Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier
3M™ Citrus Based Adhesive Remover, bulk

Product Identification Numbers

1.2. Recommended use and restrictions on use

Recommended use
Adhesive Remover, citrus base adhesive remover

Restrictions on use
Sale and use severely restricted due to high VOC in containers > 16 oz.

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 3.
Skin Sensitizer: Category 1.
Aspiration Hazard: Category 1.

2.2. Label elements
Signal word
Danger

Symbols
Flame | Exclamation mark | Health Hazard |
Pictograms

Hazard Statements
Flammable liquid and vapor.
May cause an allergic skin reaction.
May be fatal if swallowed and enters airways.

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.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wear protective gloves and eye/face protection.
Contaminated work clothing must not be allowed out of the workplace.

Response:
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.
Wash contaminated clothing before reuse.
Do NOT induce vomiting.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

Storage:
Keep cool.
Store locked up in a well-ventilated place.

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

SECTION 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No.</th>
<th>% by Wt</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-Limonene</td>
<td>5989-27-5</td>
<td>95 - 100 Trade Secret *</td>
</tr>
</tbody>
</table>

*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.

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
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. Avoid breathing 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

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.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No.</th>
<th>Agency</th>
<th>Limit type</th>
<th>Additional Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexene, 1-methyl-4-(1-methylethenyl)-</td>
<td>5989-27-5</td>
<td>AIHA</td>
<td>TWA:165.5 mg/m3(30 ppm)</td>
<td></td>
</tr>
</tbody>
</table>

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 explosion-proof ventilation equipment. 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.

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: Safety Glasses with side shields

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

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Physical Form:</td>
<td>Liquid</td>
</tr>
<tr>
<td>Odor, Color, Grade:</td>
<td>colorless to light yellow, citrus odor</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No Data Available</td>
</tr>
<tr>
<td>pH</td>
<td>7 [Details:CONDITIONS: 5% solution in water]</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>340 - 372 ºF</td>
</tr>
<tr>
<td>Flash Point</td>
<td>117 ºF [Test Method:Pensky-Martens Closed Cup]</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>&lt;=1 [Ref Std:BUOAC=1]</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Flammable Limits(LEL)</td>
<td>0.7 % [Details:CONDITIONS: @150 C]</td>
</tr>
<tr>
<td>Flammable Limits(UEL)</td>
<td>Approximately 6.1 % [Details:CONDITIONS: @262 C]</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>&lt;=2 mmHg</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>&gt;=1 [Ref Std:AIR=1]</td>
</tr>
<tr>
<td>Density</td>
<td>0.84 g/ml</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>Approximately 0.84 Units not avail. or not appl. [Ref Std:WATER=1]</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Nil</td>
</tr>
<tr>
<td>Solubility- non-water</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/ water</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Approximately 0.8 centipoise</td>
</tr>
<tr>
<td>Hazardous Air Pollutants</td>
<td>0 % weight [Test Method:Calculated]</td>
</tr>
<tr>
<td>Volatile Organic Compounds</td>
<td>840 g/l [Test Method:calculated SCAQMD rule 443.1] [Details:Material VOC]</td>
</tr>
<tr>
<td>Volatile Organic Compounds</td>
<td>100 % [Test Method:calculated per CARB title 2]</td>
</tr>
<tr>
<td>Solids Content</td>
<td>0 %</td>
</tr>
</tbody>
</table>

**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
Temperatures above the boiling point

10.5. Incompatible materials
Strong bases
Strong oxidizing agents

10.6. Hazardous decomposition products

<table>
<thead>
<tr>
<th>Substance</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons</td>
<td>Oxidation, heat or reaction</td>
</tr>
<tr>
<td>Carbon monoxide</td>
<td>Oxidation, heat or reaction</td>
</tr>
<tr>
<td>Carbon dioxide</td>
<td>Oxidation, heat or reaction</td>
</tr>
<tr>
<td>Irritant Vapors or Gases</td>
<td>Oxidation, heat or reaction</td>
</tr>
</tbody>
</table>

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

**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:**
May be harmful if swallowed.
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.
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**

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-Limonene</td>
<td>Inhalation- Vapor (4 hours)</td>
<td>Mouse</td>
<td>LC50 &gt; 3.14 mg/l</td>
</tr>
<tr>
<td>D-Limonene</td>
<td>Dermal</td>
<td>Rabbit</td>
<td>LD50 &gt; 5,000 mg/kg</td>
</tr>
<tr>
<td>D-Limonene</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50  4,400 mg/kg</td>
</tr>
</tbody>
</table>

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-Limonene</td>
<td>Rabbit</td>
<td>Mild irritant</td>
</tr>
</tbody>
</table>

**Serious Eye Damage/Irritation**

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-Limonene</td>
<td>Rabbit</td>
<td>Mild irritant</td>
</tr>
</tbody>
</table>

**Skin Sensitization**

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-Limonene</td>
<td>Mouse</td>
<td>Sensitizing</td>
</tr>
</tbody>
</table>

**Respiratory Sensitization**

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

**Germ Cell Mutagenicity**

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-Limonene</td>
<td>In Vitro</td>
<td>Not mutagenic</td>
</tr>
<tr>
<td>D-Limonene</td>
<td>In vivo</td>
<td>Not mutagenic</td>
</tr>
</tbody>
</table>

**Carcinogenicity**

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-Limonene</td>
<td>Ingestion</td>
<td>Rat</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
</tr>
</tbody>
</table>

**Reproductive Toxicity**

**Reproductive and/or Developmental Effects**

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Value</th>
<th>Species</th>
<th>Test Result</th>
<th>Exposure Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-Limonene</td>
<td>Ingestion</td>
<td>Not classified for female reproduction</td>
<td>Rat</td>
<td>NOAEL 750 mg/kg/day</td>
<td>premating &amp; during gestation</td>
</tr>
<tr>
<td>D-Limonene</td>
<td>Ingestion</td>
<td>Not classified for development</td>
<td>Multiple animal species</td>
<td>NOAEL 591 mg/kg/day</td>
<td>during organogenesis</td>
</tr>
</tbody>
</table>

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Target Organ(s)</th>
<th>Value</th>
<th>Species</th>
<th>Test Result</th>
<th>Exposure Duration</th>
</tr>
</thead>
</table>
**Specific Target Organ Toxicity - repeated exposure**

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Target Organ(s)</th>
<th>Value</th>
<th>Species</th>
<th>Test Result</th>
<th>Exposure Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-Limonene</td>
<td>Ingestion</td>
<td>kidney and/or bladder</td>
<td>Not classified</td>
<td>Rat</td>
<td>LOAEL 75 mg/kg/day</td>
<td>103 weeks</td>
</tr>
<tr>
<td>D-Limonene</td>
<td>Ingestion</td>
<td>liver</td>
<td>Not classified</td>
<td>Mouse</td>
<td>NOAEL 1,000 mg/kg/day</td>
<td>103 weeks</td>
</tr>
<tr>
<td>D-Limonene</td>
<td>Ingestion</td>
<td>heart</td>
<td>endocrine system</td>
<td>bone, teeth, nails, and/or hair</td>
<td>hematopoietic system</td>
<td>immune system</td>
</tr>
</tbody>
</table>

**Aspiration Hazard**

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-Limonene</td>
<td>Aspiration hazard</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Physical Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable (gases, aerosols, liquids, or solids)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspiration Hazard</td>
</tr>
<tr>
<td>Respiratory or Skin Sensitization</td>
</tr>
</tbody>
</table>

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: 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.

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