



## 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™ Scotch-Weld™ Epoxy Adhesive DP420 Black, Part B or Epoxy Adhesive 420 Black, Part B

#### Product Identification Numbers

62-2778-8530-7      62-2778-9530-6

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

##### Recommended use

Part B of 2 part Adhesive, Structural adhesive.

#### 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

Serious Eye Damage/Irritation: Category 2B.  
Skin Corrosion/Irritation: Category 3.  
Skin Sensitizer: Category 1.  
Reproductive Toxicity: Category 1B.  
Acute Aquatic Toxicity: Category 2.  
Chronic Aquatic Toxicity: Category 2.

#### 2.2. Label elements

**Signal Word**

DANGER!

**Symbols**

Exclamation mark | Health Hazard | Environment

**Pictograms**



**HAZARD STATEMENTS:**

H320 Causes eye irritation.  
 H316 Causes mild skin irritation.  
 H317 May cause an allergic skin reaction.  
 H360 May damage fertility or the unborn child.  
  
 H411 Toxic to aquatic life with long lasting effects.

**PRECAUTIONARY STATEMENTS**

**Prevention:**

P201 Obtain special instructions before use.  
 P280E Wear protective gloves.  
 P273 Avoid release to the environment.

**Response:**

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.  
 P308 + P313 IF exposed or concerned: Get medical advice/attention.

**Disposal:**

P501 Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

**2.3. Other hazards**

None known.

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

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Epoxy Resin	25068-38-6	70 - 90
Acrylic Polymer (NJTS Reg No. 04499600-5018P)	Trade Secret	10 - 20
Toluene	108-88-3	< 1
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	2530-83-8	<= 0.5
Carbon black	1333-86-4	< 0.1
Dichloromethane	75-09-2	< 0.01

**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

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

Allergic skin reaction (redness, swelling, blistering, and itching).

#### 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

<u>Substance</u>	<u>Condition</u>
Aldehydes.	During combustion.
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Hydrogen Chloride	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. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. 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. 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 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**

For industrial/occupational use only. Not for consumer sale or use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (eg. gloves, respirators...) as required.

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

Store away from heat. 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.

<b>Ingredient</b>	<b>CAS Nbr</b>	<b>Agency</b>	<b>Limit type</b>	<b>Additional comments</b>
Toluene	108-88-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcin, Ototoxicant
Carbon black	1333-86-4	ACGIH	TWA(inhalable fraction):3 mg/m <sup>3</sup>	A3: Confirmed animal carcin.
Dichloromethane	75-09-2	ACGIH	TWA:50 ppm	A3: Confirmed animal carcin.

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

#### **8.2.2. Personal protective equipment (PPE)**

##### **Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

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. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity. Gloves made from the following material(s) are recommended: Polymer laminate

**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

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**

<b>Physical state</b>	Liquid.
<b>Specific Physical Form:</b>	Paste
<b>Color</b>	Black
<b>Odor</b>	Very Mild Odor
<b>Odour threshold</b>	<i>No data available.</i>
<b>pH</b>	<i>Not applicable.</i>
<b>Melting point/Freezing point: NA</b>	<i>No data available.</i>
<b>Boiling point/Initial boiling point/Boiling range</b>	>=200 °C
<b>Flash point</b>	>=171.1 °C [ <i>Test Method:Closed Cup</i> ]
<b>Evaporation rate</b>	<i>Not applicable.</i>
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Flammable Limits(LEL)</b>	<i>Not applicable.</i>
<b>Flammable Limits(UEL)</b>	<i>Not applicable.</i>
<b>Vapour pressure</b>	<i>Not applicable.</i>
<b>Vapor Density and/or Relative Vapor Density</b>	<i>Not applicable.</i>
<b>Density</b>	1.14 g/ml
<b>Relative density</b>	1.14 [ <i>Ref Std:WATER=1</i> ]
<b>Water solubility</b>	Nil
<b>Solubility- non-water</b>	<i>No data available.</i>
<b>Partition coefficient: n-octanol/water</b>	<i>No data available.</i>
<b>Autoignition temperature</b>	<i>No data available.</i>
<b>Decomposition temperature</b>	<i>No data available.</i>
<b>Viscosity/Kinematic Viscosity</b>	22,000 - 45,000 mPa-s [ <i>@ 23 °C</i> ]
<b>Volatile organic compounds (VOC)</b>	
<b>Percent volatile</b>	
<b>VOC less H2O &amp; exempt solvents</b>	0 g/l [ <i>Test Method:calculated SCAQMD rule 443.1</i> ] [ <i>Details:when used as intended with Part A</i> ]
<b>VOC less H2O &amp; exempt solvents</b>	6 g/l [ <i>Test Method:calculated SCAQMD rule 443.1</i> ] [ <i>Details:as supplied</i> ]
<b>VOC less H2O &amp; exempt solvents</b>	0 % [ <i>Test Method:calculated SCAQMD rule 443.1</i> ] [ <i>Details:when used as intended with Part A</i> ]
<b>Molecular weight</b>	<i>No data available.</i>

**Nanoparticles**

This material contains nanoparticles.

## 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 oxidising agents.

### 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 labelling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

### 11.1 Information on Toxicological effects

#### Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

#### Inhalation

May cause additional health effects (see below).

#### Skin contact

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. Allergic skin reaction (non-photo induced): 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

Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. May cause additional health effects (see below).

#### Additional Health Effects:

#### Reproductive/Developmental Toxicity:

**3M™ Scotch-Weld™ Epoxy Adhesive DP420 Black, Part B or Epoxy Adhesive 420 Black, Part B**

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	Ingestion		No data available; calculated ATE >5,000 mg/kg
Epoxy Resin	Dermal	Rat	LD50 > 1,600 mg/kg
Epoxy Resin	Ingestion	Rat	LD50 > 1,000 mg/kg
Acrylic Polymer (NJTS Reg No. 04499600-5018P)	Dermal	Rabbit	LD50 > 5,000 mg/kg
Acrylic Polymer (NJTS Reg No. 04499600-5018P)	Ingestion	Rat	LD50 > 5,000 mg/kg
Toluene	Dermal	Rat	LD50 12,000 mg/kg
Toluene	Inhalation-Vapor (4 hours)	Rat	LC50 30 mg/l
Toluene	Ingestion	Rat	LD50 5,550 mg/kg
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Dermal	Rabbit	LD50 4,000 mg/kg
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.3 mg/l
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Ingestion	Rat	LD50 7,010 mg/kg
Carbon black	Dermal	Rabbit	LD50 > 3,000 mg/kg
Carbon black	Ingestion	Rat	LD50 > 8,000 mg/kg
Dichloromethane	Dermal	Rat	LD50 > 2,000 mg/kg
Dichloromethane	Inhalation-Vapor (4 hours)	Rat	LC50 63.7 mg/l
Dichloromethane	Ingestion	Rat	LD50 1,410 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
Epoxy Resin	Rabbit	Mild irritant
Acrylic Polymer (NJTS Reg No. 04499600-5018P)	Professional judgement	Minimal irritation
Toluene	Rabbit	Irritant
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Rabbit	Mild irritant
Carbon black	Rabbit	No significant irritation
Dichloromethane	Rabbit	Irritant

**Serious Eye Damage/Irritation**

Name	Species	Value
Epoxy Resin	Rabbit	Moderate irritant
Acrylic Polymer (NJTS Reg No. 04499600-5018P)	Professional judgement	Mild irritant
Toluene	Rabbit	Moderate irritant
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Rabbit	Corrosive
Carbon black	Rabbit	No significant irritation
Dichloromethane	Rabbit	Severe irritant

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

Name	Species	Value
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Epoxy Resin	Human and animal	Sensitising
Toluene	Guinea pig	Not classified
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Guinea pig	Not classified

**Respiratory Sensitisation**

Name	Species	Value
Epoxy Resin	Human	Not classified

**Germ Cell Mutagenicity**

Name	Route	Value
Epoxy Resin	In vivo	Not mutagenic
Epoxy Resin	In Vitro	Some positive data exist, but the data are not sufficient for classification
Toluene	In Vitro	Not mutagenic
Toluene	In vivo	Not mutagenic
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	In vivo	Not mutagenic
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	In Vitro	Some positive data exist, but the data are not sufficient for classification
Carbon black	In Vitro	Not mutagenic
Carbon black	In vivo	Some positive data exist, but the data are not sufficient for classification
Dichloromethane	In vivo	Not mutagenic
Dichloromethane	In Vitro	Some positive data exist, but the data are not sufficient for classification

**Carcinogenicity**

Name	Route	Species	Value
Epoxy Resin	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Toluene	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Toluene	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
Toluene	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Dermal	Mouse	Not carcinogenic
Carbon black	Dermal	Mouse	Not carcinogenic
Carbon black	Ingestion	Mouse	Not carcinogenic
Carbon black	Inhalation	Rat	Carcinogenic.
Dichloromethane	Inhalation	Multiple animal species	Carcinogenic.

**Reproductive Toxicity**

**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test result	Exposure Duration
Epoxy Resin	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Epoxy Resin	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Epoxy Resin	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
Epoxy Resin	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
Toluene	Inhalation	Not classified for female reproduction	Human	NOAEL Not	occupational



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				available	exposure
Toluene	Inhalation	Not classified for male reproduction	Rat	NOAEL 2.3 mg/l	1 generation
Toluene	Ingestion	Toxic to development	Rat	LOAEL 520 mg/kg/day	during gestation
Toluene	Inhalation	Toxic to development	Human	NOAEL Not available	poisoning and/or abuse
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Ingestion	Not classified for development	Rat	NOAEL 3,000 mg/kg/day	during organogenesis
Dichloromethane	Inhalation	Not classified for female reproduction	Rat	NOAEL 5.2 mg/l	2 generation
Dichloromethane	Inhalation	Not classified for male reproduction	Rat	NOAEL 5.2 mg/l	2 generation
Dichloromethane	Inhalation	Not classified for development	Multiple animal species	NOAEL 4.3 mg/l	during gestation

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Toluene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Toluene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Toluene	Inhalation	immune system	Not classified	Mouse	NOAEL 0.004 mg/l	3 hours
Toluene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Dichloromethane	Dermal	blood	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	4 hours
Dichloromethane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	occupational exposure
Dichloromethane	Inhalation	blood	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Dichloromethane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	

**Specific Target Organ Toxicity - repeated exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Epoxy Resin	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
Epoxy Resin	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Epoxy Resin	Ingestion	auditory system   heart   endocrine system   hematopoietic system   liver   eyes   kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days

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Toluene	Inhalation	auditory system   eyes   olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Toluene	Inhalation	nervous system	May cause damage to organs though prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Toluene	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2.3 mg/l	15 months
Toluene	Inhalation	heart   liver   kidney and/or bladder	Not classified	Rat	NOAEL 11.3 mg/l	15 weeks
Toluene	Inhalation	endocrine system	Not classified	Rat	NOAEL 1.1 mg/l	4 weeks
Toluene	Inhalation	immune system	Not classified	Mouse	NOAEL Not available	20 days
Toluene	Inhalation	bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 1.1 mg/l	8 weeks
Toluene	Inhalation	hematopoietic system   vascular system	Not classified	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	gastrointestinal tract	Not classified	Multiple animal species	NOAEL 11.3 mg/l	15 weeks
Toluene	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 625 mg/kg/day	13 weeks
Toluene	Ingestion	heart	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	liver   kidney and/or bladder	Not classified	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 600 mg/kg/day	14 days
Toluene	Ingestion	endocrine system	Not classified	Mouse	NOAEL 105 mg/kg/day	28 days
Toluene	Ingestion	immune system	Not classified	Mouse	NOAEL 105 mg/kg/day	4 weeks
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Ingestion	heart   endocrine system   bone, teeth, nails, and/or hair   hematopoietic system   liver   immune system   nervous system   kidney and/or bladder   respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Carbon black	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure
Dichloromethane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 6.95 mg/l	2 years
Dichloromethane	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.17 mg/l	2 years
Dichloromethane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	LOAEL 35 mg/l	8 weeks
Dichloromethane	Inhalation	heart	Not classified	Human	NOAEL Not available	
Dichloromethane	Inhalation	immune system	Not classified	Rat	NOAEL 18 mg/l	28 days
Dichloromethane	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 1,200 mg/kg/day	3 months
Dichloromethane	Ingestion	blood	Not classified	Rat	NOAEL 249 mg/kg/day	2 years

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Dichloromethane	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,469 mg/kg/day	3 months
Dichloromethane	Ingestion	eyes	Not classified	Rat	NOAEL 249 mg/kg/day	104 weeks

**Aspiration Hazard**

Name	Value
Toluene	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

**SECTION 12: Ecological information**

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

**12.1. Toxicity**

**Acute aquatic hazard:**

GHS Acute 2: Toxic to aquatic life.

**Chronic aquatic hazard:**

GHS Chronic 2: Toxic to aquatic life with long lasting effects.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Epoxy Resin	25068-38-6	Activated sludge	Estimated	3 hours	IC50	>100 mg/l
Epoxy Resin	25068-38-6	Green Algae	Estimated	72 hours	EC50	>11 mg/l
Epoxy Resin	25068-38-6	Rainbow trout	Estimated	96 hours	LC50	2 mg/l
Epoxy Resin	25068-38-6	Water flea	Estimated	48 hours	EC50	1.8 mg/l
Epoxy Resin	25068-38-6	Green Algae	Estimated	72 hours	NOEC	4.2 mg/l
Epoxy Resin	25068-38-6	Water flea	Estimated	21 days	NOEC	0.3 mg/l
Acrylic Polymer (NJTS Reg No. 04499600-5018P)	Trade Secret		Data not available or insufficient for classification			N/A
Toluene	108-88-3	Coho Salmon	Experimental	96 hours	LC50	5.5 mg/l
Toluene	108-88-3	Grass Shrimp	Experimental	96 hours	LC50	9.5 mg/l
Toluene	108-88-3	Green Algae	Experimental	72 hours	EC50	12.5 mg/l
Toluene	108-88-3	Leopard frog	Experimental	9 days	LC50	0.39 mg/l
Toluene	108-88-3	Pink Salmon	Experimental	96 hours	LC50	6.41 mg/l
Toluene	108-88-3	Water flea	Experimental	48 hours	EC50	3.78 mg/l
Toluene	108-88-3	Coho Salmon	Experimental	40 days	NOEC	1.39 mg/l
Toluene	108-88-3	Diatom	Experimental	72 hours	NOEC	10 mg/l
Toluene	108-88-3	Water flea	Experimental	7 days	NOEC	0.74 mg/l
Toluene	108-88-3	Activated sludge	Experimental	12 hours	IC50	292 mg/l

**3M™ Scotch-Weld™ Epoxy Adhesive DP420 Black, Part B or Epoxy Adhesive 420 Black, Part B**

Toluene	108-88-3	Bacteria	Experimental	16 hours	NOEC	29 mg/l
Toluene	108-88-3	Bacteria	Experimental	24 hours	EC50	84 mg/l
Toluene	108-88-3	Redworm	Experimental	28 days	LC50	>150 mg per kg of bodyweight
Toluene	108-88-3	Soil microbes	Experimental	28 days	NOEC	<26 mg/kg (Dry Weight)
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Bacteria	Experimental	5 hours	EC10	1,520 mg/l
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Common Carp	Experimental	96 hours	LC50	55 mg/l
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Crustacea other	Experimental	48 hours	LC50	324 mg/l
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Green algae	Experimental	96 hours	EC50	350 mg/l
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Green Algae	Experimental	96 hours	NOEC	130 mg/l
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Water flea	Experimental	21 days	NOEC	>=100 mg/l
Carbon black	1333-86-4	Activated sludge	Experimental	3 hours	EC50	>=100 mg/l
Carbon black	1333-86-4		Data not available or insufficient for classification			N/A
Dichloromethane	75-09-2	Fathead minnow	Experimental	96 hours	LC50	193 mg/l
Dichloromethane	75-09-2	Green Algae	Experimental	72 hours	EC50	242 mg/l
Dichloromethane	75-09-2	Water flea	Experimental	48 hours	LC50	27 mg/l
Dichloromethane	75-09-2	Fathead minnow	Experimental	28 days	NOEC	83 mg/l
Dichloromethane	75-09-2	Green Algae	Experimental	72 hours	EC10	115 mg/l
Dichloromethane	75-09-2	Activated sludge	Experimental	40 minutes	EC50	2,590 mg/l

**12.2. Persistence and degradability**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Epoxy Resin	25068-38-6	Estimated Hydrolysis		Hydrolytic half-life	117 hours (t 1/2)	Non-standard method

**3M™ Scotch-Weld™ Epoxy Adhesive DP420 Black, Part B or Epoxy Adhesive 420 Black, Part B**

Epoxy Resin	25068-38-6	Estimated Biodegradation	28 days	BOD	5 %BOD/COD	OECD 301F - Manometric respirometry
Acrylic Polymer (NJTS Reg No. 04499600-5018P)	Trade Secret	Data not available-insufficient			N/A	
Toluene	108-88-3	Experimental Photolysis		Photolytic half-life (in air)	5.2 days (t 1/2)	
Toluene	108-88-3	Experimental Biodegradation	20 days	BOD	80 % BOD/ThBOD	APHA Std Meth Water/Wastewater
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Experimental Hydrolysis		Hydrolytic half-life	6.5 hours (t 1/2)	Non-standard method
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	37 % weight	Non-standard method
Carbon black	1333-86-4	Data not available-insufficient			N/A	
Dichloromethane	75-09-2	Experimental Photolysis		Photolytic half-life (in air)	226 days (t 1/2)	
Dichloromethane	75-09-2	Experimental Biodegradation	28 days	BOD	68 % BOD/ThBOD	OECD 301D - Closed bottle test

**12.3 : Bioaccumulative potential**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Epoxy Resin	25068-38-6	Estimated Bioconcentration		Log Kow	3.242	Non-standard method
Acrylic Polymer (NJTS Reg No. 04499600-5018P)	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Toluene	108-88-3	Experimental BCF - Other	72 hours	Bioaccumulation factor	90	
Toluene	108-88-3	Experimental Bioconcentration		Log Kow	2.73	
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	2530-83-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Carbon black	1333-86-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Dichloromethane	75-09-2	Experimental BCF-Carp	42 days	Bioaccumulation factor	≤40	OECD305-Bioconcentration
Dichloromethane	75-09-2	Experimental		Log Kow	1.25	

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**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.

Dispose of completely cured (or polymerised) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. 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 UN3082

**Proper Shipping Name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy Resin)

**Hazard Class/Division** 9

**Subsidiary Risk** Not applicable

**Packing Group:** III

**Marine Transport (IMDG)**

UN No UN3082

**Proper Shipping Name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy Resin)

**Hazard Class/Division** 9

**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 material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. The components of this product are in

compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

#### **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

Dichloromethane  
Toluene

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:** 2    **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:**

Section 14: Packing group (IMO) information was modified.  
Company Telephone information was modified.  
Section 1: Emergency telephone information was modified.  
US Section 01 Product Use - Recommended Use information was modified.  
Label: GHS Classification information was modified.  
Label: GHS Environmental Hazard Statements information was modified.  
Label: GHS Precautionary - Prevention information was modified.  
Label: GHS Precautionary - Response information was modified.  
Label: Graphic information was modified.  
Label: Signal Word information was modified.  
Label: Symbol information was modified.  
Section 2: Ingredient table information was modified.  
Section 04: First Aid - Symptoms and Effects (GHS) information was added.  
Section 04: Information on toxicological effects information was deleted.  
Section 7: Precautions safe handling information information was modified.  
Section 8: Occupational exposure limit table information was modified.  
Section 8: Personal Protection - Respiratory Information information was added.  
Section 8: Respiratory protection - recommended respirators guide information was added.  
Section 8: Respiratory protection - recommended respirators information information was added.  
Section 8: Respiratory protection information information was deleted.  
Section 8: Skin protection - recommended gloves information information was modified.  
Section 09: Color information was added.  
Section 09: Nanoparticle information was added.  
Section 09: Odor information was added.  
Sections 3 and 9: Odour, colour, grade information information was deleted.  
Section 09: Percent Volatile information was added.  
Section 9: Property description for optional properties information was added.

Section 9: Property description for optional properties information was deleted.  
Section 09: Vapor Density Value information was added.  
Section 9: Vapour density value information was deleted.  
Section 9: Viscosity information information was deleted.  
Section 09: Viscosity information was added.  
Section 09: VOC Less H2O & Exempt Solvents information was added.  
Section 09: Volatile Organic Compounds information was added.  
Section 11: Acute Toxicity table information was modified.  
Section 11: Aspiration Hazard Table information was added.  
Section 11: Aspiration Hazard text information was deleted.  
Section 11: Carcinogenicity Table information was modified.  
Section 11: Germ Cell Mutagenicity Table information was modified.  
Section 11: Health Effects - Ingestion information information was modified.  
Section 11: Health Effects - Inhalation information information was modified.  
Section 11: Reproductive Hazards information information was added.  
Section 11: Reproductive Toxicity Table information was modified.  
Section 11: Serious Eye Damage/Irritation Table information was modified.  
Section 11: Skin Corrosion/Irritation Table information was modified.  
Section 11: Skin Sensitization Table information was modified.  
Section 11: Specific Target Organ Toxicity - single exposure text information was deleted.  
Section 11: Target Organs - Repeated Table information was modified.  
Section 11: Target Organs - Single Table information was added.  
Section 12: Acute aquatic hazard information information was modified.  
Section 12: Component ecotoxicity information information was modified.  
Section 12: Persistence and Degradability information information was modified.  
Section 12: Bioaccumulative potential information information was modified.  
Section 14: IATA transport hazard classes information was modified.  
Section 14: IMO transport hazard classes information was modified.  
Section 14: Packing group (IATA) information was modified.  
Section 14: Proper Shipping Name (IATA) information was modified.  
Section 14: Proper Shipping Name (IMO) information was modified.  
Section 14: Proper Shipping Name n.o.s. ingredients information was added.  
Section 14: Transportation Information information was deleted.  
Section 14: UN Number (IATA) information was modified.  
Section 14: UN Number (IMO) information was modified.  
Section 15: Applicable Environmental, Health and Safety Regulations information was modified.  
Section 15: MSIHC Ingredients information was modified.  
Section 15: MSIHC Part I of Schedule I ingredients information was modified.  
Section 16: UK disclaimer information was deleted.

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