respiratory or Skin Sensitization

Product: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause sensitization by inhalation.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended:

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Target Organs

Specific Target Organ Toxicity - Single Exposure: Respiratory tract irritation.

Aspiration Hazard

Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

N,N-Dimethylcyclohexylamine LC 50 (Leuciscus idus, 96 h): 31.58 mg/l Experimental result, Key study

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Homopolymer of HDI EC 50 (Daphnia sp., 24 h): ≥ 100 mg/l experimental result Experimental result, Supporting study

N,N-Dimethylcyclohexylamine LC 50 (Daphnia magna, 48 h): 75 mg/l experimental result Experimental result, Key study

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

**Specified substance(s):**

Homopolymer of HDI	1 % (28 d) Detected in water. Experimental result, Key study
Hexamethylene diisocyanate (HDI)	42 % (28 d) Detected in water. Experimental result, Key study
N,N-Dimethylcyclohexylamine	90 - 100 % (18 d) Detected in water. Experimental result, Key study

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential**Bioconcentration Factor (BCF)**

Product: No data available.

Specified substance(s):

Hexamethylene diisocyanate (HDI)	Bioconcentration Factor (BCF): 57.63 Aquatic sediment Estimated by calculation, Key study
N,N-Dimethylcyclohexylamine	Bioconcentration Factor (BCF): 35.66 Aquatic sediment Estimated by calculation, Key study

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

Hexamethylene diisocyanate (HDI)	Log Kow: 3.20
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Mobility in soil: No data available.

Other adverse effects: No data available.

13. Disposal considerations

Disposal methods: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information**TDG:**

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

Further Information:

The above shipping description may not be accurate for all container sizes and all modes of transportation.
Please refer to Bill of Lading.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

**US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs)
(40 CFR 721, Subpt E)**

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Hexamethylene diisocyanate (HDI)	100 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate (Acute) Health Hazards
Delayed (Chronic) Health Hazard
Acute toxicity (any route or exposure)
Skin Corrosion or Irritation
Serious eye damage or eye irritation
Respiratory or Skin Sensitization
Specific target organ toxicity (single or repeated exposure)

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

Not regulated.

US. EPCRA (SARA Title III Section 313 Toxic Chemical Release Inventory (TRI) Reporting

<u>Chemical Identity</u>	<u>% by weight</u>
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Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

International regulations

Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

Not applicable

VOC: When appropriately mixed with the other part, product has a VOC less water and exempt solvent of:
34 g/l

Regulatory VOC (less water and
exempt solvent) : 6 g/l

VOC Method 310 : 0.50 %

Inventory Status:

Australia AICS:	All components in this product are listed on or exempt from the Inventory.
Canada DSL Inventory List:	All components in this product are listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	All components in this product are listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	All components in this product are listed on or exempt from the Inventory.
US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	All components in this product are listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Mexico INSQ:	One or more components in this

product are not listed on or exempt
from the Inventory.

Ontario Inventory:

One or more components in this
product are not listed on or exempt
from the Inventory.

Taiwan Chemical Substance Inventory:

One or more components in this
product are not listed on or exempt
from the Inventory.

16. Other information, including date of preparation or last revision
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Revision Date: 11/17/2022

Version #: 2.1

Further Information: No data available.

Disclaimer: For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.