

## 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

3M<sup>™</sup> Ceramic Coating, 39901

### **Product Identification Numbers**

60-4551-1058-9 IA-2601-0473-1 IA-2601-0475-6

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

#### Recommended use

Automotive.

## 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

Flammable liquid: Category 3.
Acute Toxicity (oral): Category 5.
Acute Toxicity (dermal): Category 5.
Acute Toxicity (inhalation): Category 5.
Skin Corrosion/Irritation: Category 2.
Serious Eye Damage/Irritation: Category 2A

Reproductive Toxicity: Category 2.

Specific Target Organ Toxicity (single exposure): Category 3.

Chronic Aquatic Toxicity: Category 3.

#### 2.2. Label elements

### Signal Word

Warning

**Symbols** 

Flame | Exclamation mark | Health Hazard |

**Pictograms** 



#### **HAZARD STATEMENTS:**

H226 Flammable liquid and vapour.

H303 + H313 + H333 May be harmful if swallowed, in contact with skin or if inhaled.

H315 Causes skin irritation. H319 Causes serious eye irritation.

H361 Suspected of damaging fertility or the unborn child.

H336 May cause drowsiness or dizziness.

H412 Harmful 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.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280K Wear protective gloves and respiratory protection.

**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.

P370 + P378 In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry

chemical or carbon dioxide to extinguish.

#### 2.3. Other hazards

None known.

# **SECTION 3: Composition/information on ingredients**

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Siloxane Polymer	Trade Secret	60 - 90
SILANE, TRIMETHOXY(2- METHYLPROPYL)-	18395-30-7	10 - 30
Bis(trimethoxysilylpropyl)amine	82985-35-1	< 3
Methanol	67-56-1	< 0.2

# **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

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, 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

Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness).

#### 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 flammable liquids such as dry chemical or carbon dioxide to extinguish.

### 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**

SubstanceConditionFormaldehydeDuring combustion.Carbon monoxide.During combustion.Carbon dioxide.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. 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. 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. Cover spill area with a fire-extinguishing foam. 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 metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. 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

Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing 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 release to the environment. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Wear low static or properly grounded shoes. Use personal protective equipment (eg. gloves, respirators...) as required. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapor accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

### 7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep cool. Keep container tightly closed. 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
Methanol	67-56-1	ACGIH	TWA:200 ppm;STEL:250 ppm	Danger of cutaneous
				absorption

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

Use explosion-proof ventilation 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:

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

## **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 vapours and 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

Physical state	information on basic physical and chemical properties	•
Odor   Slight Minty   Odour threshold   No data available.	Physical state	
No data available.	Color	Colorless
No data available.	Odor	Slight Minty
Melting point/Freezing point: NA   No data available.	Odour threshold	No data available.
Boiling point/Initial boiling point/Boiling range   155.5 °C   Flash point   47.2 °C   Test Method:Closed Cup	pH	No data available.
Flash point 47.2 °C [Test Method:Closed Cup]  Evaporation rate <=1 [Ref Std:BUOAC=1]  Flammability (solid, gas) Not applicable.  Flammable Limits(LEL) 0.92 % volume  Flammable Limits(UEL) 16 % volume  Vapour pressure <=133 Pa [Ref Std:AIR=1]  Vapor Density and/or Relative Vapor Density >=1 [Ref Std:WATER=1]  Pensity 0.97 g/ml [Ref Std:WATER=1]  Relative density Negligible  Solubility Negligible  Solubility non-water No data available.  Partition coefficient: n-octanol/water No data available.  Autoignition temperature 267 °C  Decomposition temperature No data available.  Viscosity/Kinematic Viscosity 200 mPa-s  Volatile organic compounds (VOC) 223 g/l [Test Method:Tested per ASTM protocol]  Percent volatile No data available.  VoC less H2O & exempt solvents 223 g/l [Test Method:Tested per ASTM protocol]  Average particle size No data available.  Molecular weight No data available.  No data available.  No data available.  No data available.	Melting point/Freezing point: NA	No data available.
Evaporation rate    Section   Flammability (solid, gas)   Not applicable.	Boiling point/Initial boiling point/Boiling range	155.5 °C
Flammability (solid, gas) Not applicable. Flammable Limits(LEL) 16 % volume Vapour pressure Vapor Density and/or Relative Vapor Density Density Nogre gradient with the variable of the variable of the variable of the value of t		47.2 °C [Test Method:Closed Cup]
Flammable Limits(LEL)  Flammable Limits(UEL)  Vapour pressure  <=133 Pa [Ref Std:AIR=1]  Vapor Density and/or Relative Vapor Density  >=1 [Ref Std:AIR=1]  Density  0.97 g/ml [Ref Std:WATER=1]  Relative density  0.97 [Ref Std:WATER=1]  Water solubility  Negligible  Solubility- non-water  No data available.  Partition coefficient: n-octanol/water  No data available.  Autoignition temperature  Decomposition temperature  No data available.  Viscosity/Kinematic Viscosity  Volatile organic compounds (VOC)  223 g/l [Test Method:Tested per ASTM protocol]  Percent volatile  VOC less H2O & exempt solvents  No data available.  No data available.  No data available.  Bulk density  No data available.	Evaporation rate	<=1 [Ref Std:BUOAC=1]
Flammable Limits(UEL)  Vapour pressure  <=133 Pa [Ref Std: AIR=1]  Vapor Density and/or Relative Vapor Density  >=1 [Ref Std: AIR=1]  Density  0.97 g/ml [Ref Std: WATER=1]  Relative density  0.97 [Ref Std: WATER=1]  Water solubility  Negligible  Solubility- non-water  No data available.  Partition coefficient: n-octanol/water  No data available.  Autoignition temperature  267 °C  Decomposition temperature  No data available.  Viscosity/Kinematic Viscosity  Volatile organic compounds (VOC)  223 g/l [Test Method: Tested per ASTM protocol]  Percent volatile  No data available.  VOC less H2O & exempt solvents  223 g/l [Test Method: Tested per ASTM protocol]  Average particle size  No data available.	• • • • • • • • • • • • • • • • • • • •	
Vapour pressure       <=133 Pa [Ref Std:AIR=1]         Vapor Density and/or Relative Vapor Density       >=1 [Ref Std:AIR=1]         Density       0.97 g/ml [Ref Std:WATER=1]         Relative density       0.97 [Ref Std:WATER=1]         Water solubility       Negligible         Solubility- non-water       No data available.         Partition coefficient: n-octanol/water       No data available.         Autoignition temperature       267 °C         Decomposition temperature       No data available.         Viscosity/Kinematic Viscosity       200 mPa-s         Volatile organic compounds (VOC)       223 g/l [Test Method:Tested per ASTM protocol]         Percent volatile       No data available.         VOC less H2O & exempt solvents       223 g/l [Test Method:Tested per ASTM protocol]         Average particle size       No data available.         Bulk density       No data available.         Molecular weight       No data available.         Softening point       No data available.		
Vapor Density and/or Relative Vapor Density       >=1	Flammable Limits(UEL)	
Density	Vapour pressure	<=133 Pa [ <i>Ref Std:</i> AIR=1]
Relative density       0.97 [Ref Std: WATER=1]         Water solubility       Negligible         Solubility- non-water       No data available.         Partition coefficient: n-octanol/water       No data available.         Autoignition temperature       267 °C         Decomposition temperature       No data available.         Viscosity/Kinematic Viscosity       200 mPa-s         Volatile organic compounds (VOC)       223 g/l [Test Method: Tested per ASTM protocol]         Percent volatile       No data available.         VOC less H2O & exempt solvents       223 g/l [Test Method: Tested per ASTM protocol]         Average particle size       No data available.         Bulk density       No data available.         Molecular weight       No data available.         Softening point       No data available.		>=1 [ <i>Ref Std:</i> AIR=1]
Water solubilityNegligibleSolubility- non-waterNo data available.Partition coefficient: n-octanol/waterNo data available.Autoignition temperature267 °CDecomposition temperatureNo data available.Viscosity/Kinematic Viscosity200 mPa-sVolatile organic compounds (VOC)223 g/l [Test Method: Tested per ASTM protocol]Percent volatileNo data available.VOC less H2O & exempt solvents223 g/l [Test Method: Tested per ASTM protocol]Average particle sizeNo data available.Bulk densityNo data available.Molecular weightNo data available.Softening pointNo data available.	· ·	C L v
Solubility- non-waterNo data available.Partition coefficient: n-octanol/waterNo data available.Autoignition temperature267 °CDecomposition temperatureNo data available.Viscosity/Kinematic Viscosity200 mPa-sVolatile organic compounds (VOC)223 g/l [Test Method: Tested per ASTM protocol]Percent volatileNo data available.VOC less H2O & exempt solvents223 g/l [Test Method: Tested per ASTM protocol]Average particle sizeNo data available.Bulk densityNo data available.Molecular weightNo data available.Softening pointNo data available.	Relative density	
Partition coefficient: n-octanol/water       No data available.         Autoignition temperature       267 °C         Decomposition temperature       No data available.         Viscosity/Kinematic Viscosity       200 mPa-s         Volatile organic compounds (VOC)       223 g/l [Test Method: Tested per ASTM protocol]         Percent volatile       No data available.         VOC less H2O & exempt solvents       223 g/l [Test Method: Tested per ASTM protocol]         Average particle size       No data available.         Bulk density       No data available.         Molecular weight       No data available.         Softening point       No data available.	Water solubility	
Autoignition temperature       267 °C         Decomposition temperature       No data available.         Viscosity/Kinematic Viscosity       200 mPa-s         Volatile organic compounds (VOC)       223 g/l [Test Method: Tested per ASTM protocol]         Percent volatile       No data available.         VOC less H2O & exempt solvents       223 g/l [Test Method: Tested per ASTM protocol]         Average particle size       No data available.         Bulk density       No data available.         Molecular weight       No data available.         Softening point       No data available.		
Decomposition temperature       No data available.         Viscosity/Kinematic Viscosity       200 mPa-s         Volatile organic compounds (VOC)       223 g/l [Test Method: Tested per ASTM protocol]         Percent volatile       No data available.         VOC less H2O & exempt solvents       223 g/l [Test Method: Tested per ASTM protocol]         Average particle size       No data available.         Bulk density       No data available.         Molecular weight       No data available.         Softening point       No data available.		No data available.
Viscosity/Kinematic Viscosity       200 mPa-s         Volatile organic compounds (VOC)       223 g/l [Test Method: Tested per ASTM protocol]         Percent volatile       No data available.         VOC less H2O & exempt solvents       223 g/l [Test Method: Tested per ASTM protocol]         Average particle size       No data available.         Bulk density       No data available.         Molecular weight       No data available.         Softening point       No data available.		
Volatile organic compounds (VOC)       223 g/l [Test Method: Tested per ASTM protocol]         Percent volatile       No data available.         VOC less H2O & exempt solvents       223 g/l [Test Method: Tested per ASTM protocol]         Average particle size       No data available.         Bulk density       No data available.         Molecular weight       No data available.         Softening point       No data available.		No data available.
Percent volatile  No data available.  VOC less H2O & exempt solvents  223 g/l [Test Method: Tested per ASTM protocol]  Average particle size  No data available.  Bulk density  No data available.  Molecular weight  No data available.  No data available.  No data available.	v	200 mPa-s
VOC less H2O & exempt solvents  Average particle size  No data available.  Bulk density  No data available.  Molecular weight  No data available.  No data available.  No data available.  No data available.		
Average particle size  No data available.  Bulk density  No data available.  Molecular weight  No data available.  Softening point  No data available.		
Bulk density  No data available.  Molecular weight  No data available.  Softening point  No data available.		
Molecular weight  No data available.  Softening point  No data available.	Average particle size	No data available.
Softening point  No data available.	Bulk density	No data available.
	Molecular weight	No data available.
Maximum Storage Temperature 72 °F	Softening point	No data available.
	Maximum Storage Temperature	72 °F

<sup>\*</sup> The values noted with an asterisk (\*) in the above table are representative values based on testing of raw materials and selected products.

Additionally, a material's characteristics may change depending upon the process and conditions of use at a facility, including further changes in particle size, or mixture with other materials. In order to obtain specific data for the material, we recommend the user conduct characterization testing based on the use factors at the specific facility.

# **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

Not determined

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

May be harmful if inhaled. 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

May be harmful in contact with skin.

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain. May cause additional health effects (see below).

### Eye contact

Severe eye irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

\_\_\_\_\_\_

## Ingestion

May be harmful if swallowed.

Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. 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.

## Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

#### **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 >2,000 - =5,000 mg/kg
Overall product	Inhalation- Vapor(4 hr)		No data available; calculated ATE >20 - =50 mg/l
Overall product	Ingestion		No data available; calculated ATE >2,000 - =5,000 mg/kg
SILANE, TRIMETHOXY(2-METHYLPROPYL)-	Dermal	Professio nal judgeme nt	LD50 estimated to be 2,000 - 5,000 mg/kg
SILANE, TRIMETHOXY(2-METHYLPROPYL)-	Inhalation- Vapor (4 hours)	Rat	LC50 > 11 mg/l
SILANE, TRIMETHOXY(2-METHYLPROPYL)-	Ingestion	Rat	LD50 > 2,000 mg/kg
Bis(trimethoxysilylpropyl)amine	Dermal	Rabbit	LD50 11,865 mg/kg
Bis(trimethoxysilylpropyl)amine	Ingestion	Rat	LD50 3,780 mg/kg
Methanol	Dermal		LD50 estimated to be 1,000 - 2,000 mg/kg
Methanol	Inhalation- Vapor		LC50 estimated to be 10 - 20 mg/l
Methanol	Ingestion		LD50 estimated to be 50 - 300 mg/kg

ATE = acute toxicity estimate

#### Skin Corrosion/Irritation

Jun Corrosion/Irrutton						
Name	Species	Value				
SILANE, TRIMETHOXY(2-METHYLPROPYL)-	Rabbit	Irritant				
Bis(trimethoxysilylpropyl)amine	Rabbit	Mild irritant				
Methanol	Rabbit	Mild irritant				

Serious Eye Damage/Irritation

Name	Species	Value
SILANE, TRIMETHOXY(2-METHYLPROPYL)-	Rabbit	No significant irritation
Bis(trimethoxysilylpropyl)amine	Rabbit	Corrosive
Methanol	Rabbit	Moderate irritant

#### **Sensitization:**

### **Skin Sensitisation**

Name	Species	Value
SILANE, TRIMETHOXY(2-METHYLPROPYL)-	Guinea	Not classified
	pig	
Bis(trimethoxysilylpropyl)amine	Guinea	Not classified
	pig	
Methanol	Guinea	Not classified
	pig	

## **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
SILANE, TRIMETHOXY(2-METHYLPROPYL)-	In Vitro	Not mutagenic
SILANE, TRIMETHOXY(2-METHYLPROPYL)-	In vivo	Not mutagenic
Bis(trimethoxysilylpropyl)amine	In vivo	Not mutagenic
Bis(trimethoxysilylpropyl)amine	In Vitro	Some positive data exist, but the data are not
		sufficient for classification
Methanol	In Vitro	Some positive data exist, but the data are not
		sufficient for classification
Methanol	In vivo	Some positive data exist, but the data are not
		sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Methanol	Inhalation	Multiple	Not carcinogenic
		animal	
		species	

## Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Methanol	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,600 mg/kg/day	21 days
Methanol	Ingestion	Toxic to development	Mouse	LOAEL 4,000 mg/kg/day	during organogenesis
Methanol	Inhalation	Toxic to development	Mouse	NOAEL 1.3 mg/l	during organogenesis

## Target Organ(s)

**Specific Target Organ Toxicity - single exposure** 

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
SILANE, TRIMETHOXY(2- METHYLPROPYL)-	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Rat	NOAEL not available	
SILANE, TRIMETHOXY(2- METHYLPROPYL)-	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	
SILANE, TRIMETHOXY(2- METHYLPROPYL)-	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Rat	NOAEL not available	
Methanol	Inhalation	blindness	Causes damage to organs	Human	NOAEL Not available	occupational exposure
Methanol	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available

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Methanol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	6 hours
Methanol	Ingestion	blindness	Causes damage to organs	Human	NOAEL Not available	poisoning and/or abuse
Methanol	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
Bis(trimethoxysilylpropyl) amine	Ingestion	endocrine system   gastrointestinal tract   hematopoietic system   heart   bone, teeth, nails, and/or hair   liver   immune system   muscles   nervous system   eyes   kidney and/or bladder   respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Methanol	Inhalation	liver	Not classified	Rat	NOAEL 6.55 mg/l	4 weeks
Methanol	Inhalation	respiratory system	Not classified	Rat	NOAEL 13.1 mg/l	6 weeks
Methanol	Ingestion	liver   nervous system	Not classified	Rat	NOAEL 2,500 mg/kg/day	90 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:**

GHS Chronic 3: Harmful to aquatic life with long lasting effects.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Siloxane Polymer	Trade Secret		Data not available or insufficient for classification	N/A	N/A	N/A
SILANE, TRIMETHOXY(2-	18395-30-7	Green algae	Experimental	72 hours	EC50	>1,170 mg/l

METHYLPROPY						
L)-						
SILANE,	18395-30-7	Water flea	Experimental	48 hours	EC50	>864 mg/l
TRIMETHOXY(2-			•			
METHYLPROPY						
L)-						
SILANE,	18395-30-7	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
TRIMETHOXY(2-						
METHYLPROPY						
L)-						
SILANE,	18395-30-7	Green algae	Experimental	72 hours	NOEC	221 mg/l
TRIMETHOXY(2-						
METHYLPROPY						
L)-	10205 20 5				None	1,000 7
SILANE,	18395-30-7	Activated sludge	Analogous	3 hours	NOEC	1,000 mg/l
TRIMETHOXY(2- METHYLPROPY			Compound			
L)-						
SILANE,	18395-30-7	Cress	Experimental	17 days	NOEC	>=100 mg/kg (Dry Weight)
TRIMETHOXY(2-	16393-30-7	Cless	Experimentar	17 days	NOEC	-100 liig/kg (Diy weight)
METHYLPROPY						
L)-						
	82985-35-1	Activated sludge	Experimental	3 hours	EC10	270 mg/l
propyl)amine						
Bis(trimethoxysilyl	82985-35-1	Green algae	Experimental	72 hours	EC50	36 mg/l
propyl)amine			•			
Bis(trimethoxysilyl	82985-35-1	Medaka	Experimental	96 hours	LC50	>100 mg/l
propyl)amine						
Bis(trimethoxysilyl	82985-35-1	Water flea	Experimental	48 hours	EC50	>100 mg/l
propyl)amine						
Bis(trimethoxysilyl	82985-35-1	Green algae	Experimental	72 hours	NOEC	8.3 mg/l
propyl)amine						
Methanol	67-56-1	Algae or other	Experimental	96 hours	EC50	16.9 mg/l
		aquatic plants		0.64	* a.s.	1.7.000
Methanol	67-56-1	Bay mussel	Experimental	96 hours	LC50	15,900 mg/l
Methanol	67-56-1	Bluegill	Experimental	96 hours	LC50	15,400 mg/l
Methanol	67-56-1	Green algae	Experimental	96 hours	ErC50	22,000 mg/l
Methanol	67-56-1	Sediment organism	Experimental	96 hours	LC50	54,890 mg/l
Methanol	67-56-1	Water flea	Experimental	48 hours	LC50	3,289 mg/l
Methanol	67-56-1	Green algae	Experimental	96 hours	NOEC	9.96 mg/l
Methanol	67-56-1	Medaka	Experimental	8.33 days	NOEC	158,000 mg/l
Methanol	67-56-1	Water flea	Experimental	21 days	NOEC	122 mg/l
Methanol	67-56-1	Activated sludge	Experimental	3 hours	IC50	>1,000 mg/l
Methanol	67-56-1	Barley	Experimental	14 days	EC50	15,492 mg/kg (Dry Weight)
Methanol	67-56-1	Redworm	Experimental	63 days	EC50	26,646 mg/kg (Dry Weight)
Methanol	67-56-1	Springtail	Experimental	28 days	EC50	5,683 mg/kg (Dry Weight)

# 12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Siloxane Polymer	Trade Secret	Data not available- insufficient	N/A	N/A	N/A	N/A
SILANE, TRIMETHOXY(2- METHYLPROPY L)-	18395-30-7	Experimental Biodegradation	28 days	CO2 evolution	47 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
SILANE, TRIMETHOXY(2- METHYLPROPY L)-	18395-30-7	Transformation product Biodegradation	14 days	BOD	92 %BOD/ThOD	OECD 301C - MITI test (I)
SILANE, TRIMETHOXY(2-	18395-30-7	Modeled Hydrolysis		Hydrolytic half-life	4.1 hours (t 1/2)	Catalogic™

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METHYLPROPY						
L)-						
Bis(trimethoxysilyl	82985-35-1	Experimental	28 days	BOD	17 %BOD/ThOD	OECD 301D - Closed bottle
propyl)amine		Biodegradation				test
Methanol	67-56-1	Experimental	3 days	Percent degraded	91 %degraded	
		Biodegradation				
Methanol	67-56-1	Experimental	14 days	BOD	92 %BOD/ThOD	OECD 301C - MITI test (I)
		Biodegradation	-			
Methanol	67-56-1	Experimental		Photolytic half-life	35 days (t 1/2)	
		Photolysis		(in air)		
Methanol	67-56-1	Experimental Soil	5 days	CO2 evolution	53.4 %CO2	
		Metabolism			evolution/THCO2	
		Aerobic			evolution	

## 12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Siloxane Polymer	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
SILANE, TRIMETHOXY(2- METHYLPROPY L)-	18395-30-7	Transformation product Bioconcentration		Log Kow	-0.77	
SILANE, TRIMETHOXY(2- METHYLPROPY L)-	18395-30-7	Modeled Bioconcentration		Log Kow	0.7	Episuite <sup>TM</sup>
SILANE, TRIMETHOXY(2- METHYLPROPY L)-	18395-30-7	Transformation product Bioconcentration		Log Kow	-1.0	Episuite <sup>TM</sup>
Bis(trimethoxysilyl propyl)amine	82985-35-1	Experimental BCF - Fish	28 days	Bioaccumulation factor	4.2	
Methanol	67-56-1	Experimental BCF - Fish	3 days	Bioaccumulation factor	<4.5	
Methanol	67-56-1	Experimental Bioconcentration		Log Kow	-0.77	

## 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.

Incinerate in a permitted waste incineration facility. As a disposal alternative, utilize an acceptable permitted waste disposal 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**

## Air Transport (IATA)Regulations

UN No UN1866

Proper Shipping Name RESIN SOLUTION

Hazard Classs/Division 3
Subsidiary Risk Not applicable

Packing Group: III

Marine Transport (IMDG)

UN No UN1866

Proper Shipping Name RESIN SOLUTION

Hazard Classs/Division 3
Subsidiary Risk Not applicable

Packing Group: III

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 Central Motor Vehicle Rules, 1989

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

Methanol

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 Highly Flammable liquid as per MSIHC Rules, 1989.

## **SECTION 16: Other information**

## NFPA Hazard Classification

Health: 2 Flammability: 2 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:**

Section 1: Product identification numbers information was modified.

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 India, you are responsible to comply with all applicable regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration/notification.

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