



Safety Data Sheet

Copyright, 2015, 3M Company.

All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

Document Group:	24-9697-4	Version Number:	3.00
Issue Date:	02/09/15	Supersedes Date:	11/23/11

SECTION 1: Identification

1.1. Product identifier

Mar-Hyde® 4.4 Ultimate™ 2K Urethane Primer Catalyst, PN 5555, 5556, 5557

Product Identification Numbers

41-3701-1629-9, 70-0080-0623-4, 70-0080-0624-2, 70-0080-0625-9

1.2. Recommended use and restrictions on use

Recommended use

Automotive, Paint Hardener

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Automotive Aftermarket
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

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 2.
Acute Toxicity (inhalation): Category 4.
Serious Eye Damage/Irritation: Category 2B.
Skin Corrosion/Irritation: Category 2.
Respiratory Sensitizer: Category 1A.
Skin Sensitizer: Category 1A.
Aspiration Hazard: Category 1.
Reproductive Toxicity: Category 1B.
Specific Target Organ Toxicity (single exposure): Category 2.
Specific Target Organ Toxicity (central nervous system): Category 3.
Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements

Signal word

Danger

Symbols

Flame | Exclamation mark | Health Hazard |

Pictograms



Hazard Statements

Highly 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 be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.
May damage fertility or the unborn child.

May cause damage to organs:
respiratory system |

Causes damage to organs through prolonged or repeated exposure:
nervous system |
sensory organs |

Precautionary Statements

General:

Keep out of reach of children.

Prevention:

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
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 INHALED: If breathing is difficult, 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 skin irritation or rash occurs: Get medical advice/attention.
 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.
 Wash contaminated clothing before reuse.
 Do NOT induce vomiting.
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
 Call a POISON CENTER or doctor/physician if you feel unwell.
 Get medical advice/attention 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 container tightly closed.
 Keep cool.
 Store locked up.

Disposal:

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

2.3. Hazards not otherwise classified

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

21% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
N-Butyl Acetate	123-86-4	30 - 60 Trade Secret *
Hexamethylene Diisocyanate Polymer	28182-81-2	15 - 40 Trade Secret *
1-Methoxy-2-Propyl Acetate	108-65-6	7 - 13 Trade Secret *
Toluene	108-88-3	7 - 13 Trade Secret *
Hexamethylene Diisocyanate	822-06-0	< 0.2 Trade Secret *
Ethylbenzene	100-41-4	< 0.1 Trade Secret *
Benzene	71-43-2	< 0.1 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:

Do not induce vomiting. Get immediate 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

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.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Hydrocarbons	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Cyanide	During Combustion
Oxides of Nitrogen	During Combustion

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.

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. 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. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

Contain spill. Cover spill area with a fire-extinguishing foam. An appropriate aqueous film forming foam (AFFF) is recommended. 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. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Dispose of collected material as soon as possible.

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. Do not handle until all safety precautions have been read and understood. 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. Use personal protective equipment (gloves, respirators, etc.) as required. 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.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Protect from sunlight. Store away from heat. Store away from acids. Store away from oxidizing agents. Store in a dry place.

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
Ethylbenzene	100-41-4	ACGIH	TWA:20 ppm	A3: Confirmed animal carcin.
Ethylbenzene	100-41-4	CMRG	TWA:25 ppm;STEL:75 ppm	
Ethylbenzene	100-41-4	OSHA	TWA:435 mg/m3(100 ppm)	
1-Methoxy-2-Propyl Acetate	108-65-6	AIHA	TWA:50 ppm	
1-Methoxy-2-Propyl Acetate	108-65-6	CMRG	TWA:10 mg/m3;STEL:90 ppm	
Toluene	108-88-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcin
Toluene	108-88-3	CMRG	STEL:75 ppm	Skin Notation
Toluene	108-88-3	OSHA	TWA:200 ppm;CEIL:300 ppm	
N-Butyl Acetate	123-86-4	ACGIH	TWA:150 ppm;STEL:200 ppm	
N-Butyl Acetate	123-86-4	OSHA	TWA:710 mg/m3(150 ppm)	
Hexamethylene Diisocyanate Polymer	28182-81-2	CMRG	TWA:0.5 mg/m3;STEL:1 mg/m3	
Benzene	71-43-2	ACGIH	TWA:0.5 ppm;STEL:2.5 ppm	A1: Confirmed human carcin., Skin Notation
Benzene	71-43-2	OSHA	TWA:1 ppm;TWA:10 ppm;STEL:5 ppm;CEIL:25 ppm	29 CFR 1910.1028
Hexamethylene Diisocyanate	822-06-0	ACGIH	TWA:0.005 ppm	
Hexamethylene Diisocyanate	822-06-0	CMRG	CEIL:0.02 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: Butyl Rubber Fluoroelastomer

Apron – Butyl rubber

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:	Clear liquid with aromatic odor
Odor threshold	<i>No Data Available</i>
pH	<i>No Data Available</i>
Melting point	<i>No Data Available</i>
Boiling Point	232 °F
Flash Point	39 °F [<i>Test Method: Closed Cup</i>]
Evaporation rate	<i>No Data Available</i>
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	1.3 %
Flammable Limits(UEL)	<i>No Data Available</i>
Vapor Pressure	1 kPa [<i>@ 0 °C</i>]
Vapor Density	<i>No Data Available</i>
Density	0.966 g/ml
Specific Gravity	0.966 [<i>Ref Std: WATER=1</i>]
Solubility in Water	Negligible

Solubility- non-water	<i>No Data Available</i>
Autoignition temperature	<i>No Data Available</i>
Decomposition temperature	<i>No Data Available</i>
Viscosity	<i>No Data Available</i>
Hazardous Air Pollutants	0 lb HAPS/lb solids
Volatile Organic Compounds	600 g/l [<i>Test Method:</i> calculated SCAQMD rule 443.1]
Volatile Organic Compounds	62.1 % weight [<i>Test Method:</i> calculated per CARB title 2]
Percent volatile	62.1 % weight
VOC Less H2O & Exempt Solvents	600 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 will not occur.

10.4. Conditions to avoid

Sparks and/or flames
Heat

10.5. Incompatible materials

Strong oxidizing agents
Alkali and alkaline earth metals
Strong acids

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

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:

Chemical (Aspiration) Pneumonitis: Signs/symptoms may include coughing, gasping, choking, burning of the mouth, difficulty breathing, bluish colored skin (cyanosis), and may be fatal.

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.

Prolonged or repeated exposure may cause target organ effects:

Prolonged or repeated exposure by ingestion may cause:

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

Prolonged or repeated exposure by inhalation may cause:

Ocular Effects: Signs/symptoms may include blurred or significantly impaired vision.

Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

Olfactory Effects: Signs/symptoms may include decreased ability to detect odors and/or complete loss of smell.

Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:

<u>Ingredient</u>	<u>CAS No.</u>	<u>Class Description</u>	<u>Regulation</u>
Benzene	71-43-2	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
Benzene	71-43-2	Known human carcinogen	National Toxicology Program Carcinogens
Benzene	71-43-2	Cancer hazard	OSHA Carcinogens
Ethylbenzene	100-41-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

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	Inhalation-Dust/Mist(4 hr)		No data available; calculated ATE 1 - 5 mg/l
Overall product	Ingestion		No data available; calculated ATE > 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
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
Toluene	Dermal	Rat	LD50 12,000 mg/kg
Toluene	Inhalation-Vapor (4 hours)	Rat	LC50 30 mg/l
Toluene	Ingestion	Rat	LD50 5,550 mg/kg
1-Methoxy-2-Propyl Acetate	Dermal	Rabbit	LD50 > 5,000 mg/kg
1-Methoxy-2-Propyl Acetate	Inhalation-Vapor (4 hours)	Rat	LC50 > 28.8 mg/l
1-Methoxy-2-Propyl Acetate	Ingestion	Rat	LD50 8,532 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
Ethylbenzene	Dermal	Rabbit	LD50 15,433 mg/kg
Ethylbenzene	Inhalation-Vapor (4 hours)	Rat	LC50 17.4 mg/l
Ethylbenzene	Ingestion	Rat	LD50 4,769 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
N-Butyl Acetate	Rabbit	Minimal irritation
Hexamethylene Diisocyanate Polymer	Rabbit	Mild irritant
Toluene	Rabbit	Irritant
1-Methoxy-2-Propyl Acetate	Rabbit	No significant irritation
Hexamethylene Diisocyanate	Rabbit	Corrosive
Ethylbenzene	Rabbit	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
N-Butyl Acetate	Rabbit	Moderate irritant
Hexamethylene Diisocyanate Polymer	Rabbit	Moderate irritant
Toluene	Rabbit	Moderate irritant
1-Methoxy-2-Propyl Acetate	Rabbit	Mild irritant
Hexamethylene Diisocyanate	Rabbit	Corrosive
Ethylbenzene	Rabbit	Moderate irritant

Skin Sensitization

Name	Species	Value
N-Butyl Acetate	Multiple animal species	Not sensitizing
Hexamethylene Diisocyanate Polymer	Guinea pig	Sensitizing
Toluene	Guinea pig	Not sensitizing
1-Methoxy-2-Propyl Acetate	Guinea pig	Not sensitizing
Hexamethylene Diisocyanate	Multiple animal species	Sensitizing
Ethylbenzene	Human	Not sensitizing

Respiratory Sensitization

Name	Species	Value
Hexamethylene Diisocyanate Polymer	similar compounds	Some positive data exist, but the data are not sufficient for classification
Hexamethylene Diisocyanate	Human and animal	Sensitizing

Germ Cell Mutagenicity

Name	Route	Value
N-Butyl Acetate	In Vitro	Not mutagenic
Hexamethylene Diisocyanate Polymer	In Vitro	Not mutagenic
Hexamethylene Diisocyanate Polymer	In vivo	Not mutagenic
Toluene	In Vitro	Not mutagenic
Toluene	In vivo	Not mutagenic
1-Methoxy-2-Propyl Acetate	In Vitro	Not mutagenic
Hexamethylene Diisocyanate	In Vitro	Not mutagenic
Hexamethylene Diisocyanate	In vivo	Not mutagenic
Ethylbenzene	In vivo	Not mutagenic
Ethylbenzene	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Toluene	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Toluene	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
Toluene	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
Hexamethylene Diisocyanate	Inhalation	Rat	Not carcinogenic
Ethylbenzene	Inhalation	Multiple animal species	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
N-Butyl Acetate	Inhalation	Not toxic to female reproduction	Rat	NOAEL 7.1 mg/l	prematuring & during gestation
N-Butyl Acetate	Inhalation	Some positive developmental data exist, but the data are not sufficient for	Rat	NOAEL 7.1 mg/l	prematuring & during

		classification			gestation
Toluene	Inhalation	Some positive female reproductive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 2.3 mg/l	1 generation
Toluene	Ingestion	Toxic to development	Rat	LOAEL 520 mg/kg/day	during gestation
Toluene	Inhalation	Toxic to development	Human	NOAEL Not available	poisoning and/or abuse
1-Methoxy-2-Propyl Acetate	Ingestion	Not toxic to female reproduction	Rat	NOAEL 1,000 mg/kg/day	prematuring & during gestation
1-Methoxy-2-Propyl Acetate	Ingestion	Not toxic to male reproduction	Rat	NOAEL 1,000 mg/kg/day	prematuring & during gestation
1-Methoxy-2-Propyl Acetate	Ingestion	Not toxic to development	Rat	NOAEL 1,000 mg/kg/day	prematuring & during gestation
1-Methoxy-2-Propyl Acetate	Inhalation	Not toxic to development	Rat	NOAEL 21.6 mg/l	during organogenesis
Hexamethylene Diisocyanate	Inhalation	Not toxic to female reproduction	Rat	NOAEL 0.002 mg/l	7 weeks
Hexamethylene Diisocyanate	Inhalation	Not toxic to development	Rat	NOAEL 0.002 mg/l	7 weeks
Hexamethylene Diisocyanate	Inhalation	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.014 mg/l	4 weeks
Ethylbenzene	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 4.3 mg/l	prematuring & during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
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
Hexamethylene Diisocyanate Polymer	Inhalation	respiratory irritation	May cause respiratory irritation		NOAEL Not available	
Toluene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Toluene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Toluene	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 0.004 mg/l	3 hours
Toluene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
1-Methoxy-2-Propyl Acetate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Hexamethylene Diisocyanate	Inhalation	respiratory irritation	May cause respiratory irritation	Human and animal	NOAEL Not available	
Hexamethylene Diisocyanate	Inhalation	blood	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Ethylbenzene	Inhalation	central nervous	May cause drowsiness or	Human	NOAEL Not	

		system depression	dizziness		available	
Ethylbenzene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
N-Butyl Acetate	Inhalation	olfactory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2.4 mg/l	14 weeks
N-Butyl Acetate	Inhalation	liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL 7.26 mg/l	13 days
Hexamethylene Diisocyanate Polymer	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL .084 mg/l	2 weeks
Hexamethylene Diisocyanate Polymer	Inhalation	blood	All data are negative	Rat	NOAEL .084 mg/l	2 weeks
Toluene	Inhalation	auditory system nervous system eyes olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Toluene	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2.3 mg/l	15 months
Toluene	Inhalation	heart liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 11.3 mg/l	15 weeks
Toluene	Inhalation	endocrine system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.1 mg/l	4 weeks
Toluene	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL Not available	20 days
Toluene	Inhalation	bone, teeth, nails, and/or hair	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 1.1 mg/l	8 weeks
Toluene	Inhalation	hematopoietic system vascular system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Toluene	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 625 mg/kg/day	13 weeks
Toluene	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 600 mg/kg/day	14 days
Toluene	Ingestion	endocrine system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 105 mg/kg/day	28 days
Toluene	Ingestion	immune system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 105 mg/kg/day	4 weeks
1-Methoxy-2-Propyl Acetate	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 16.2 mg/l	9 days
1-Methoxy-2-Propyl Acetate	Inhalation	olfactory system	Some positive data exist, but the data are not sufficient for classification	Mouse	LOAEL 1.62 mg/l	9 days
1-Methoxy-2-Propyl Acetate	Inhalation	blood	All data are negative	Multiple animal species	NOAEL 16.2 mg/l	9 days

1-Methoxy-2-Propyl Acetate	Ingestion	endocrine system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,000 mg/kg/day	44 days
Hexamethylene Diisocyanate	Inhalation	liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.002 mg/l	3 weeks
Hexamethylene Diisocyanate	Inhalation	endocrine system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.0014 mg/l	4 weeks
Hexamethylene Diisocyanate	Inhalation	blood	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.0012 mg/l	2 years
Hexamethylene Diisocyanate	Inhalation	nervous system	All data are negative	Rat	NOAEL 0.002 mg/l	7 weeks
Hexamethylene Diisocyanate	Inhalation	heart	All data are negative	Rat	NOAEL 0.001 mg/l	90 days
Ethylbenzene	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.1 mg/l	2 years
Ethylbenzene	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 1.1 mg/l	103 weeks
Ethylbenzene	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 3.4 mg/l	28 days
Ethylbenzene	Inhalation	auditory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2.4 mg/l	5 days
Ethylbenzene	Inhalation	endocrine system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3.3 mg/l	103 weeks
Ethylbenzene	Inhalation	bone, teeth, nails, and/or hair muscles	All data are negative	Multiple animal species	NOAEL 4.2 mg/l	90 days
Ethylbenzene	Inhalation	heart immune system respiratory system	All data are negative	Multiple animal species	NOAEL 3.3 mg/l	2 years
Ethylbenzene	Ingestion	liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 680 mg/kg/day	6 months

Aspiration Hazard

Name	Value
Toluene	Aspiration hazard
Ethylbenzene	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. 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

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
Toluene	108-88-3	7 - 13

15.2. State Regulations

Contact 3M for more information.

California Proposition 65

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Classification</u>
Ethylbenzene	100-41-4	Carcinogen
Toluene	108-88-3	Female reproductive toxin
Toluene	108-88-3	Developmental Toxin
Benzene	71-43-2	Male reproductive toxin
Benzene	71-43-2	Carcinogen
Benzene	71-43-2	Developmental Toxin

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

WARNING: This product contains a chemical known to the State of California to cause cancer.

15.3. Chemical Inventories

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

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: 3 Instability: 1 Special Hazards: None

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.

Document Group:	24-9697-4	Version Number:	3.00
Issue Date:	02/09/15	Supersedes Date:	11/23/11

DISCLAIMER: The information in this Safety Data Sheet (SDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

3M provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the SDS available directly from 3M

3M USA SDSs are available at www.3M.com