



## Safety Data Sheet

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### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Scotch-Weld™ Structural Adhesive Film AF-10 (10mil)

#### Product Identification Numbers

62-1511-0000-5, 62-1511-0451-0, 62-1511-0801-6, 62-1511-1205-9, 62-1511-1701-7, 62-1511-2001-1, 62-1511-2115-9, 62-1511-2205-8, 62-1511-2405-4, 62-1511-2801-4, 62-1511-3005-1, 62-1511-3155-4, 62-1511-3305-5, 62-1511-3505-0, 62-1511-3506-8, 62-1511-4700-6, 62-1511-4705-5, 87-2500-0258-8, 87-2500-0260-4, 87-2500-0261-2, 87-2500-0262-0, 87-2500-0263-8, 87-3300-0510-6

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

##### Recommended use

Structural Adhesive Film

#### 1.3. Supplier's details

<b>MANUFACTURER:</b>	3M
<b>DIVISION:</b>	Automotive and Aerospace Solutions Division
<b>ADDRESS:</b>	3M Center, St. Paul, MN 55144-1000, USA
<b>Telephone:</b>	1-888-3M HELPS (1-888-364-3577)

#### 1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

### SECTION 2: Hazard identification

#### 2.1. Hazard classification

Skin Sensitizer: Category 1.  
Carcinogenicity: Category 1B.

#### 2.2. Label elements

##### Signal word

Danger

##### Symbols

Exclamation mark | Health Hazard |

**Pictograms****Hazard Statements**

May cause an allergic skin reaction.  
May cause cancer.

**Precautionary Statements****Prevention:**

Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Avoid breathing dust/fume/gas/mist/vapors/spray.  
Wear protective gloves.  
Contaminated work clothing must not be allowed out of the workplace.

**Response:**

IF ON SKIN: Wash with plenty of soap and water.  
If skin irritation or rash occurs: Get medical advice/attention.  
Wash contaminated clothing before reuse.  
IF exposed or concerned: Get medical advice/attention.

**Storage:**

Store locked up.

**Disposal:**

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

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

Ingredient	C.A.S. No.	% by Wt
ACRYLONITRILE-BUTADIENE POLYMER	9003-18-3	40 - 60
PHENOL-FORMALDEHYDE POLYMER	9003-35-4	30 - 60 Trade Secret *
ZINC OXIDE	1314-13-2	1 - 5
AMORPHOUS SILICA	7631-86-9	0.1 - 1.5
ANTIOXIDANT	26780-96-1	0.5 - 1.5
2-MERCAPTOBENZTHIAZOLE	149-30-4	0.1 - 1.0 Trade Secret *

\*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

**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**

See Section 11.1. Information on toxicological effects.

**4.3. Indication of any immediate medical attention and special treatment required**

Not applicable

**SECTION 5: Fire-fighting measures**

**5.1. Suitable extinguishing media**

In case of fire: Use a carbon dioxide or dry chemical extinguisher 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**

Substance

Carbon monoxide  
Carbon dioxide  
Oxides of Nitrogen  
Oxides of Sulfur  
Toxic Vapor, Gas, Particulate

Condition

During Combustion  
During Combustion  
During Combustion  
During Combustion  
During Combustion

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

No special protective actions for fire-fighters are anticipated.

**SECTION 6: Accidental release measures**

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

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.

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

Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. 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 or professional use only. Do not handle until all safety precautions have been read and understood. Do not

breathe dust/fume/gas/mist/vapors/spray. 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. Use personal protective equipment (gloves, respirators, etc.) as required.

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

No special storage requirements.

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

**Occupational exposure limits**

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
ZINC OXIDE	1314-13-2	ACGIH	TWA(respirable fraction):2 mg/m3;STEL(respirable fraction):10 mg/m3	
ZINC OXIDE	1314-13-2	OSHA	TWA(as fume):5 mg/m3;TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
2-MERCAPTOBENZTHIAZOLE	149-30-4	AIHA	TWA:5 mg/m3	SKIN; Dermal sensitizer

ACGIH : American Conference of Governmental Industrial Hygienists  
 AIHA : American Industrial Hygiene Association  
 CMRG : Chemical Manufacturer's Recommended Guidelines  
 OSHA : United States Department of Labor - Occupational Safety and Health Administration  
 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:

Safety Glasses with side shields

**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

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then

use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - 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 vapors 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

General Physical Form:	Solid
Specific Physical Form:	Film
Odor, Color, Grade:	yellow to light tan, no odor.
Odor threshold	<i>No Data Available</i>
pH	<i>Not Applicable</i>
Melting point	<i>No Data Available</i>
Boiling Point	<i>Not Applicable</i>
Flash Point	214 °F [ <i>Test Method:Estimated</i> ]
Evaporation rate	<i>Not Applicable</i>
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>
Vapor Pressure	<i>Not Applicable</i>
Vapor Density	<i>Not Applicable</i>
Density	0.7 g/cm <sup>3</sup> [ <i>@ 20 °C</i> ]
Specific Gravity	0.7 [ <i>Test Method:Estimated</i> ] [ <i>Ref Std:WATER=1</i> ]
Solubility in Water	Nil
Solubility- non-water	<i>No Data Available</i>
Partition coefficient: n-octanol/ water	<i>No Data Available</i>
Autoignition temperature	<i>No Data Available</i>
Decomposition temperature	<i>No Data Available</i>
Viscosity	<i>Not Applicable</i>
Molecular weight	<i>No Data Available</i>
Volatile Organic Compounds	<i>Not Applicable</i>
Percent volatile	0.00 % weight
VOC Less H <sub>2</sub> O & Exempt Solvents	<i>Not Applicable</i>

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

### 10.2. Chemical stability

Stable.

### 10.3. Possibility of hazardous reactions

Hazardous polymerization may occur.

### 10.4. Conditions to avoid

Avoid curing large quantities of material to prevent a premature reaction (exotherm) with production of intense heat and smoke.

**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products**

<u>Substance</u>	<u>Condition</u>
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

**SECTION 11: Toxicological information**

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

**11.1. Information on Toxicological effects**

**Signs and Symptoms of Exposure**

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

**Inhalation:**

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

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:**

Contact with the eyes during product use is not expected to result in significant irritation.

**Ingestion:**

Physical Blockage: Signs/symptoms may include cramping, abdominal pain, and constipation.

May cause additional health effects (see below).

**Additional Health Effects:**

**Carcinogenicity:**

Contains a chemical or chemicals which can cause cancer.

<u>Ingredient</u>	<u>CAS No.</u>	<u>Class Description</u>	<u>Regulation</u>
2-MERCAPTOBENZTHIAZOLE	149-30-4	Grp. 2A: Probable human carc.	International Agency for Research on Cancer

**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
PHENOL-FORMALDEHYDE POLYMER	Dermal	Rat	LD50 > 2,000 mg/kg
PHENOL-FORMALDEHYDE POLYMER	Ingestion	Rat	LD50 > 2,900 mg/kg
ACRYLONITRILE-BUTADIENE POLYMER	Dermal	Rabbit	LD50 > 15,000 mg/kg
ACRYLONITRILE-BUTADIENE POLYMER	Ingestion	Rat	LD50 > 30,000 mg/kg
ZINC OXIDE	Dermal		LD50 estimated to be > 5,000 mg/kg
ZINC OXIDE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.7 mg/l
ZINC OXIDE	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
ANTIOXIDANT	Dermal	Rabbit	LD50 > 5,010 mg/kg
ANTIOXIDANT	Ingestion	Rat	LD50 4,900 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
PHENOL-FORMALDEHYDE POLYMER	Human and animal	Mild irritant
ACRYLONITRILE-BUTADIENE POLYMER	Professional judgement	No significant irritation
ZINC OXIDE	Human and animal	No significant irritation
AMORPHOUS SILICA	Rabbit	No significant irritation

**Serious Eye Damage/Irritation**

Name	Species	Value
PHENOL-FORMALDEHYDE POLYMER	Human and animal	Moderate irritant
ACRYLONITRILE-BUTADIENE POLYMER	Professional judgement	No significant irritation
ZINC OXIDE	Rabbit	Mild irritant
AMORPHOUS SILICA	Rabbit	No significant irritation

**Skin Sensitization**

Name	Species	Value
PHENOL-FORMALDEHYDE POLYMER	Human and animal	Sensitizing
ZINC OXIDE	Guinea pig	Not classified
AMORPHOUS SILICA	Human and animal	Not classified

**Respiratory Sensitization**

Name	Species	Value
PHENOL-FORMALDEHYDE POLYMER	Human	Not classified

**Germ Cell Mutagenicity**

Name	Route	Value
ZINC OXIDE	In Vitro	Some positive data exist, but the data are not sufficient for classification
ZINC OXIDE	In vivo	Some positive data exist, but the data are not sufficient for classification
AMORPHOUS SILICA	In Vitro	Not mutagenic

**Carcinogenicity**

Name	Route	Species	Value
AMORPHOUS SILICA	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
2-MERCAPTOBENZTHIAZOLE	Inhalation	Human	Carcinogenic
2-MERCAPTOBENZTHIAZOLE	Ingestion	Multiple animal species	Carcinogenic

**Reproductive Toxicity**

**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test Result	Exposure Duration
ZINC OXIDE	Ingestion	Not classified for reproduction and/or development	Multiple animal species	NOAEL 125 mg/kg/day	prematuring & during gestation
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**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
PHENOL-FORMALDEHYDE POLYMER	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	

**Specific Target Organ Toxicity - repeated exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
PHENOL-FORMALDEHYDE POLYMER	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
ZINC OXIDE	Ingestion	nervous system	Not classified	Rat	NOAEL 600 mg/kg/day	10 days
ZINC OXIDE	Ingestion	endocrine system   hematopoietic system   kidney and/or bladder	Not classified	Other	NOAEL 500 mg/kg/day	6 months
AMORPHOUS SILICA	Inhalation	respiratory system   silicosis	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

### Ecotoxicological information

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

### Chemical fate information

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

## 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 polymerized) 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. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste. 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.

EPA Hazardous Waste Number (RCRA): Not regulated

## SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

## SECTION 15: Regulatory information

### 15.1. US Federal Regulations

Contact 3M for more information.

### EPCRA 311/312 Hazard Classifications:

#### Physical Hazards

Not applicable

#### Health Hazards

Carcinogenicity

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
ZINC OXIDE (ZINC COMPOUNDS)	1314-13-2	1 - 5

### 15.2. State Regulations

Contact 3M for more information.

### 15.3. Chemical Inventories

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.

Contact 3M for more information.

### 15.4. International Regulations

Contact 3M for more information.

**This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.**

## SECTION 16: Other information

### NFPA Hazard Classification

**Health: 2 Flammability: 1 Instability: 1 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.

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