



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the GHS guidelines & India Hazardous substances (Classification, Labeling & Packaging) Draft Rules 2011.

SECTION 1: Identification

1.1. Product identifier

Protective Material PM PM-3705

1.2. Recommended use and restrictions on use

Recommended use

Hydrocarbon extender

1.3. Supplier's details

Address: 3M India Limited, plot-48-51, Electronic city, Hosur road, Bangalore-560100
Telephone: 080-45543000, contact Product EHS team
E Mail: productehs.in@mmm.com
Website: <http://solutions.3mindia.co.in>

1.4. Emergency telephone number

080-45543000 (Contact hours: 8:00 AM to 5:00 PM)

SECTION 2: Hazard identification

Under MSIHC Rules, information is noted below on flammability, acute toxicity and explosivity relevant to this product. In line with international standards, information on other hazard classes and associated precautionary statements relevant to this product are included as well.

2.1. Classification of the substance or mixture

Not classified as hazardous according to UN GHS criteria.

2.2. Label elements

Signal Word

Symbols

Pictograms

Not applicable.

2.3. Other hazards

All or part of the classification is based on toxicity test data.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Water	7732-18-5	60 - 70
Hydrocarbon urethane polymer	Trade Secret	20 - 30
Propane-1,2-diol	57-55-6	5 - 10
Polyethylene glycol trimethylnonyl ether	60828-78-6	< 2

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

No need for first aid is anticipated.

Skin contact

No need for first aid is anticipated.

Eye contact

No need for first aid is anticipated.

If swallowed

No need for first aid is anticipated.

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

Not applicable

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

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

Carbon monoxide.
Carbon dioxide.
Irritant vapours or gases.
Ammonia
Oxides of nitrogen.
Oxides of sulphur.
Toxic vapour, gas, particulate.

Condition

During combustion.
During combustion.
During combustion.
During combustion.
During combustion.
During combustion.
During combustion.

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

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. Observe precautions from other sections.

6.2. Environmental precautions

Avoid release to the environment. For larger spills, cover drains and build dykes 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 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

For industrial/occupational use only. Not for consumer sale or use. Avoid release to the environment. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from acids. Store away from strong bases. 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
Propane-1,2-diol	57-55-6	AIHA	TWA(as aerosol):10 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Provide appropriate local exhaust when product is heated. 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

None required.

Skin/hand protection

No protective gloves required.

Respiratory protection

None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Dispersion
Color	Milky White-Brown
Odor	Minimal Odor
Odour threshold	<i>No data available.</i>
pH	6 - 7
Melting point/Freezing point: NA	<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 (solid, gas)	Not applicable.
Flammable Limits(LEL)	<i>No data available.</i>
Flammable Limits(UEL)	<i>No data available.</i>
Vapour pressure	9,732.5 Pa [@ 20 °C]
Vapour density	<i>No data available.</i>
Density	<i>No data available.</i>
Relative density	1.01 [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>Not applicable.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity	30 mPa-s
Average particle size	<i>No data available.</i>
Bulk density	<i>No data available.</i>
Molecular weight	<i>No data available.</i>
Volatile organic compounds (VOC)	<i>No data available.</i>
Percent volatile	70 %
Softening point	<i>No data available.</i>
VOC less H2O & exempt solvents	<i>No data available.</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.

10.5 Incompatible materials

Strong acids.

Strong bases.

Strong oxidising agents.

No data available.

10.6 Hazardous decomposition products

Substance

Condition

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 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

No known health effects.

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

No known health effects.

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		LD50 NA mg/kg
Overall product	Ingestion	Rat	LD50 > 2,000 mg/kg
Hydrocarbon urethane polymer	Dermal		LD50 estimated to be > 5,000 mg/kg
Hydrocarbon urethane polymer	Ingestion	Rat	LD50 > 2,000 mg/kg
Propane-1,2-diol	Dermal	Rabbit	LD50 20,800 mg/kg
Propane-1,2-diol	Ingestion	Rat	LD50 22,000 mg/kg
Polyethylene glycol trimethylnonyl ether	Dermal	Rabbit	LD50 8,874 mg/kg

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Polyethylene glycol trimethylnonyl ether	Ingestion	Rat	LD50 3,300 mg/kg
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ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Overall product	In vitro data	No significant irritation
Hydrocarbon urethane polymer	In vitro data	No significant irritation
Propane-1,2-diol	Rabbit	No significant irritation
Polyethylene glycol trimethylnonyl ether	Rabbit	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
Overall product	In vitro data	No significant irritation
Hydrocarbon urethane polymer	In vitro data	No significant irritation
Propane-1,2-diol	Rabbit	No significant irritation
Polyethylene glycol trimethylnonyl ether	Rabbit	Corrosive

Skin Sensitisation

Name	Species	Value
Overall product	Mouse	Not classified
Hydrocarbon urethane polymer	Mouse	Not classified
Propane-1,2-diol	Human	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
Propane-1,2-diol	In Vitro	Not mutagenic
Propane-1,2-diol	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Propane-1,2-diol	Dermal	Mouse	Not carcinogenic
Propane-1,2-diol	Ingestion	Multiple animal species	Not carcinogenic

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

Name	Route	Value	Species	Test result	Exposure Duration
Propane-1,2-diol	Ingestion	Not classified for female reproduction	Mouse	NOAEL 10,100 mg/kg/day	2 generation
Propane-1,2-diol	Ingestion	Not classified for male reproduction	Mouse	NOAEL 10,100 mg/kg/day	2 generation
Propane-1,2-diol	Ingestion	Not classified for development	Multiple animal species	NOAEL 1,230 mg/kg/day	during organogenesis

Protective Material PM PM-3705**Target Organ(s)****Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Propane-1,2-diol	Ingestion	central nervous system depression	Not classified	Human and animal	NOAEL Not available	
Polyethylene glycol trimethylnonyl ether	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Propane-1,2-diol	Ingestion	hematopoietic system	Not classified	Multiple animal species	NOAEL 1,370 mg/kg/day	117 days
Propane-1,2-diol	Ingestion	kidney and/or bladder	Not classified	Dog	NOAEL 5,000 mg/kg/day	104 weeks
Polyethylene glycol trimethylnonyl ether	Ingestion	liver kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg	89 days

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 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.

Material	Organism	Type	Exposure	Test endpoint	Test result
Protective Material PM PM-3705	Fathead minnow	Experimental	96 hours	Aquatic Toxicity - Acute	>100 mg/l
Protective Material PM PM-3705	Green Algae	Experimental	96 hours	Effect Growth Rate Conc 50%	100 mg/l
Protective Material PM PM-3705	Water flea	Experimental	48 hours	EC50	>100 mg/l

12.2. Persistence and degradability

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Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Hydrocarbon urethane polymer	Trade Secret	Data not available-insufficient			N/A	
Propane-1,2-diol	57-55-6	Experimental Biodegradation	28 days	BOD	90 % BOD/ThBOD	OECD 301C - MITI test (I)
Polyethylene glycol trimethylnonyl ether	60828-78-6	Experimental Biodegradation	28 days	BOD	20 % weight	OECD 301D - Closed bottle test

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Hydrocarbon urethane polymer	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Propane-1,2-diol	57-55-6	Experimental Bioconcentration		Log Kow	-0.92	Other methods
Polyethylene glycol trimethylnonyl ether	60828-78-6	Estimated Bioconcentration		Log Kow	3.82	Estimated: Octanol-water partition coefficient

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**

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

Prior to disposal, consult all applicable authorities and regulations to insure proper classification. Dispose of waste product in a permitted industrial waste facility. Empty and clean product containers may be disposed as non-hazardous waste. Consult your specific regulations and service providers to determine available options and requirements.

SECTION 14: Transport Information

Not hazardous for transportation.

Air Transport (IATA) Regulations

UN No Not applicable

Proper Shipping Name Not applicable

Hazard Class/Division Not applicable

Subsidiary Risk Not applicable

Packing Group: Not applicable

Marine Transport (IMDG)

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UN No Not applicable
Proper Shipping Name Not applicable
Hazard Class/Division Not applicable
Subsidiary Risk Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

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 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.

Applicable Environmental, Health and Safety Regulations

The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989
Hazardous Waste(Management , Handling & Transboundary) Rules, 2008
Hazardous Chemicals (Classification, Packaging and Labelling Draft Rules), 2011

The following ingredients are listed as hazardous on Part II of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules
None.

The following ingredients are classified as hazardous based on the criteria listed under Part I of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules:
The product is classified as Non-Hazardous as per MSIHC Rules, 1989.

SECTION 16: Other information

NFPA Hazard Classification

Health: 0 Flammability: 1 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.

Revision information:

No revision information

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3M India SDSs are available at <http://solutions.3mindia.co.in>