



Safety Data Sheet

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|------------------------|------------|-------------------------|------------|
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This Safety Data Sheet has been prepared in accordance with the Malaysia Occupational Safety and Health (Chemical Classification, Labelling and Safety Data Sheets) Regulations 2013.

SECTION 1: Identification

1.1. Product identifier

3M(TM) Silicone Lubricant

Product Identification Numbers

62-4678-4920-4 62-4678-4930-3 62-4678-4935-2

1.2. Recommended use and restrictions on use

Recommended use

Industrial use

1.3. Supplier's details

ADDRESS: 3M Malaysia Sdn. Bhd., Level 8, Block F, Oasis Square, No.2, Jalan PJU 1A/7A, Ara Damansara 47301
Petaling, Jaya, Selangor
Telephone: 03-7884 2888
E Mail: 3mmyehsr@mmm.com
Website: www.3M.com.my

1.4. Emergency telephone number

+60 03-7884 2888

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Flammable Aerosol: Category 1.
Gas Under Pressure: Liquefied gas.
Skin Corrosion/Irritation: Category 2.
Serious Eye Damage/Irritation: Category 2.
Specific Target Organ Toxicity (single exposure): Category 1.
Chronic Aquatic Toxicity: Category 2.

2.2. Label elements

Signal word

Danger

Symbols

Flame | Gas cylinder | Exclamation mark | Health Hazard | Environment |

Pictograms



Hazard Statements:

| | |
|------|---|
| H222 | Extremely flammable aerosol. |
| H280 | Contains gas under pressure; may explode if heated. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H370 | Causes damage to organs: cardiovascular system. |
| H411 | Toxic to aquatic life with long lasting effects. |

Precautionary statements

Prevention:

| | |
|------|--|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P211 | Do not spray on an open flame or other ignition source. |
| P251 | Do not pierce or burn, even after use. |
| P260 | Do not breathe dust/fume/gas/mist/vapors/spray. |
| P273 | Avoid release to the environment. |

Response:

| | |
|--------------------|--|
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P307+ P311 | IF exposed: Call a POISON CENTER or doctor/physician. |

Storage:

| | |
|-------------|--|
| P410 + P412 | Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. |
|-------------|--|

Disposal:

| | |
|------|--|
| P501 | Dispose of contents/container in accordance with applicable local/regional/national/international regulations. |
|------|--|

2.3. Other hazards

Aspiration classification does not apply as this product is sold in sealed, self-pressurized containers with nozzles designed to prevent formation of a stream during usage., Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal., May cause drowsiness or dizziness., May cause frostbite.

SECTION 3: Composition/information on ingredients

This material is a mixture.

| Ingredient | C.A.S. No. | % by Wt |
|------------------------|------------|---------|
| Isobutane | 75-28-5 | 70 - 80 |
| Heptane | 142-82-5 | 15 - 25 |
| Poly(dimethylsiloxane) | 63148-62-9 | 3 - 7 |

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

No critical symptoms or effects. 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.

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

Formaldehyde
Carbon monoxide
Carbon dioxide

Condition

During Combustion
During Combustion
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. 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

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

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 in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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 50°C/122°F. 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 |
|------------|------------|---------------|----------------------------------|---------------------|
| Heptane | 142-82-5 | ACGIH | TWA:400 ppm;STEL:500 ppm | |
| Heptane | 142-82-5 | Malaysia OELs | TWA(8 hours):1640 mg/m3(400 ppm) | |
| Isobutane | 75-28-5 | ACGIH | STEL:1000 ppm | |

ACGIH : American Conference of Governmental Industrial Hygienists

CMRG : Chemical Manufacturer's Recommended Guidelines

Malaysia OELs : Malaysia. Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

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:

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

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

9.1. Information on basic physical and chemical properties

| | |
|--|---|
| Physical state | Liquid |
| Color | Colorless |
| Odor | Mild Solvent |
| Odor threshold | <i>No Data Available</i> |
| pH | <i>Not Applicable</i> |
| Melting point/Freezing point | <i>No Data Available</i> |
| Boiling point/Initial boiling point/Boiling range | <i>No Data Available</i> |
| Flash Point | -45.6 °C [Test Method:Tagliabue Closed Cup] [Details:CONDITIONS: Propellant] |
| Evaporation rate | 1.9 [Ref Std:WATER=1] |
| Flammability | Flammable Aerosol: Category 1. |
| Flammable Limits(LEL) | Approximately 1.5 % volume |
| Flammable Limits(UEL) | Approximately 8 % volume |
| Vapor Pressure | <i>Not Applicable</i> |
| Vapor Density and/or Relative Vapor Density | 2.97 [Ref Std:AIR=1] |
| Density | 0.64 g/ml |
| Relative Density | 0.64 [Ref Std:WATER=1] |
| Water solubility | Nil |
| Solubility- non-water | <i>No Data Available</i> |
| Partition coefficient: n-octanol/ water | <i>No Data Available</i> |
| Autoignition temperature | <i>No Data Available</i> |
| Decomposition temperature | <i>No Data Available</i> |
| Kinematic Viscosity | <i>Not Applicable</i> |
| Volatile Organic Compounds | <=606 g/l [Test Method:calculated SCAQMD rule 443.1] [Details:Material VOC] |
| Volatile Organic Compounds | <=94.7 % [Test Method:calculated per CARB title 2] |
| Percent volatile | <i>No Data Available</i> |
| VOC Less H2O & Exempt Solvents | <i>No Data Available</i> |
| Molecular weight | <i>No Data Available</i> |
| Solids Content | 0 % |

| | |
|---------------------------------|-----------------------|
| Particle Characteristics | <i>Not Applicable</i> |
|---------------------------------|-----------------------|

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

| <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:

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.

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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

| Name | Route | Species | Value |
|------------------------|----------------------------|---------|--|
| Overall product | Dermal | | No data available; calculated ATE >5,000 mg/kg |
| Overall product | Ingestion | | No data available; calculated ATE >5,000 mg/kg |
| Isobutane | Inhalation-Gas (4 hours) | Rat | LC50 276,000 ppm |
| Heptane | Dermal | Rabbit | LD50 3,000 mg/kg |
| Heptane | Inhalation-Vapor (4 hours) | Rat | LC50 103 mg/l |
| Heptane | Ingestion | Rat | LD50 > 15,000 mg/kg |
| Poly(dimethylsiloxane) | Dermal | Rabbit | LD50 > 19,400 mg/kg |
| Poly(dimethylsiloxane) | Ingestion | Rat | LD50 > 17,000 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|------------------------|------------------------|---------------------------|
| Isobutane | Professional judgement | No significant irritation |
| Heptane | Human | Mild irritant |
| Poly(dimethylsiloxane) | Rabbit | No significant irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|------------------------|------------------------|---------------------------|
| Isobutane | Professional judgement | No significant irritation |
| Heptane | Professional judgement | Moderate irritant |
| Poly(dimethylsiloxane) | Rabbit | No significant irritation |

Sensitization:

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

| Name | Route | Value |
|-----------|----------|---------------|
| Isobutane | In Vitro | Not mutagenic |
| Heptane | In Vitro | Not mutagenic |

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**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|-----------|------------|-----------------------------------|--|-------------------------|---------------------|-------------------|
| Isobutane | Inhalation | cardiac sensitization | Causes damage to organs | Multiple animal species | NOAEL Not available | |
| 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 | |
| Heptane | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Heptane | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| Heptane | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|-----------|------------|--|----------------|---------|-----------------|-------------------|
| Isobutane | Inhalation | kidney and/or bladder | Not classified | Rat | NOAEL 4,500 ppm | 13 weeks |
| Heptane | Inhalation | liver nervous system kidney and/or bladder | Not classified | Rat | NOAEL 12 mg/l | 26 weeks |

Aspiration Hazard

| Name | Value |
|---------|-------------------|
| Heptane | 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

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labeling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:

GHS Acute 3: Harmful to aquatic life.

Chronic aquatic hazard:

Not chronically toxic to aquatic life by GHS criteria.

No product test data available

| Material | Cas # | Organism | Type | Exposure | Test Endpoint | Test Result |
|------------------------|------------|------------|---|----------|---------------|-------------|
| Isobutane | 75-28-5 | N/A | Data not available or insufficient for classification | N/A | N/A | N/A |
| Heptane | 142-82-5 | Water flea | Experimental | 48 hours | EC50 | 1.5 mg/l |
| Heptane | 142-82-5 | Water flea | Estimated | 21 days | NOEC | 0.17 mg/l |
| Poly(dimethylsiloxane) | 63148-62-9 | N/A | Data not available or insufficient for classification | N/A | N/A | N/A |

12.2. Persistence and degradability

| Material | CAS No. | Test Type | Duration | Study Type | Test Result | Protocol |
|------------------------|------------|------------------------------------|----------|-------------------------------|-------------------|----------------------|
| Isobutane | 75-28-5 | Experimental Photolysis | | Photolytic half-life (in air) | 13.4 days (t 1/2) | |
| Heptane | 142-82-5 | Experimental Biodegradation | 28 days | Biological Oxygen Demand | 101 %BOD/ThOD | OECD 301C - MITI (I) |
| Heptane | 142-82-5 | Experimental Photolysis | | Photolytic half-life (in air) | 4.24 days (t 1/2) | |
| Poly(dimethylsiloxane) | 63148-62-9 | Data not available or insufficient | N/A | N/A | N/A | N/A |

12.3. Bioaccumulative potential

| Material | CAS No. | Test Type | Duration | Study Type | Test Result | Protocol |
|------------------------|------------|---|----------|---|-------------|----------|
| Isobutane | 75-28-5 | Experimental Bioconcentration | | Log of Octanol/H ₂ O part. coeff | 2.76 | |
| Heptane | 142-82-5 | Estimated Bioconcentration | | Bioaccumulation Factor | 105 | |
| Poly(dimethylsiloxane) | 63148-62-9 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1. Disposal methods

According to the Environmental Quality (Scheduled Wastes) Regulations 2005, scheduled waste has to be sent to a prescribed premise for recycling, treatment or disposal. Please approach Kualiti Alam for proper schedule waste classification and disposal.

SECTION 14: Transport Information

Marine Transport (IMDG)

UN Number:UN1950

Proper Shipping Name:AEROSOLS, FLAMMABLE

Technical Name:None assigned.

Hazard Class/Division:2.1

Subsidiary Risk:None assigned.

Packing Group:None assigned.

Limited Quantity:Yes

Marine Pollutant: None assigned.

Marine Pollutant Technical Name: None assigned.

Other Dangerous Goods Descriptions:

None assigned.

Air Transport (IATA)

UN Number:UN1950

Proper Shipping Name:AEROSOLS, FLAMMABLE

Technical Name:None assigned.

Hazard Class/Division:2.1

Subsidiary Risk:None assigned.

Packing Group:None assigned.

Limited Quantity:None assigned.

Marine Pollutant: None assigned.

Marine Pollutant Technical Name: None assigned.

Other Dangerous Goods Descriptions:

None assigned.

Transportation classifications are provided as a customer service. As for shipping, YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. 3M's transportation classifications are based on product formulation, packaging, 3M policies and 3M's understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to transportation classification and not the packaging, labeling or marking requirements. The above information is only for reference. If you are shipping by air or ocean, YOU are advised to check & meet applicable regulatory requirements.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Global inventory status

Contact 3M for more information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. 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.

SECTION 16: Other information

DISCLAIMER: The information in this Safety Data Sheet (SDS) is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this SDS or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own evaluation to satisfy themselves as to the suitability of the product for their own intended applications. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into Malaysia, you are responsible for all applicable regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration/notification.

3M Malaysia SDSs are available at www.3M.com.my