



## Safety Data Sheet

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<b>Document Group:</b>	35-4372-5	<b>Version Number:</b>	1.00
<b>Issue Date:</b>	21/12/2020	<b>Supersedes Date:</b>	Initial Issue

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 Graphite Suspension

#### Product Identification Numbers

CY-9990-3957-1      UU-0111-9569-8

#### 1.2. Recommended use and restrictions on use

##### Recommended use

release agent, 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

Not classified as hazardous according to Occupational Safety and Health (Chemical Classification, Labelling and Safety Data Sheets) Regulations 2013.

#### 2.2. Label elements

##### Signal word

Not applicable.

##### Symbols

Not applicable.

##### Pictograms

Not applicable.

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### 2.3. Other hazards

None known

## SECTION 3: Composition/information on ingredients

<b>Ingredient</b>	<b>C.A.S. No.</b>	<b>% by Wt</b>
Water	7732-18-5	70 - 90
Graphite	7782-42-5	10 - 30
Isopropyl Alcohol	67-63-0	1 - 5

## 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:**

No need for first aid is anticipated.

#### **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

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

### 5.2. Special hazards arising from the substance or mixture

None inherent in this product.

### 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. Ventilate the area with fresh air. Observe precautions from other sections.

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### 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 skin contact with hot material. For industrial/occupational use only. Not for consumer sale or use. 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
Isopropyl Alcohol	67-63-0	ACGIH	TWA:200 ppm;STEL:400 ppm	A4: Not class. as human carcin
Isopropyl Alcohol	67-63-0	Malaysia OELs	TWA(8 hours):983 mg/m3(400 ppm)	
Graphite	7782-42-5	ACGIH	TWA(respirable fraction):2 mg/m3	
Graphite	7782-42-5	Malaysia OELs	TWA(respirable fraction)(8 hours):2 mg/m3	

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

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

None required.

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#### 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 organic vapors and particulates

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

#### Thermal hazards

Wear heat insulating gloves when handling hot material to prevent thermal burns.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	Liquid suspension of solid particles in water
Specific Physical Form:	Slurry suspension of graphite in water
Color	Black
Odor	Alcohol
Odor threshold	No Data Available
pH	8.5 - 10 [Details:at 20°C]
Melting point/Freezing point	No Data Available
Boiling point/Initial boiling point/Boiling range	100 °C
Flash Point	No Data Available
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 and/or Relative Vapor Density	No Data Available
Density	1.1 - 1.4 g/cm3 [@ 20 °C ]
Relative Density	No Data Available
Water solubility	No Data Available
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	No Data Available
Decomposition temperature	No Data Available
Viscosity/Kinematic Viscosity	No Data Available
Volatile Organic Compounds	
Percent volatile	
VOC Less H2O & Exempt Solvents	

#### Nanoparticles

This material does not contain nanoparticles.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

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

#### 10.2. Chemical stability

Stable. under normal conditions of use

#### 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

<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:

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

##### 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 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 >5,000 mg/kg
Graphite	Dermal		LD50 estimated to be > 5,000 mg/kg

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Graphite	Ingestion	Rat	LD50 > 2,000 mg/kg
Isopropyl Alcohol	Dermal	Rabbit	LD50 12,870 mg/kg
Isopropyl Alcohol	Inhalation-Vapor (4 hours)	Rat	LC50 72.6 mg/l
Isopropyl Alcohol	Ingestion	Rat	LD50 4,710 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
Graphite	Rabbit	No significant irritation
Isopropyl Alcohol	Multiple animal species	No significant irritation

**Serious Eye Damage/Irritation**

Name	Species	Value
Graphite	Rabbit	No significant irritation
Isopropyl Alcohol	Rabbit	Severe irritant

**Sensitization:****Skin Sensitization**

Name	Species	Value
Isopropyl Alcohol	Guinea pig	Not classified

**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
Graphite	In Vitro	Some positive data exist, but the data are not sufficient for classification
Isopropyl Alcohol	In Vitro	Not mutagenic
Isopropyl Alcohol	In vivo	Not mutagenic

**Carcinogenicity**

Name	Route	Species	Value
Isopropyl Alcohol	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification

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

Name	Route	Value	Species	Test Result	Exposure Duration
Isopropyl Alcohol	Ingestion	Not classified for development	Rat	NOAEL 400 mg/kg/day	during organogenesis
Isopropyl Alcohol	Inhalation	Not classified for development	Rat	LOAEL 9 mg/l	during gestation

**Target Organ(s)****Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure
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						Duration
Isopropyl Alcohol	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Isopropyl Alcohol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Isopropyl Alcohol	Inhalation	auditory system	Not classified	Guinea pig	NOAEL 13.4 mg/l	24 hours
Isopropyl Alcohol	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse

**Specific Target Organ Toxicity - repeated exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Graphite	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure
Isopropyl Alcohol	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 12.3 mg/l	24 months
Isopropyl Alcohol	Inhalation	nervous system	Not classified	Rat	NOAEL 12 mg/l	13 weeks
Isopropyl Alcohol	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 400 mg/kg/day	12 weeks

**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**

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:**

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 #	Organism	Type	Exposure	Test Endpoint	Test Result
Graphite	7782-42-5	Activated sludge	Experimental	3 hours	No obs Effect Conc	1,012.5 mg/l
Graphite	7782-42-5	Green Algae	Experimental	72 hours	Effect Concentration 50%	>100 mg/l
Graphite	7782-42-5	Water flea	Experimental	48 hours	Effect Concentration 50%	>100 mg/l
Graphite	7782-42-5	Zebra Fish	Experimental	96 hours	Lethal Concentration	>100 mg/l

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					50%	
Graphite	7782-42-5	Green Algae	Experimental	72 hours	No obs Effect Conc	100 mg/l
Isopropyl Alcohol	67-63-0	Bacteria	Experimental	16 hours	Lowest Obs Effect Conc	1,050 mg/l
Isopropyl Alcohol	67-63-0	Crustacea	Experimental	24 hours	Lethal Concentration 50%	>10,000 mg/l
Isopropyl Alcohol	67-63-0	Green Algae	Experimental	72 hours	Effect Concentration 50%	>1,000 mg/l
Isopropyl Alcohol	67-63-0	Medaka	Experimental	96 hours	Lethal Concentration 50%	>100 mg/l
Isopropyl Alcohol	67-63-0	Water flea	Experimental	48 hours	Effect Concentration 50%	>1,000 mg/l
Isopropyl Alcohol	67-63-0	Green algae	Experimental	72 hours	No obs Effect Conc	1,000 mg/l
Isopropyl Alcohol	67-63-0	Water flea	Experimental	21 days	No obs Effect Conc	100 mg/l

**12.2. Persistence and degradability**

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Graphite	7782-42-5	Data not availbl-insufficient			N/A	
Isopropyl Alcohol	67-63-0	Experimental Biodegradation	14 days	Biological Oxygen Demand	86 % BOD/ThBOD	OECD 301C - MITI (I)

**12.3. Bioaccumulative potential**

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Graphite	7782-42-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Isopropyl Alcohol	67-63-0	Experimental Bioconcentration		Log of Octanol/H <sub>2</sub> O part. coeff	0.05	Non-standard method

**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



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premise for recycling, treatment or disposal. Please approach Kualiti Alam for proper schedule waste classification and disposal.

## SECTION 14: Transport Information

Not hazardous for transportation.

### Marine Transport (IMDG)

**UN Number:**None assigned.

**Proper Shipping Name:**None assigned.

**Technical Name:**None assigned.

**Hazard Class/Division:**None assigned.

**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.

### Air Transport (IATA)

**UN Number:**None assigned.

**Proper Shipping Name:**None assigned.

**Technical Name:**None assigned.

**Hazard Class/Division:**None assigned.

**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 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 Japan Industrial Safety and Health 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

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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 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 Malaysia SDSs are available at [www.3M.com.my](http://www.3M.com.my)**