



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M™ Mar-Hyde® Wet Look Hardener 2610, 2612

Product Identification Numbers

41-3701-1615-8, 70-0080-0452-8, 70-0080-0453-6

1.2. Recommended use and restrictions on use

Recommended use

Automotive, Paint Hardener

1.3. Supplier's details

MANUFACTURER: 3M

SECTION 2: Hazard identification

The label elements below were prepared in accordance with OSHA Hazard Communication Standard, 29 CFR 1910.1200. This information may be different from the actual product label information for labels regulated by other agencies.

2.1. Hazard classification

Flammable Liquid: Category 3.
Acute Toxicity (inhalation): Category 4.
Serious Eye Damage/Irritation: Category 2B.
Skin Corrosion/Irritation: Category 2.
Respiratory Sensitizer: Category 1A.
Skin Sensitizer: Category 1A.
Specific Target Organ Toxicity (single exposure): Category 2.
Specific Target Organ Toxicity (single exposure): Category 3.

2.2. Label elements

Signal word

Danger

Symbols

Flame | Exclamation mark | Health Hazard |

Pictograms



Hazard Statements

Flammable liquid and vapor.

- Causes eye irritation.
- Causes skin irritation.
- May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- May cause an allergic skin reaction.
- Harmful if inhaled.
- May cause drowsiness or dizziness.

May cause damage to organs:
respiratory system |

Precautionary Statements

General:

Keep out of reach of children.

Prevention:

- Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- Ground/bond container and receiving equipment.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Keep container tightly closed.
- Use explosion-proof electrical/ventilating/lighting equipment.
- 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.
- Wear protective gloves and eye/face protection.
- Do not eat, drink or smoke when using this product.
- Wash thoroughly after handling.
- Contaminated work clothing must 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 or doctor/physician.
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- 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.
- Take off contaminated clothing and wash it before reuse.

Call a POISON CENTER or doctor/physician if you feel unwell.

In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

Storage:

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

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

31% of the mixture consists of ingredients of unknown acute dermal toxicity.

4% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Hexamethylene Diisocyanate Polymer	28182-81-2	30 - 60 Trade Secret *
N-Butyl Acetate	123-86-4	15 - 40 Trade Secret *
Poly(Isophorone Diisocyanate)	53880-05-0	15 - 40 Trade Secret *
Light Aromatic Solvent Naphtha (Petroleum)	64742-95-6	3 - 7 Trade Secret *
Trimethylbenzene	25551-13-7	1 - 5 Trade Secret *
Hexamethylene Diisocyanate	822-06-0	< 0.5 Trade Secret *
Isophorone Diisocyanate	4098-71-9	< 0.5 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

DO NOT USE WATER In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode.

5.3. Special protective actions for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Contain spill. Pour isocyanate decontaminant solution (90% water, 8% concentrated ammonia, 2% detergent) on spill and allow to react for 10 minutes. Or pour water on spill and allow to react for more than 30 minutes. Cover with absorbent material. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. Place in a metal container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial or professional use only. Do not use in a confined area with minimal air exchange. Keep out of reach of children. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Wear low static or properly grounded shoes. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapor accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer. Vapors may travel long distances along the ground or floor to an ignition source and flash back.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep cool. Keep container tightly closed to prevent loss of stabilizing materials. Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container.

Store away from heat. Store away from acids. Store away from oxidizing agents. Store away from amines.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
N-Butyl Acetate	123-86-4	ACGIH	TWA:50 ppm;STEL:150 ppm	
N-Butyl Acetate	123-86-4	OSHA	TWA:710 mg/m3(150 ppm)	
Trimethylbenzene	25551-13-7	ACGIH	TWA:25 ppm	
Isophorone Diisocyanate	4098-71-9	ACGIH	TWA:0.005 ppm	
Hexamethylene Diisocyanate	822-06-0	ACGIH	TWA:0.005 ppm	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Use explosion-proof ventilation equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.

Gloves made from the following material(s) are recommended: Nitrile Rubber

Polymer laminate

Apron - polymer laminate

Respiratory protection

In case of inadequate ventilation wear respiratory protection. An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Odor, Color, Grade:	Moderate Ester-like Odor; Colorless to Pale Yellow
Odor threshold	<i>No Data Available</i>
pH	<i>Not Applicable</i>
Melting point	<i>No Data Available</i>
Boiling Point	257 °F
Flash Point	95 °F [<i>Test Method</i> :Closed Cup]
Flash Point	35 °C
Evaporation rate	<i>No Data Available</i>
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	<i>No Data Available</i>
Flammable Limits(UEL)	<i>No Data Available</i>
Vapor Pressure	<i>No Data Available</i>
Vapor Density	<i>No Data Available</i>
Density	1.06 g/ml
Specific Gravity	1.06 [<i>Ref Std</i> :WATER=1]
Solubility In Water	Nil
Solubility in Water	Negligible
Solubility- non-water	<i>No Data Available</i>
Partition coefficient: n-octanol/ water	<i>No Data Available</i>
Autoignition temperature	<i>No Data Available</i>
Decomposition temperature	<i>No Data Available</i>
Viscosity	150 centipoise [<i>@ 80 °C</i>]
Hazardous Air Pollutants	0.0118 lb HAPS/lb solids [<i>Test Method</i> :Calculated]
Volatile Organic Compounds	318 g/l [<i>Test Method</i> :calculated SCAQMD rule 443.1]
Volatile Organic Compounds	30 % weight [<i>Test Method</i> :calculated per CARB title 2]
Percent volatile	30 %
VOC Less H2O & Exempt Solvents	318 g/l [<i>Test Method</i> :calculated SCAQMD rule 443.1]

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization may occur.

10.4. Conditions to avoid

Heat
Sparks and/or flames

10.5. Incompatible materials

Alkali and alkaline earth metals
Strong acids
Strong oxidizing agents

Alcohols
Amines
Water

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	Not Specified
Carbon dioxide	Not Specified
Hydrogen Cyanide	Not Specified
Oxides of Nitrogen	Not Specified

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Harmful if inhaled. Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Allergic Respiratory Reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest.

May cause additional health effects (see below).

Skin Contact:

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

Additional Information:

Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Dust/Mist(4 hr)		No data available; calculated ATE1 - 5 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Hexamethylene Diisocyanate Polymer	Inhalation-Dust/Mist (4 hours)	Professional judgement	LC50 estimated to be 1 - 5 mg/l
Hexamethylene Diisocyanate Polymer	Dermal	Rabbit	LD50 > 5,000 mg/kg
Hexamethylene Diisocyanate Polymer	Ingestion	Rat	LD50 > 5,000 mg/kg
Poly(Isophorone Diisocyanate)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.01 mg/l
Poly(Isophorone Diisocyanate)	Ingestion	Rat	LD50 > 5,000 mg/kg
N-Butyl Acetate	Dermal	Rabbit	LD50 > 5,000 mg/kg
N-Butyl Acetate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 1.4 mg/l
N-Butyl Acetate	Inhalation-Vapor (4 hours)	Rat	LC50 > 20 mg/l
N-Butyl Acetate	Ingestion	Rat	LD50 > 8,800 mg/kg
Light Aromatic Solvent Naphtha (Petroleum)	Dermal	Rabbit	LD50 > 2,000 mg/kg
Light Aromatic Solvent Naphtha (Petroleum)	Inhalation-Vapor (4 hours)	Rat	LC50 > 5.2 mg/l
Light Aromatic Solvent Naphtha (Petroleum)	Ingestion	Rat	LD50 > 5,000 mg/kg
Trimethylbenzene	Dermal	Rabbit	LD50 > 3,160 mg/kg
Trimethylbenzene	Inhalation-Vapor (4 hours)	Rat	LC50 18 mg/l
Trimethylbenzene	Ingestion	Rat	LD50 3,400 mg/kg
Isophorone Diisocyanate	Dermal	Rat	LD50 > 7,000 mg/kg
Isophorone Diisocyanate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.03 mg/l
Isophorone Diisocyanate	Ingestion	Rat	LD50 4,815 mg/kg
Hexamethylene Diisocyanate	Dermal	Rabbit	LD50 570 mg/kg
Hexamethylene Diisocyanate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.12 mg/l
Hexamethylene Diisocyanate	Ingestion	Rat	LD50 710 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Hexamethylene Diisocyanate Polymer	Rabbit	Mild irritant
Poly(Isophorone Diisocyanate)	Rabbit	No significant irritation
N-Butyl Acetate	Rabbit	Minimal irritation
Light Aromatic Solvent Naphtha (Petroleum)	Rabbit	Irritant
Trimethylbenzene	Rabbit	Irritant
Isophorone Diisocyanate	Rabbit	Corrosive

Hexamethylene Diisocyanate	Rabbit	Corrosive
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Serious Eye Damage/Irritation

Name	Species	Value
Hexamethylene Diisocyanate Polymer	Rabbit	Mild irritant
Poly(Isophorone Diisocyanate)	Rabbit	Mild irritant
N-Butyl Acetate	Rabbit	Moderate irritant
Light Aromatic Solvent Naphtha (Petroleum)	Rabbit	Mild irritant
Trimethylbenzene	Rabbit	Mild irritant
Isophorone Diisocyanate	Rabbit	Corrosive
Hexamethylene Diisocyanate	Rabbit	Corrosive

Skin Sensitization

Name	Species	Value
Hexamethylene Diisocyanate Polymer	Guinea pig	Sensitizing
Poly(Isophorone Diisocyanate)	Guinea pig	Sensitizing
N-Butyl Acetate	Multiple animal species	Not classified
Light Aromatic Solvent Naphtha (Petroleum)	Guinea pig	Not classified
Trimethylbenzene	Guinea pig	Not classified
Isophorone Diisocyanate	Guinea pig	Sensitizing
Hexamethylene Diisocyanate	Multiple animal species	Sensitizing

Respiratory Sensitization

Name	Species	Value
Hexamethylene Diisocyanate Polymer	similar compounds	Not classified
Isophorone Diisocyanate	Human	Sensitizing
Hexamethylene Diisocyanate	Human and animal	Sensitizing

Germ Cell Mutagenicity

Name	Route	Value
Hexamethylene Diisocyanate Polymer	In Vitro	Not mutagenic
Hexamethylene Diisocyanate Polymer	In vivo	Not mutagenic
Poly(Isophorone Diisocyanate)	In Vitro	Not mutagenic
N-Butyl Acetate	In Vitro	Not mutagenic
Trimethylbenzene	In Vitro	Not mutagenic
Isophorone Diisocyanate	In vivo	Not mutagenic
Isophorone Diisocyanate	In Vitro	Some positive data exist, but the data are not sufficient for classification
Hexamethylene Diisocyanate	In Vitro	Not mutagenic
Hexamethylene Diisocyanate	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Light Aromatic Solvent Naphtha (Petroleum)	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
Hexamethylene Diisocyanate	Inhalation	Rat	Not carcinogenic

Reproductive Toxicity**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test Result	Exposure Duration
N-Butyl Acetate	Inhalation	Not classified for female reproduction	Rat	NOAEL 7.1 mg/l	prematuring & during gestation
N-Butyl Acetate	Inhalation	Not classified for development	Rat	NOAEL 7.1 mg/l	prematuring & during gestation
Light Aromatic Solvent Naphtha (Petroleum)	Inhalation	Not classified for female reproduction	Rat	NOAEL 1,500 ppm	2 generation
Light Aromatic Solvent Naphtha (Petroleum)	Inhalation	Not classified for male reproduction	Rat	NOAEL 1,500 ppm	2 generation
Light Aromatic Solvent Naphtha (Petroleum)	Inhalation	Not classified for development	Rat	NOAEL 500 ppm	2 generation
Trimethylbenzene	Inhalation	Not classified for female reproduction	Rat	NOAEL 1.2 mg/l	3 months
Trimethylbenzene	Inhalation	Not classified for male reproduction	Rat	NOAEL 1.2 mg/l	3 months
Trimethylbenzene	Inhalation	Not classified for development	Rat	NOAEL 1.5 mg/l	during gestation
Isophorone Diisocyanate	Inhalation	Not classified for female reproduction	Rat	NOAEL 0.004 mg/l	during gestation
Isophorone Diisocyanate	Inhalation	Not classified for male reproduction	Rat	NOAEL 0.004 mg/l	4 weeks
Isophorone Diisocyanate	Inhalation	Not classified for development	Rat	NOAEL 0.001 mg/l	during gestation
Hexamethylene Diisocyanate	Inhalation	Not classified for female reproduction	Rat	NOAEL 0.002 mg/l	7 weeks
Hexamethylene Diisocyanate	Inhalation	Not classified for development	Rat	NOAEL 0.002 mg/l	7 weeks
Hexamethylene Diisocyanate	Inhalation	Not classified for male reproduction	Rat	NOAEL 0.014 mg/l	4 weeks

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Hexamethylene Diisocyanate Polymer	Inhalation	respiratory irritation	May cause respiratory irritation		NOAEL Not available	
Poly(Isophorone Diisocyanate)	Inhalation	respiratory irritation	May cause respiratory irritation		NOAEL Not available	
N-Butyl Acetate	Inhalation	respiratory system	May cause damage to organs	Rat	LOAEL 2.6 mg/l	4 hours
N-Butyl Acetate	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
N-Butyl Acetate	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not available	not available
N-Butyl Acetate	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Light Aromatic Solvent Naphtha (Petroleum)	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Light Aromatic Solvent Naphtha (Petroleum)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Professional judgement	NOAEL Not available	
Light Aromatic Solvent Naphtha (Petroleum)	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	

				judgement		
Trimethylbenzene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Trimethylbenzene	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
Trimethylbenzene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Isophorone Diisocyanate	Dermal	central nervous system depression	Not classified	Rat	LOAEL 7,000 mg/kg	24 hours
Isophorone Diisocyanate	Inhalation	respiratory irritation	May cause respiratory irritation	Rat	NOAEL 0.00025 mg/l	4 weeks
Isophorone Diisocyanate	Ingestion	nervous system	Not classified	Rat	LOAEL Not available	not applicable
Hexamethylene Diisocyanate	Inhalation	respiratory irritation	May cause respiratory irritation	Human and animal	NOAEL Not available	
Hexamethylene Diisocyanate	Inhalation	blood	Not classified	Human	NOAEL Not available	occupational exposure

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Hexamethylene Diisocyanate Polymer	Inhalation	immune system blood	Not classified	Rat	NOAEL 0.084 mg/l	2 weeks
N-Butyl Acetate	Inhalation	olfactory system	Not classified	Rat	NOAEL 2.4 mg/l	14 weeks
N-Butyl Acetate	Inhalation	liver kidney and/or bladder	Not classified	Rabbit	NOAEL 7.26 mg/l	13 days
Trimethylbenzene	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.5 mg/l	3 months
Trimethylbenzene	Inhalation	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.1 mg/l	3 months
Trimethylbenzene	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Trimethylbenzene	Inhalation	liver kidney and/or bladder heart endocrine system gastrointestinal tract immune system	Not classified	Rat	NOAEL 1.2 mg/l	3 months
Trimethylbenzene	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 600 mg/kg/day	14 days
Trimethylbenzene	Ingestion	liver immune system kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Isophorone Diisocyanate	Inhalation	blood	Not classified	Rat	NOAEL 0.00025 mg/l	4 weeks
Hexamethylene Diisocyanate	Inhalation	liver kidney and/or bladder	Not classified	Rat	NOAEL 0.002 mg/l	3 weeks
Hexamethylene Diisocyanate	Inhalation	endocrine system	Not classified	Rat	NOAEL 0.0014 mg/l	4 weeks
Hexamethylene Diisocyanate	Inhalation	blood	Not classified	Rat	NOAEL 0.0012 mg/l	2 years
Hexamethylene Diisocyanate	Inhalation	nervous system	Not classified	Rat	NOAEL 0.002 mg/l	7 weeks
Hexamethylene Diisocyanate	Inhalation	heart	Not classified	Rat	NOAEL 0.001 mg/l	90 days

Aspiration Hazard

Name	Value
Light Aromatic Solvent Naphtha (Petroleum)	Aspiration hazard
Trimethylbenzene	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

SECTION 14: Transport Information

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:

Physical Hazards

Flammable (gases, aerosols, liquids, or solids)

Health Hazards

Acute toxicity

Respiratory or Skin Sensitization

Serious eye damage or eye irritation

Skin Corrosion or Irritation

Specific target organ toxicity (single or repeated exposure)

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

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

SECTION 16: Other information

NFPA Hazard Classification

Health: 2 Flammability: 2 Instability: 1 Special Hazards: Reacts with Water

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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