



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the SS586 Specification for Hazard Communication for Hazardous Chemicals and Dangerous Goods.

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|------------------------|------------|-------------------------|------------|
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SECTION 1: Identification

1.1. Product identifier

3M™ Stainless Steel Cleaner & Polish

1.2. Recommended use and restrictions on use

Recommended use

Metal Polish, Cleans and polishes stainless steel, chrome, aluminum and laminated plastic surfaces.

1.3. Supplier's details

Address: 3M Technologies (S) Pte Ltd, 10 Ang Mo Kio Street 65, Singapore 569059
Telephone: +65 6450 8888
Website: www.3m.com.sg

1.4. Emergency telephone number

+65 6591 6601 (8.15am - 5.00pm, Monday - Friday)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Aerosol: Category 1.

Specific Target Organ Toxicity (single exposure): Category 1.

2.2. Label elements

SIGNAL WORD

DANGER!

Symbols

Flame | Health Hazard |

Pictograms



HAZARD STATEMENTS

| | |
|------|---|
| H222 | Extremely flammable aerosol. |
| H229 | Pressurized container: may burst if heated. |
| H370 | Causes damage to organs: cardiovascular system. |

PRECAUTIONARY STATEMENTS**Prevention:**

| | |
|------|---|
| 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/vapours/spray. |

Response:

| | |
|-------------|--|
| P308 + P311 | IF exposed or concerned: Call a POISON CENTER or doctor/physician. |
|-------------|--|

Storage:

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

2.3. Other hazards

Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal.

SECTION 3: Composition/information on ingredients

This material is a mixture.

| Ingredient | CAS Nbr | % by Wt |
|-------------------------------|----------------|----------------|
| Non-hazardous ingredients | Mixture | 40 - 70 |
| White mineral oil (petroleum) | 8042-47-5 | 10 - 30 |
| Isobutane | 75-28-5 | 7 - 13 |
| Sorbitan Oleate | 1338-43-8 | 0.5 - 1.5 |

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation**

Remove person to fresh air. Get medical attention.

Skin contact

Wash with soap and water. If you feel unwell, 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

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Target organ effects. See Section 11 for additional details.

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**

Carbon monoxide.

Carbon dioxide.

Condition

During combustion.

During combustion.

5.3. Special protective actions for fire-fighters

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.

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. 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 closed container approved for transportation by appropriate authorities. Clean up residue with water. 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/vapours/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 oxidising agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store away from heat. Store away from acids. Store away from oxidising 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 | CAS Nbr | Agency | Limit type | Additional comments |
|-----------------------------------|-----------|----------------|--|--------------------------------|
| Isobutane | 75-28-5 | ACGIH | STEL:1000 ppm | |
| Natural gas | 75-28-5 | ACGIH | Limit value not established: | asphyxiant |
| MINERAL OILS, HIGHLY-REFINED OILS | 8042-47-5 | ACGIH | TWA(inhalable fraction):5 mg/m3 | A4: Not class. as human carcin |
| Oil mist mineral | 8042-47-5 | Singapore PELs | TWA(as mist)(8 hours):5 mg/m3;STEL(as mist)(15 minutes):10 mg/m3 | |

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

Singapore PELs : Singapore. Workplace Safety and Health (Permissible Exposure Levels of Toxic Substances) Order

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/vapours/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

No chemical protective gloves are required.

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.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

| | |
|-------------------------|--------------------|
| Physical state | Liquid. |
| Specific Physical Form: | Aerosol |
| Color | White |
| Odor | Mild Citrus |
| Odour threshold | No data available. |
| pH | 9 - 11 |

| | |
|--|--|
| Melting point/Freezing point | <i>Not applicable.</i> |
| Boiling point/Initial boiling point/Boiling range | > 100 °C |
| Flash point | No flash point |
| Evaporation rate | <i>No data available.</i> |
| Flammability | Flammable Aerosol: Category 1. |
| Flammable Limits(LEL) | <i>No data available.</i> |
| Flammable Limits(UEL) | <i>No data available.</i> |
| Vapor Density and/or Relative Vapor Density | <i>No data available.</i> |
| Density | 0.95 g/ml |
| Relative density | 0.92 - 0.98 [Ref Std: WATER=1] |
| Water solubility | Complete |
| 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 | 3,053 mm ² /sec |
| Volatile organic compounds (VOC) | 10 - 12 % weight [Test Method:calculated per CARB title 2] |
| Percent volatile | 75 - 80 % weight |
| VOC less H₂O & exempt solvents | 265 - 295 g/l [Test Method:calculated per CARB title 2] |
| Molecular weight | <i>No data available.</i> |

| | |
|---------------------------------|------------------------|
| 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 polymerisation will not occur.

10.4 Conditions to avoid

Heat.

Sparks and/or flames.

10.5 Incompatible materials

Strong oxidising agents.

Strong acids.

10.6 Hazardous decomposition products

Substance

None known.

Condition

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 labelling, 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 cause additional health effects (see below).

Skin contact

Contact with the skin during product use is not expected to result in significant irritation.

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 diarrhoea.

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 | Ingestion | | No data available; calculated ATE >5,000 mg/kg |
| White mineral oil (petroleum) | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| White mineral oil (petroleum) | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Isobutane | Inhalation-Gas (4 hours) | Rat | LC50 276,000 ppm |
| Sorbitan Oleate | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Sorbitan Oleate | Ingestion | Rat | LD50 > 39,800 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|-------------------------------|------------------------|---------------------------|
| White mineral oil (petroleum) | Rabbit | No significant irritation |
| Isobutane | Professional judgement | No significant irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|-------------------------------|------------------------|---------------------------|
| White mineral oil (petroleum) | Rabbit | Mild irritant |
| Isobutane | Professional judgement | No significant irritation |

| | | |
|--|----------------------|--|
| | nal judgemen t | |
|--|----------------------|--|

Sensitization:**Skin Sensitisation**

| Name | Species | Value |
|-------------------------------|------------|----------------|
| White mineral oil (petroleum) | Guinea pig | Not classified |

Respiratory Sensitisation

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

Germ Cell Mutagenicity

| Name | Route | Value |
|-------------------------------|----------|---------------|
| White mineral oil (petroleum) | In Vitro | Not mutagenic |
| Isobutane | In Vitro | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|-------------------------------|------------|-------------------------|------------------|
| White mineral oil (petroleum) | Dermal | Mouse | Not carcinogenic |
| White mineral oil (petroleum) | Inhalation | Multiple animal species | Not carcinogenic |

Reproductive Toxicity**Reproductive and/or Developmental Effects**

| Name | Route | Value | Species | Test result | Exposure Duration |
|-------------------------------|-----------|--|---------|-----------------------|-------------------|
| White mineral oil (petroleum) | Ingestion | Not classified for female reproduction | Rat | NOAEL 4,350 mg/kg/day | 13 weeks |
| White mineral oil (petroleum) | Ingestion | Not classified for male reproduction | Rat | NOAEL 4,350 mg/kg/day | 13 weeks |
| White mineral oil (petroleum) | Ingestion | Not classified for development | Rat | NOAEL 4,350 mg/kg/day | during gestation |

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 | |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test result | Exposure Duration |
|-------------------------------|-----------|----------------------|----------------|---------|-------------|-------------------|
| White mineral oil (petroleum) | Ingestion | hematopoietic system | Not classified | Rat | NOAEL 1,381 | 90 days |

| | | | | | mg/kg/day | |
|-------------------------------|------------|-----------------------|----------------|-----|--------------------------|----------|
| White mineral oil (petroleum) | Ingestion | liver immune system | Not classified | Rat | NOAEL 1,336 mg/kg/day | 90 days |
| Isobutane | Inhalation | kidney and/or bladder | Not classified | Rat | NOAEL 4,500 ppm | 13 weeks |

Aspiration Hazard

| Name | Value |
|-------------------------------|-------------------|
| White mineral oil (petroleum) | 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 labelling, 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:**

Not acutely toxic to aquatic life by GHS criteria.

Chronic aquatic hazard:

Not chronically toxic to aquatic life by GHS criteria.

No product test data available.

| Material | CAS Nbr | Organism | Type | Exposure | Test endpoint | Test result |
|-------------------------------|-----------|---------------|---|----------|---------------|-------------|
| White mineral oil (petroleum) | 8042-47-5 | Water flea | Analogous Compound | 48 hours | EL50 | >100 mg/l |
| White mineral oil (petroleum) | 8042-47-5 | Bluegill | Experimental | 96 hours | LL50 | >100 mg/l |
| White mineral oil (petroleum) | 8042-47-5 | Green algae | Analogous Compound | 72 hours | NOEL | 100 mg/l |
| White mineral oil (petroleum) | 8042-47-5 | Water flea | Analogous Compound | 21 days | NOEL | >100 mg/l |
| Isobutane | 75-28-5 | N/A | Data not available or insufficient for classification | N/A | N/A | N/A |
| Sorbitan Oleate | 1338-43-8 | Rainbow trout | Experimental | 96 hours | LC50 | >100 mg/l |

12.2. Persistence and degradability

| Material | CAS Nbr | Test type | Duration | Study Type | Test result | Protocol |
|-------------------------------|-----------|-----------------------------|----------|-------------------------------|----------------------------------|-----------------------------------|
| White mineral oil (petroleum) | 8042-47-5 | Experimental Biodegradation | 28 days | CO2 evolution | 0 %CO2 evolution/THCO2 evolution | OECD 301B - Modified sturm or CO2 |
| Isobutane | 75-28-5 | Experimental Photolysis | | Photolytic half-life (in air) | 13.4 days (t 1/2) | |
| Sorbitan Oleate | 1338-43-8 | Modeled Biodegradation | 28 days | BOD | 68 %BOD/ThOD | Catalogic™ |

12.3 : Bioaccumulative potential

| Material | CAS Nbr | Test type | Duration | Study Type | Test result | Protocol |
|-------------------------------|-----------|---|----------|------------------------|-------------|------------|
| White mineral oil (petroleum) | 8042-47-5 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Isobutane | 75-28-5 | Experimental Bioconcentration | | Log Kow | 2.76 | |
| Sorbitan Oleate | 1338-43-8 | Modeled Bioconcentration | | Bioaccumulation factor | 7.8 | Catalogic™ |

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other adverse effects

No information available.

The surfactant(s) contained in this preparation comply with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents.

SECTION 13: Disposal considerations

13.1. Disposal methods

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

Dispose of waste product in a permitted industrial waste facility. Facility must be capable of handling aerosol cans.

SECTION 14: Transport Information

International Regulations

UN No.: UN1950

UN Proper shipping name: AEROSOLS

Transportation Class (IMO): None assigned

Transportation Class (IATA): None assigned

Other Dangerous Goods Descriptions (IMO): None assigned

Other Dangerous Goods Descriptions (IATA): None assigned

Packing Group: None assigned

Marine pollutant: None assigned

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 the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional 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 Japan Chemical Substance Control Law. 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.

This product may contain component(s) that are regulated by the following:

Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulations: this product is subject to SDS, labelling, PEL and other requirements in the Act/Regulations.

Fire Safety (Petroleum and Flammable Materials) Regulations: This product is subject to the requirements in the Regulations

Environmental Protection and Management (Hazardous Substances) Regulations: This product is subject to the requirements in the Regulations

SECTION 16: Other information

DISCLAIMER: The information on this Safety Data Sheet 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 Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

3M Singapore SDSs are available at www.3m.com.sg