SECTION 1: Identification

1.1. Product identifier
3M(TM) Silicone Lubricant

Product Identification Numbers

1.2. Recommended use and restrictions on use

Recommended use
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 Aerosol: Category 1.
Serious Eye Damage/Irritation: Category 2B.
Simple Asphyxiant.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (central nervous system): Category 3.

2.2. Label elements

Signal word
Danger

Symbols
Flame | Exclamation mark | Health Hazard |

Pictograms
Hazard Statements
Extremely flammable aerosol.
Causes eye irritation.
May cause drowsiness or dizziness.
May displace oxygen and cause rapid suffocation.
Causes damage to organs:
cardiovascular system

Precautionary Statements
General:
Keep out of reach of children.

Prevention:
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

Response:
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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 exposed: Call a POISON CENTER or doctor/physician.
Specific treatment (see Notes to Physician on this label).

Storage:
Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.
Keep container tightly closed.
Store locked up in a well-ventilated place.

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.

2.3. Hazards not otherwise classified
Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal. May cause frostbite.

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>Isobutane</td>
<td>75-28-5</td>
<td>70 - 80</td>
</tr>
</tbody>
</table>
SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. Get medical attention.

Skin Contact:
Thaw frosted skin with lukewarm water. Do not rub affected area. Get medical attention.

Eye Contact:
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. 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
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
Use a fire fighting agent suitable for the surrounding fire. In case of fire: Use a carbon dioxide or dry chemical extinguisher 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

<table>
<thead>
<tr>
<th>Substance</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon monoxide</td>
<td>During Combustion</td>
</tr>
<tr>
<td>Carbon dioxide</td>
<td>During Combustion</td>
</tr>
</tbody>
</table>

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. 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.

6.3. Methods and material for containment and cleaning up
If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Seal the container. Dispose of collected material as soon as possible.

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. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. 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. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. 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.

<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>Heptane</td>
<td>142-82-5</td>
<td>ACGIH</td>
<td>TWA:400 ppm; STEL:500 ppm</td>
<td></td>
</tr>
<tr>
<td>Heptane</td>
<td>142-82-5</td>
<td>OSHA</td>
<td>TWA:2000 mg/m3(500 ppm)</td>
<td></td>
</tr>
<tr>
<td>Isobutane</td>
<td>75-28-5</td>
<td>ACGIH</td>
<td>STEL:1000 ppm</td>
<td></td>
</tr>
<tr>
<td>Natural gas</td>
<td>75-28-5</td>
<td>ACGIH</td>
<td>Limit value not established:</td>
<td></td>
</tr>
</tbody>
</table>

AGCIH : American Conference of Governmental Industrial Hygienists
OSHA : United States Department of Labor - Occupational Safety and Health Administration
CMRG : Chemical Manufacturer's Recommended Guidelines

8.2. Exposure controls

8.2.1. Engineering controls
Do not remain in area where available oxygen may be reduced. 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:
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

**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 supplied-air respirator

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

**Thermal hazards**
Wear cold insulating gloves/face shield/eye protection.

### SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Physical Form:</strong></td>
<td>Liquid</td>
</tr>
<tr>
<td><strong>Odor, Color, Grade:</strong></td>
<td>in aerosol, transparent, very slight odor</td>
</tr>
<tr>
<td><strong>Odor threshold</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>Not Applicable</td>
</tr>
<tr>
<td><strong>Melting point</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Boiling Point</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Flash Point</strong></td>
<td>-50 °F [Test Method: Tagliabue Closed Cup]</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>1.90 [Ref Std: WATER = 1]</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>Not Applicable</td>
</tr>
<tr>
<td><strong>Flammable Limits (LEL)</strong></td>
<td>Approximately 1.5% volume</td>
</tr>
<tr>
<td><strong>Flammable Limits (UEL)</strong></td>
<td>Approximately 8% volume</td>
</tr>
<tr>
<td><strong>Vapor Density</strong></td>
<td>2.97 [Ref Std: AIR = 1]</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>0.64 g/ml</td>
</tr>
<tr>
<td><strong>Specific Gravity</strong></td>
<td>0.640 [Ref Std: WATER = 1]</td>
</tr>
<tr>
<td><strong>Solubility in Water</strong></td>
<td>Nil</td>
</tr>
<tr>
<td><strong>Solubility- non-water</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Partition coefficient: n-octanol/ water</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Autoignition temperature</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>Not Applicable</td>
</tr>
<tr>
<td><strong>Hazardous Air Pollutants</strong></td>
<td>0% weight [Test Method: Calculated]</td>
</tr>
<tr>
<td><strong>Volatile Organic Compounds</strong></td>
<td>&lt;= 606 g/l [Test Method: calculated SCAQMD rule 443.1]</td>
</tr>
<tr>
<td><strong>Volatile Organic Compounds</strong></td>
<td>&lt;= 94.7% [Test Method: calculated per CARB title 2]</td>
</tr>
<tr>
<td><strong>Solids Content</strong></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
Heat

10.5. Incompatible materials
Strong oxidizing agents

10.6. Hazardous decomposition products

<table>
<thead>
<tr>
<th>Substance</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>None known.</td>
<td></td>
</tr>
</tbody>
</table>

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:**
Intentional concentration and inhalation may be harmful or fatal.

Simple Asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal.

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

May cause additional health effects (see below).

**Skin Contact:**
Frostbite: Signs/symptoms may include intense pain, discoloration of skin, and tissue destruction.

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

**Eye Contact:**
Frostbite: Signs/symptoms may include intense pain, clouding of the cornea, redness, swelling, and blindness.
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.

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

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall product</td>
<td>Ingestion</td>
<td>No data available; calculated ATE &gt; 5,000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Isobutane</td>
<td>Inhalation-Gas (4 hours)</td>
<td>Rat</td>
<td>LC50 276,000 ppm</td>
</tr>
<tr>
<td>Heptane</td>
<td>Dermal</td>
<td>Rabbit</td>
<td>LD50 3,000 mg/kg</td>
</tr>
<tr>
<td>Heptane</td>
<td>Inhalation-Vapor (4 hours)</td>
<td>Rat</td>
<td>LC50 103 mg/l</td>
</tr>
<tr>
<td>Heptane</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 &gt; 15,000 mg/kg</td>
</tr>
<tr>
<td>Poly(dimethylsiloxane)</td>
<td>Dermal</td>
<td>Rabbit</td>
<td>LD50 &gt; 19,400 mg/kg</td>
</tr>
<tr>
<td>Poly(dimethylsiloxane)</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 &gt; 17,000 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>Isobutane</td>
<td>Professional judgement</td>
<td>No significant irritation</td>
</tr>
<tr>
<td>Heptane</td>
<td>Human</td>
<td>Mild irritant</td>
</tr>
<tr>
<td>Poly(dimethylsiloxane)</td>
<td>Rabbit</td>
<td>No significant irritation</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>Isobutane</td>
<td>Professional judgement</td>
<td>No significant irritation</td>
</tr>
<tr>
<td>Heptane</td>
<td>Professional judgement</td>
<td>Moderate irritant</td>
</tr>
<tr>
<td>Poly(dimethylsiloxane)</td>
<td>Rabbit</td>
<td>No significant irritation</td>
</tr>
</tbody>
</table>

### Skin Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.
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>Isobutane</td>
<td>In Vitro</td>
<td>Not mutagenic</td>
</tr>
<tr>
<td>Heptane</td>
<td>In Vitro</td>
<td>Not mutagenic</td>
</tr>
</tbody>
</table>

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

Reproductive Toxicity

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

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>
<tbody>
<tr>
<td>Isobutane</td>
<td>Inhalation</td>
<td>cardiac sensitization</td>
<td>Causes damage to organs</td>
<td>Multiple animal species</td>
<td>NOAEL Not available</td>
<td></td>
</tr>
<tr>
<td>Isobutane</td>
<td>Inhalation</td>
<td>central nervous system depression</td>
<td>May cause drowsiness or dizziness</td>
<td>Human and animal</td>
<td>NOAEL Not available</td>
<td></td>
</tr>
<tr>
<td>Isobutane</td>
<td>Inhalation</td>
<td>respiratory irritation</td>
<td>All data are negative</td>
<td>Mouse</td>
<td>NOAEL Not available</td>
<td></td>
</tr>
<tr>
<td>Heptane</td>
<td>Inhalation</td>
<td>central nervous system depression</td>
<td>May cause drowsiness or dizziness</td>
<td>Human</td>
<td>NOAEL Not available</td>
<td></td>
</tr>
<tr>
<td>Heptane</td>
<td>Inhalation</td>
<td>respiratory irritation</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
<td>Human</td>
<td>NOAEL Not available</td>
<td></td>
</tr>
<tr>
<td>Heptane</td>
<td>Ingestion</td>
<td>central nervous system depression</td>
<td>May cause drowsiness or dizziness</td>
<td>Human</td>
<td>NOAEL Not available</td>
<td></td>
</tr>
</tbody>
</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>Isobutane</td>
<td>Inhalation</td>
<td>kidney and/or bladder</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
<td>Rat</td>
<td>NOAEL 4,500 ppm</td>
<td>13 weeks</td>
</tr>
<tr>
<td>Heptane</td>
<td>Inhalation</td>
<td>liver</td>
<td>nervous system</td>
<td>kidney and/or bladder</td>
<td>All data are negative</td>
<td>Rat</td>
</tr>
</tbody>
</table>

Aspiration Hazard

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heptane</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](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 - Yes  Reactivity Hazard - No  Immediate Hazard - Yes  Delayed Hazard - No

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.

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  Aerosol Storage Code:  3

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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