



## Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the Malaysia Occupational Safety and Health (Chemical Classification, Labelling and Safety Data Sheets) Regulations 2013.

### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Scotch-Weld™ Epoxy Adhesive DP420NS Black, Part B or Epoxy Adhesive 420NS Black, Part B

#### Product Identification Numbers

62-3299-8535-2      62-3299-9530-2      62-3299-9531-0

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

##### Recommended use

2-Part Epoxy Adhesive, Structural adhesive

#### 1.3. Supplier's details

**ADDRESS:** 3M Malaysia Sdn. Bhd., Level 8, Block F, Oasis Square, No.2, Jalan PJU 1A/7A, Ara Damansara 47301  
Petaling, Jaya, Selangor  
**Telephone:** 03-7884 2888  
**E Mail:** 3mmyehsr@mmm.com  
**Website:** www.3M.com.my

#### 1.4. Emergency telephone number

+60 03-7884 2888

### SECTION 2: Hazard identification

#### 2.1. Classification of the substance or mixture

Serious Eye Damage/Irritation: Category 2.

Skin Sensitizer: Category 1.

Chronic Aquatic Toxicity: Category 2.

#### 2.2. Label elements

##### Signal word

Warning

##### Symbols

Exclamation mark | Environment |

##### Pictograms



**Hazard Statements:**

H319 Causes serious eye irritation.  
 H317 May cause an allergic skin reaction.  
 H411 Toxic to aquatic life with long lasting effects.

**Precautionary statements**

**Prevention:**

P273 Avoid release to the environment.  
 P280E Wear protective gloves.

**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.  
 P333 + P313 If skin irritation or rash occurs: 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	C.A.S. No.	% by Wt
Epoxy Resin	25068-38-6	70 - 90
Acrylic Polymer (NJTS Registry No. 04499600-5018P)	Trade Secret	1 - 20
Amorphous Silica	67762-90-7	1 - 5
Carbon Black	1333-86-4	<= 0.1

Any remaining components do not contribute to the hazards of this material.

**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**

**Substance**

Aldehydes  
Carbon monoxide  
Carbon dioxide  
Hydrogen Chloride  
Irritant Vapors or Gases

**Condition**

During Combustion  
During Combustion  
During Combustion  
During Combustion  
During Combustion

**5.3. Special protective actions for fire-fighters**

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

**SECTION 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

Evacuate area. Ventilate the area with fresh air. 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 dikes to prevent entry into sewer systems or bodies of water.

**6.3. Methods and material for containment and cleaning up**

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

For industrial/occupational use only. Not for consumer sale or use. Avoid breathing dust/fume/gas/mist/vapors/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 oxidizing agents (eg. chlorine, chromic acid etc.)

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

Store away from heat. Store away from oxidizing 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	C.A.S. No.	Agency	Limit type	Additional Comments
Carbon Black	1333-86-4	ACGIH	TWA(inhalable fraction):3 mg/m3	A3: Confirmed animal carcin.
Carbon Black	1333-86-4	Malaysia OELs	TWA(8 hours):3.5 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists

CMRG : Chemical Manufacturer's Recommended Guidelines

Malaysia OELs : Malaysia. Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

**8.2. Exposure controls**

**8.2.1. Engineering controls**

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

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

**Eye/face protection**

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**

None required.

**SECTION 9: Physical and chemical properties**

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

Physical state	Liquid
Specific Physical Form:	Paste

<b>Color</b>	Black
<b>Odor</b>	Epoxy
<b>Odor threshold</b>	<i>No Data Available</i>
<b>pH</b>	<i>Not Applicable</i>
<b>Melting point/Freezing point</b>	<i>Not Applicable</i>
<b>Boiling point/Initial boiling point/Boiling range</b>	> 121.1 °C
<b>Flash Point</b>	121.1 °C
<b>Evaporation rate</b>	<i>Not Applicable</i>
<b>Flammability (solid, gas)</b>	Not Applicable
<b>Flammable Limits(LEL)</b>	<i>No Data Available</i>
<b>Flammable Limits(UEL)</b>	<i>No Data Available</i>
<b>Vapor Pressure</b>	<i>Not Applicable</i>
<b>Vapor Density and/or Relative Vapor Density</b>	<i>Not Applicable</i>
<b>Density</b>	1.1 g/ml
<b>Relative Density</b>	0.97 - 1.1 [Ref Std: WATER=1]
<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>	60,000 - 100,000 mPa-s
<b>Volatile Organic Compounds</b>	
<b>Percent volatile</b>	
<b>VOC Less H2O &amp; Exempt Solvents</b>	0 g/l [Test Method:calculated SCAQMD rule 443.1] [Details:when used as intended with Part A]
<b>VOC Less H2O &amp; Exempt Solvents</b>	6 g/l [Test Method:calculated SCAQMD rule 443.1] [Details:as supplied]
<b>VOC Less H2O &amp; Exempt Solvents</b>	0 % [Test Method:calculated SCAQMD rule 443.1] [Details:when used as intended with Part A]
<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 polymerization will not occur.

**10.4. Conditions to avoid**

Heat  
Heat is generated during cure. Do not cure a mass larger than 50 grams in a confined space to prevent a premature exothermic reaction with production of intense heat and smoke.

**10.5. Incompatible materials**

Strong oxidizing agents

**10.6. Hazardous decomposition products**

**Substance**

None known.

**Condition**

Refer to section 5.2 for hazardous decomposition products during combustion.

**SECTION 11: Toxicological information**

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

**11.1. Information on Toxicological effects****Signs and Symptoms of Exposure**

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

**Inhalation:**

No health effects are expected.

**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 diarrhea.

**Toxicological Data**

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

**Acute Toxicity**

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Epoxy Resin	Dermal	Rat	LD50 > 1,600 mg/kg
Epoxy Resin	Ingestion	Rat	LD50 > 1,000 mg/kg
Acrylic Polymer (NJTS Registry No. 04499600-5018P)	Dermal	Rabbit	LD50 > 5,000 mg/kg
Acrylic Polymer (NJTS Registry No. 04499600-5018P)	Ingestion	Rat	LD50 > 5,000 mg/kg
Amorphous Silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Amorphous Silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Amorphous Silica	Ingestion	Rat	LD50 > 5,110 mg/kg
Carbon Black	Dermal	Rabbit	LD50 > 3,000 mg/kg
Carbon Black	Ingestion	Rat	LD50 > 8,000 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
Epoxy Resin	Rabbit	Mild irritant
Acrylic Polymer (NJTS Registry No. 04499600-5018P)	Professio	Minimal irritation

	nal judgement	
Amorphous Silica	Rabbit	No significant irritation
Carbon Black	Rabbit	No significant irritation

**Serious Eye Damage/Irritation**

Name	Species	Value
Epoxy Resin	Rabbit	Moderate irritant
Acrylic Polymer (NJTS Registry No. 04499600-5018P)	Professional judgement	Mild irritant
Amorphous Silica	Rabbit	No significant irritation
Carbon Black	Rabbit	No significant irritation

**Sensitization:**

**Skin Sensitization**

Name	Species	Value
Epoxy Resin	Human and animal	Sensitizing
Amorphous Silica	Human and animal	Not classified

**Respiratory Sensitization**

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
Amorphous Silica	In Vitro	Not mutagenic
Carbon Black	In Vitro	Not mutagenic
Carbon Black	In vivo	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
Amorphous Silica	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
Carbon Black	Dermal	Mouse	Not carcinogenic
Carbon Black	Ingestion	Mouse	Not carcinogenic
Carbon Black	Inhalation	Rat	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

**3M™ Scotch-Weld™ Epoxy Adhesive DP420NS Black, Part B or Epoxy Adhesive 420NS Black, Part B**

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
Amorphous Silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Amorphous Silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Amorphous Silica	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis

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

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

**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
Amorphous Silica	Inhalation	respiratory system   silicosis	Not classified	Human	NOAEL Not available	occupational exposure
Carbon Black	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure

**Aspiration Hazard**

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

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

**SECTION 12: Ecological information**

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

**12.1. Toxicity****Acute aquatic hazard:**

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 #	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 Registry No. 04499600-5018P)	Trade Secret		Data not available or insufficient for classification			N/A
Amorphous Silica	67762-90-7		Data not available or insufficient for classification			N/A
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

### 12.2. Persistence and degradability

Material	CAS No.	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
Epoxy Resin	25068-38-6	Estimated Biodegradation	28 days	Biological Oxygen Demand	5 %BOD/COD	OECD 301F - Manometric Respiro
Acrylic Polymer (NJTS Registry No. 04499600-5018P)	Trade Secret	Data not availbl- insufficient			N/A	
Amorphous Silica	67762-90-7	Data not availbl- insufficient			N/A	
Carbon Black	1333-86-4	Data not availbl- insufficient			N/A	

### 12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Epoxy Resin	25068-38-6	Estimated Bioconcentration		Log of Octanol/H2O part. coeff	3.242	Non-standard method
Acrylic	Trade Secret	Data not	N/A	N/A	N/A	N/A

Polymer (NJTS Registry No. 04499600-5018P)		available or insufficient for classification				
Amorphous Silica	67762-90-7	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

**12.4. Mobility in soil**

Please contact manufacturer for more details

**12.5 Other adverse effects**

No information available

**SECTION 13: Disposal considerations**

**13.1. Disposal methods**

According to the Environmental Quality (Scheduled Wastes) Regulations 2005, scheduled waste has to be sent to a prescribed premise for recycling, treatment or disposal. Please approach Kualiti Alam for proper schedule waste classification and disposal.

**SECTION 14: Transport Information**

**Marine Transport (IMDG)**

**UN Number:**UN3082

**Proper Shipping Name:**ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

**Technical Name:**(Epoxy Resin)

**Hazard Class/Division:**9

**Subsidiary Risk:**None assigned.

**Packing Group:**III

**Limited Quantity:**None assigned.

**Marine Pollutant:** None assigned.

**Marine Pollutant Technical Name:** None assigned.

**Other Dangerous Goods Descriptions:**

None assigned.

**Air Transport (IATA)**

**Forbidden:**3M air policy - package size exceeds the 3M allowable amount

Transportation classifications are provided as a customer service. As for shipping, YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. 3M's transportation classifications are based on product formulation, packaging, 3M policies and 3M's understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to transportation classification and not the packaging, labeling or marking requirements. The above information is only for reference. If you are shipping by air or ocean, YOU are advised to check & meet applicable regulatory requirements.

**SECTION 15: Regulatory information**

### **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

#### **Global inventory status**

Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of 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.

## **SECTION 16: Other information**

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

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