# Safety Data Sheet

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| **Issue Date:** | 06/02/25 | **Supercedes Date:** | 06/28/23 |

## SECTION 1: Identification

**1.1. Product identifier**
3M(tm) Thermal Barrier 5000 (Part B Pigmented)

**1.2. Recommended use and restrictions on use**

**Recommended use**
Automotive

**1.3. Supplier's details**

| | |
|---|---|
| **MANUFACTURER:** | 3M |
| **DIVISION:** | Automotive and Aerospace Solutions 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**
Acute Toxicity (oral): Category 4.
Serious Eye Damage/Irritation: Category 2B.

**2.2. Label elements**
**Signal word**
Warning

**Symbols**
Exclamation mark |

**Pictograms**



**Hazard Statements**

Harmful if swallowed.
Causes eye irritation.

**Precautionary Statements**

**Prevention:**
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

**Response:**
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 SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
Rinse mouth.

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

21% of the mixture consists of ingredients of unknown acute oral toxicity.

## SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---|---|---|
| SILOXANES AND SILICONES, DI-ME, VINYL GROUP-TERMINATED | 68083-19-2 | 10 - 50 |
| AMMONIUM POLYPHOSPHATE | 68333-79-9 | 15 - 40 Trade Secret * |
| DI-ME, HYDROGEN-TERMINATED SILOXANES AND SILICONES | 70900-21-9 | 5 - 20 |
| DIMETHYL METHYL HYDROGEN SILICONE FLUID | 68037-59-2 | 5 - 20 |
| PARTITIONING AGENT | 1317-65-3 | 1 - 10 |
| SILOXANES AND SILICONES, DI-ME, REACTION PRODUCTS WITH SILICA | 67762-90-7 | <= 6 |
| MELAMINE-FORMALDEHYDE RESIN | 9003-08-1 | < 3 |
| COPOLYMER OF ACRYLONITRILE AND OTHER ACRYLICS | Trade Secret* | < 1.5 |

*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:**
If exposed, wash with soap and water. 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:**
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**
Not applicable

## SECTION 5: Fire-fighting measures

**5.1. Suitable extinguishing media**
Material will not burn. Use a fire fighting agent suitable for the surrounding fire.

**5.2. Special hazards arising from the substance or mixture**
None inherent in this product.

**5.3. Special protective actions for fire-fighters**
No special protective actions for fire-fighters are anticipated.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Evacuate area. 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. Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS.

**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. 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. Place in a closed 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**
Avoid eye contact. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment.

**7.2. Conditions for safe storage including any incompatibilities**
No special storage requirements.

# 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 |
|---|---|---|---|---|
| Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles | 1317-65-3 | ACGIH | TWA(inhalable particulates):10 mg/m3 | |
| Particles (insoluble or poorly soluble) not otherwise specified, respirable particles | 1317-65-3 | ACGIH | TWA(respirable particles):3 mg/m3 | |
| PARTITIONING AGENT | 1317-65-3 | OSHA | TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3 | |
| SILICA, AMORPHOUS | 67762-90-7 | OSHA | TWA:20 millions of particles/cu. ft.;TWA concentration:0.8 mg/m3 | |

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

### 8.2. Exposure controls

**8.2.1. Engineering controls**
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

**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
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 air-purifying respirator suitable for particulates
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**

| | |
|---|---|
| **Appearance** | |
| **Physical state** | Liquid Paste |
| **Color** | Yellow |
| **Specific Physical Form:** | Paste |
| **Odor** | Odorless |
| **Odor threshold** | *Not Applicable* |
| **pH** | *No Data Available* |
| **Melting point** | *No Data Available* |
| **Boiling Point** | *No Data Available* |
| **Flash Point** | No flash point |
| **Evaporation rate** | *No Data Available* |
| **Flammability (solid, gas)** | Not Applicable |
| **Flammable Limits(LEL)** | *No Data Available* |
| **Flammable Limits(UEL)** | *No Data Available* |
| **Vapor Pressure** | *No Data Available* |
| **Vapor Density** | *No Data Available* |
| **Density** | 0.6 - 0.8 g/cm3 |
| **Specific Gravity** | 0.6 - 0.8 |
| **Solubility In Water** | *No Data Available* |
| **Solubility- non-water** | Nil [*Details:*Solubility-non-water] |
| **Partition coefficient: n-octanol/ water** | *No Data Available* |
| **Autoignition temperature** | *No Data Available* |
| **Decomposition temperature** | *No Data Available* |
| **Viscosity** | 200 - 800 Pa-s |
| **Molecular weight** | *Not Applicable* |

## SECTION 10: Stability and reactivity

**10.1. Reactivity**
This material is considered to be non reactive under normal use conditions.

**10.2. Chemical stability**
Stable.

**10.3. Possibility of hazardous reactions**
Hazardous polymerization will not occur.

**10.4. Conditions to avoid**
None known.

**10.5. Incompatible materials**
None known.

**10.6. Hazardous decomposition products**

| Substance | Condition |
|---|---|
| Formaldehyde | Not Specified |
| Carbon monoxide | Not Specified |
| Carbon dioxide | Not Specified |
| Ammonia | Not Specified |
| Oxides of Nitrogen | Not Specified |

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

**Skin Contact:**
Allergic Skin Reaction (non-photo induced) in sensitive people: Signs/symptoms may include redness, swelling, blistering, and itching.

**Eye Contact:**
Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Ingestion:**
Harmful if swallowed. 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**

| Name | Route | Species | Value |
|---|---|---|---|
| Overall product | Ingestion | | No data available; calculated ATE >300 - =2,000 mg/kg |
| SILOXANES AND SILICONES, DI-ME, VINYL GROUP-TERMINATED | Dermal | Rabbit | LD50 > 15,440 mg/kg |
| SILOXANES AND SILICONES, DI-ME, VINYL GROUP-TERMINATED | Ingestion | Rat | LD50 > 15,440 mg/kg |
| AMMONIUM POLYPHOSPHATE | Dermal | Rat | LD50 > 5,000 mg/kg |
| AMMONIUM POLYPHOSPHATE | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 4.85 mg/l |
| AMMONIUM POLYPHOSPHATE | Ingestion | Rat | LD50 > 300, < 2,000 mg/kg |
| DIMETHYL METHYL HYDROGEN SILICONE FLUID | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| DIMETHYL METHYL HYDROGEN SILICONE FLUID | Ingestion | Rat | LD50 > 2,000 mg/kg |
| PARTITIONING AGENT | Dermal | Rat | LD50 > 2,000 mg/kg |
| PARTITIONING AGENT | Inhalation-Dust/Mist (4 hours) | Rat | LC50 3 mg/l |
| PARTITIONING AGENT | Ingestion | Rat | LD50 6,450 mg/kg |
| SILOXANES AND SILICONES, DI-ME, REACTION PRODUCTS WITH SILICA | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| SILOXANES AND SILICONES, DI-ME, REACTION PRODUCTS WITH SILICA | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 0.691 mg/l |
| SILOXANES AND SILICONES, DI-ME, REACTION | Ingestion | Rat | LD50 > 5,110 mg/kg |

| | | | |
|---|---|---|---|
| PRODUCTS WITH SILICA | | | |
| MELAMINE-FORMALDEHYDE RESIN | Dermal | Rabbit | LD50 > 10,000 mg/kg |
| MELAMINE-FORMALDEHYDE RESIN | Ingestion | Rat | LD50 > 10,000 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| SILOXANES AND SILICONES, DI-ME, VINYL GROUP-TERMINATED | Rabbit | No significant irritation |
| AMMONIUM POLYPHOSPHATE | In vitro data | No significant irritation |
| DIMETHYL METHYL HYDROGEN SILICONE FLUID | Rabbit | No significant irritation |
| PARTITIONING AGENT | Rabbit | No significant irritation |
| SILOXANES AND SILICONES, DI-ME, REACTION PRODUCTS WITH SILICA | Rabbit | No significant irritation |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| SILOXANES AND SILICONES, DI-ME, VINYL GROUP-TERMINATED | Rabbit | Mild irritant |
| AMMONIUM POLYPHOSPHATE | Rabbit | Moderate irritant |
| DIMETHYL METHYL HYDROGEN SILICONE FLUID | Rabbit | Mild irritant |
| PARTITIONING AGENT | Rabbit | No significant irritation |
| SILOXANES AND SILICONES, DI-ME, REACTION PRODUCTS WITH SILICA | Rabbit | No significant irritation |

**Skin Sensitization**

| Name | Species | Value |
|---|---|---|
| AMMONIUM POLYPHOSPHATE | similar compounds | Not classified |
| DIMETHYL METHYL HYDROGEN SILICONE FLUID | Guinea pig | Not classified |
| SILOXANES AND SILICONES, DI-ME, REACTION PRODUCTS WITH SILICA | Human and animal | Not classified |
| MELAMINE-FORMALDEHYDE RESIN | Human | Some positive data exist, but 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 |
|---|---|---|
| DIMETHYL METHYL HYDROGEN SILICONE FLUID | In Vitro | Not mutagenic |
| SILOXANES AND SILICONES, DI-ME, REACTION PRODUCTS WITH SILICA | In Vitro | Not mutagenic |

**Carcinogenicity**

| Name | Route | Species | Value |
|---|---|---|---|
| SILOXANES AND SILICONES, DI-ME, REACTION PRODUCTS WITH SILICA | Not Specified | Mouse | Some positive data exist, but the data are not sufficient for classification |
| MELAMINE-FORMALDEHYDE RESIN | Ingestion | Multiple animal species | Not carcinogenic |

**Reproductive Toxicity**

**Reproductive and/or Developmental Effects**

| Name | Route | Value | Species | Test Result | Exposure |
|---|---|---|---|---|---|

| | | | | | Duration |
|---|---|---|---|---|---|
| PARTITIONING AGENT | Ingestion | Not classified for development | Rat | NOAEL 625 mg/kg/day | premating & during gestation |
| SILOXANES AND SILICONES, DI-ME, REACTION PRODUCTS WITH SILICA | Ingestion | Not classified for female reproduction | Rat | NOAEL 509 mg/kg/day | 1 generation |
| SILOXANES AND SILICONES, DI-ME, REACTION PRODUCTS WITH SILICA | Ingestion | Not classified for male reproduction | Rat | NOAEL 497 mg/kg/day | 1 generation |
| SILOXANES AND SILICONES, DI-ME, REACTION PRODUCTS WITH SILICA | Ingestion | Not classified for development | Rat | NOAEL 1,350 mg/kg/day | during organogenesis |
| MELAMINE-FORMALDEHYDE RESIN | Ingestion | Not classified for female reproduction | Rat | NOAEL 10% in the diet | 1 generation |
| MELAMINE-FORMALDEHYDE RESIN | Ingestion | Not classified for development | Rat | NOAEL 10% in the diet | 1 generation |
| MELAMINE-FORMALDEHYDE RESIN | Ingestion | Not classified for male reproduction | Dog | LOAEL 2.5% in the diet | 2 years |

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| AMMONIUM POLYPHOSPHATE | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |
| PARTITIONING AGENT | Inhalation | respiratory system | Not classified | Rat | NOAEL 0.812 mg/l | 90 minutes |
| MELAMINE-FORMALDEHYDE RESIN | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL not available | |

**Specific Target Organ Toxicity - repeated exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| PARTITIONING AGENT | Inhalation | respiratory system | Not classified | Human | NOAEL Not available | occupational exposure |
| SILOXANES AND SILICONES, DI-ME, REACTION PRODUCTS WITH SILICA | Inhalation | respiratory system \| silicosis | Not classified | Human | NOAEL Not available | occupational exposure |
| MELAMINE-FORMALDEHYDE RESIN | Inhalation | hematopoietic system \| liver \| immune system \| nervous system \| kidney and/or bladder | Not classified | Rat | NOAEL 0.036 mg/l | 28 days |
| MELAMINE-FORMALDEHYDE RESIN | Inhalation | respiratory system | Not classified | Rat | LOAEL 0.036 mg/l | 28 days |
| MELAMINE-FORMALDEHYDE RESIN | Inhalation | eyes | Not classified | Rat | NOAEL 0.036 mg/l | 28 days |
| MELAMINE-FORMALDEHYDE RESIN | Ingestion | endocrine system \| hematopoietic system \| liver \| kidney and/or bladder | Not classified | Rat | NOAEL 2,000 mg/kg/day | 2 years |

**Aspiration Hazard**

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

**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.

Dispose of waste product in a permitted industrial waste 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.

## SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

## SECTION 15: Regulatory information

### 15.1. US Federal Regulations

Contact 3M for more information.

**EPCRA 311/312 Hazard Classifications:**

| Physical Hazards |
|---|
| Not applicable |

| Health Hazards |
|---|
| Acute toxicity |
| Serious eye damage or eye irritation |

### 15.2. State Regulations

Contact 3M for more information.

### 15.3. Chemical Inventories

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 China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical 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 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:** 1 **Flammability:** 0 **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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| **Document Group:** | 42-0777-5 | **Version Number:** | 6.00 |
| **Issue Date:** | 06/02/25 | **Supercedes Date:** | 06/28/23 |

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