Safety Data Sheet

Document Group:	23-3183-3	**Version Number:**	5.00
Issue Date:	05/21/18	**Supercedes Date:**	05/21/18

SECTION 1: Identification

1.1. Product identifier
3M™ Adhesive Remover (Cylinder)

Product Identification Numbers
62-4980-8010-0, 62-4980-8012-6, 62-4980-8013-4

1.2. Recommended use and restrictions on use

Recommended use
Adhesive Remover, Industrial use

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Industrial Adhesives and Tapes Division
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

2.1. Hazard classification
Flammable Liquid: Category 1.
Skin Sensitizer: Category 1.
Specific Target Organ Toxicity (single exposure): Category 1.

2.2. Label elements
Signal word
Danger

Symbols
Flame | Exclamation mark | Health Hazard |

Pictograms

Hazard Statements
Extremely flammable liquid and vapor.

May cause an allergic skin reaction.

Causes damage to organs:
cardiovascular system |

Precautionary Statements

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.
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 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 skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
IF exposed: Call a POISON CENTER or doctor/physician.
Specific treatment (see Notes to Physician on this label).
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.
Store locked up.

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

Notes to Physician:
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
d-Limonene	5989-27-5	60 - 100 Trade Secret *

Dimethyl Ether	115-10-6	7 - 13 Trade Secret *
Isobutane	75-28-5	1 - 5 Trade Secret *
Propane	74-98-6	1 - 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. 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:
No need for first aid is anticipated.

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
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

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

Substance	Condition
Formaldehyde	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	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. 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. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. 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. 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. 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 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. Seal the container. 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. 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.

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store away from heat. Store away from acids. Store away from oxidizing agents.

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
Dimethyl Ether	115-10-6	AIHA	TWA:1880 mg/m3(1000 ppm)	
Cyclohexene, 1-methyl-4-(1-methylethenyl)-	5989-27-5	AIHA	TWA:165.5 mg/m3(30 ppm)	
Propane	74-98-6	ACGIH	Limit value not established:	simple asphyxiant
Propane	74-98-6	OSHA	TWA:1800 mg/m3(1000 ppm)	
Isobutane	75-28-5	ACGIH	STEL:1000 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:
Full Face Shield
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: Fluoroelastomer
Nitrile Rubber

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron – Nitrile

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
Half facepiece or full facepiece supplied-air respirator
Organic vapor respirators may have short service life.

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:	Liquid, clear, citrus odor
Odor threshold	*No Data Available*
pH	*Not Applicable*
Melting point	*Not Applicable*
Boiling Point	<=68 ºF
Flash Point	-50 ºF [*Test Method:*Closed Cup] [*Details:*Flammable Gas]
Evaporation rate	*No Data Available*
Flammability (solid, gas)	Not Applicable

Flammable Limits(LEL)	0.7 % volume
Flammable Limits(UEL)	27 % volume
Vapor Pressure	84.7 psia [@ 68 ºF]
Vapor Density	>=1.0 [*Ref Std:*AIR=1]
Density	0.8 g/ml
Specific Gravity	0.8 [*Ref Std:*WATER=1]
Solubility in Water	Nil
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*Not Applicable*
Viscosity	*Not Applicable*
Hazardous Air Pollutants	0 % weight [*Test Method:*Calculated]
Volatile Organic Compounds	<=800 g/l [*Test Method:*calculated SCAQMD rule 443.1] [*Details:*(low solids content)]
Solids Content	0 %

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
Heat
Sparks and/or flames

10.5. Incompatible materials
Strong oxidizing agents

10.6. Hazardous decomposition products

Substance	**Condition**
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:
May be harmful if inhaled.
May cause additional health effects (see below).

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

Eye Contact:
Contact with the eyes during product use is not expected to result in significant irritation.

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

Additional Health Effects:

Single exposure may cause target organ effects:
Single exposure, above recommended guidelines, may cause:
Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

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-Vapor(4 hr)		No data available; calculated ATE20 - 50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
d-Limonene	Inhalation-Vapor (4 hours)	Mouse	LC50 > 3.14 mg/l
d-Limonene	Dermal	Rabbit	LD50 > 5,000 mg/kg
d-Limonene	Ingestion	Rat	LD50 4,400 mg/kg
Dimethyl Ether	Inhalation-Gas (4 hours)	Rat	LC50 164,000 ppm
Isobutane	Inhalation-Gas (4 hours)	Rat	LC50 276,000 ppm
Propane	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
d-Limonene	Rabbit	Mild irritant
Isobutane	Professional judgement	No significant irritation
Propane	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
d-Limonene	Rabbit	Mild irritant
Isobutane	Professional judgement	No significant irritation
Propane	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
d-Limonene	Mouse	Sensitizing

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
d-Limonene	In Vitro	Not mutagenic
d-Limonene	In vivo	Not mutagenic
Dimethyl Ether	In Vitro	Not mutagenic
Dimethyl Ether	In vivo	Not mutagenic
Isobutane	In Vitro	Not mutagenic
Propane	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
d-Limonene	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
Dimethyl Ether	Inhalation	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
d-Limonene	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	premating & during gestation
d-Limonene	Ingestion	Not classified for development	Multiple animal species	NOAEL 591 mg/kg/day	during organogenesis
Dimethyl Ether	Inhalation	Not classified for development	Rat	NOAEL 40,000 ppm	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
d-Limonene	Ingestion	nervous system	Not classified		NOAEL Not available	
Dimethyl Ether	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 10,000 ppm	30 minutes
Dimethyl Ether	Inhalation	cardiac sensitization	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 100,000 ppm	5 minutes
Isobutane	Inhalation	cardiac sensitization	Causes damage to organs	Multiple animal	NOAEL Not available	

				species		
Isobutane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Isobutane	Inhalation	respiratory irritation	Not classified	Mouse	NOAEL Not available	
Propane	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	
Propane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Propane	Inhalation	respiratory irritation	Not classified	Human	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
d-Limonene	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 75 mg/kg/day	103 weeks
d-Limonene	Ingestion	liver	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
d-Limonene	Ingestion	heart | endocrine system | bone, teeth, nails, and/or hair | hematopoietic system | immune system | muscles | nervous system | respiratory system	Not classified	Rat	NOAEL 600 mg/kg/day	103 weeks
Dimethyl Ether	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 25,000 ppm	2 years
Dimethyl Ether	Inhalation	liver	Not classified	Rat	NOAEL 20,000 ppm	30 weeks
Isobutane	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 4,500 ppm	13 weeks

Aspiration Hazard

Name	Value
d-Limonene	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.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

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.

EPCRA 311/312 Hazard Classifications:

Physical Hazards
Flammable (gases, aerosols, liquids, or solids)

Health Hazards
Respiratory or Skin Sensitization
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:** 4 **Instability:** 0 **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:	23-3183-3	**Version Number:**	5.00
Issue Date:	05/21/18	**Supercedes Date:**	05/21/18

DISCLAIMER: The information in this Safety Data Sheet (SDS) is believed to be correct as of the date issued.3MMAKES 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 the3Mproduct 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 a3Mproduct, some of which are uniquely within the user's knowledge and control,it is essential that the user evaluate the3Mproduct to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

3Mprovides 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,3Mmakes 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 from3M

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