



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M™ Scotch-Weld™ Thermoexpandable Structural Adhesive Film AF 3070 FST

Product Identification Numbers

ID Number	UPC	ID Number	UPC
FS-9100-4380-1	00048011569345	FS-9100-4381-9	00048011569338

1.2. Recommended use and restrictions on use

Recommended use

Film Adhesive

1.3. Supplier's details

MANUFACTURER: 3M
DIVISION: Aerospace and Commercial Transportation Division
ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA
Telephone: 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

Serious Eye Damage/Irritation: Category 2B.

Skin Sensitizer: Category 1A.

2.2. Label elements

Signal word

Warning

Symbols

Exclamation mark |

Pictograms

**Hazard Statements**

Causes eye irritation.
May cause an allergic skin reaction.

Precautionary Statements**Prevention:**

Avoid breathing dust/fume/gas/mist/vapors/spray.
Wear protective gloves.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
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.

Disposal:

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

2.3. Hazards not otherwise classified

None.

14% of the mixture consists of ingredients of unknown acute oral toxicity.
14% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
ALUMINA TRIHYDRATE	21645-51-2	40 - 70
EPOXY RESIN	9003-36-5	10 - 30 Trade Secret *
MODIFIED EPOXY RESIN (NJTSR # 00457000-5054)	Trade Secret*	5 - 15 Trade Secret *
GLASS BUBBLES	65997-17-3	5 - 10
EPOXY RESIN	25068-38-6	1 - 5 Trade Secret *
DICYANDIAMIDE	461-58-5	1 - 5
4,4'-METHYLENEDIPHENYLENE BIS(DIMETHYLUREA)	10097-09-3	0.5 - 1.5
DINITROSOPENTAMETHYLENETETRAMINE	101-25-7	0.5 - 1.5
PETROLEUM DISTILLATES	64742-53-6	< 0.25

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

*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 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
Oxides of Nitrogen	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. 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

Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Dispose of collected

material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial or professional use only. 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 acids. 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
Aluminum, insoluble compounds	21645-51-2	ACGIH	TWA(respirable fraction):1 mg/m3	A4: Not class. as human carcin
Mineral oils (untreated and mildly treated)	64742-53-6	ACGIH	Limit value not established:	Cntrl all exposr-low as possib, A2: Suspected human carcin.
Paraffin oil	64742-53-6	OSHA	TWA(as mist):5 mg/m3	
PETROLEUM DISTILLATES	64742-53-6	CMRG	TWA:5 mg/m3	
PETROLEUM DISTILLATES	64742-53-6	OSHA	TWA:2000 mg/m3(500 ppm)	
GLASS BUBBLES	65997-17-3	Manufacturer determined	TWA(as dust):10 mg/m3	

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:

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

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

Respiratory protection is not required.

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:	Light Red of pink, slight epoxy odor
Odor threshold	No Data Available
pH	Not Applicable
Melting point	No Data Available
Boiling Point	Not Applicable
Flash Point	90 °C [@ 1 atm]
Evaporation rate	No Data Available
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	Not Applicable
Flammable Limits(UEL)	Not Applicable
Vapor Pressure	Not Applicable
Vapor Density	Not Applicable
Specific Gravity	1.24 [Ref Std: WATER=1]
Solubility in Water	Nil
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	No Data Available
Decomposition temperature	No Data Available
Viscosity	No Data Available

SECTION 10: Stability and reactivity

10.1. Reactivity

This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

None known.

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:

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

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 > 5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
ALUMINA TRIHYDRATE	Dermal		LD50 estimated to be > 5,000 mg/kg
ALUMINA TRIHYDRATE	Ingestion	Rat	LD50 > 5,000 mg/kg
EPOXY RESIN	Dermal	Rabbit	LD50 > 2,000 mg/kg
EPOXY RESIN	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.7 mg/l
EPOXY RESIN	Ingestion	Rat	LD50 > 5,000 mg/kg
GLASS BUBBLES	Dermal		LD50 estimated to be > 5,000 mg/kg
GLASS BUBBLES	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
EPOXY RESIN	Dermal	Rat	LD50 > 1,600 mg/kg
EPOXY RESIN	Ingestion	Rat	LD50 > 1,000 mg/kg
DICYANDIAMIDE	Dermal	Rabbit	LD50 > 10,000 mg/kg
DICYANDIAMIDE	Ingestion	Rat	LD50 > 30,000 mg/kg
4,4'-METHYLENEDIPHENYLENE BIS(DIMETHYLUREA)	Dermal	Rabbit	LD50 > 2,000 mg/kg
4,4'-METHYLENEDIPHENYLENE BIS(DIMETHYLUREA)	Ingestion	Rat	LD50 > 5,000 mg/kg

PETROLEUM DISTILLATES	Dermal	Rabbit	LD50 > 2,000 mg/kg
PETROLEUM DISTILLATES	Inhalation-Dust/Mist (4 hours)	Rat	LC50 2.2 mg/l
PETROLEUM DISTILLATES	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
ALUMINA TRIHYDRATE	Rabbit	No significant irritation
EPOXY RESIN	Rabbit	Mild irritant
GLASS BUBBLES		No significant irritation
EPOXY RESIN	Rabbit	Mild irritant
DICYANDIAMIDE	Human and animal	Minimal irritation
4,4'-METHYLENEDIPHENYLENE BIS(DIMETHYLUREA)	Rabbit	Minimal irritation
PETROLEUM DISTILLATES	Rabbit	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
ALUMINA TRIHYDRATE	Rabbit	No significant irritation
EPOXY RESIN	Rabbit	No significant irritation
GLASS BUBBLES		No significant irritation
EPOXY RESIN	Rabbit	Moderate irritant
DICYANDIAMIDE	Professional judgement	Mild irritant
4,4'-METHYLENEDIPHENYLENE BIS(DIMETHYLUREA)	Rabbit	Mild irritant
PETROLEUM DISTILLATES	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
ALUMINA TRIHYDRATE	Guinea pig	Not sensitizing
EPOXY RESIN	Multiple animal species	Sensitizing
EPOXY RESIN	Human and animal	Sensitizing
DICYANDIAMIDE	Guinea pig	Some positive data exist, but the data are not sufficient for classification
PETROLEUM DISTILLATES	Guinea pig	Not sensitizing

Respiratory Sensitization

Name	Species	Value
EPOXY RESIN	Human	Some positive data exist, but the data are not sufficient for classification

Germ Cell Mutagenicity

Name	Route	Value
GLASS BUBBLES	In Vitro	Some positive data exist, but the data are not sufficient for classification
EPOXY RESIN	In vivo	Not mutagenic
EPOXY RESIN	In Vitro	Some positive data exist, but the data are not sufficient for classification
DICYANDIAMIDE	In Vitro	Not mutagenic
PETROLEUM DISTILLATES	In Vitro	Some positive data exist, but the data are not sufficient for classification
PETROLEUM DISTILLATES	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
ALUMINA TRIHYDRATE	Not Specified	Multiple animal species	Not carcinogenic
GLASS BUBBLES	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
EPOXY RESIN	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
DICYANDIAMIDE	Ingestion	Rat	Not carcinogenic
PETROLEUM DISTILLATES	Dermal	Mouse	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
ALUMINA TRIHYDRATE	Ingestion	Not toxic to development	Rat	NOAEL 768 mg/kg/day	during organogenesis
EPOXY RESIN	Ingestion	Not toxic to female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
EPOXY RESIN	Ingestion	Not toxic to male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
EPOXY RESIN	Dermal	Not toxic to development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
EPOXY RESIN	Ingestion	Not toxic to development	Rat	NOAEL 750 mg/kg/day	2 generation
DICYANDIAMIDE	Ingestion	Not toxic to female reproduction	Rat	NOAEL 1,000 mg/kg/day	prematuring & during gestation
DICYANDIAMIDE	Ingestion	Not toxic to male reproduction	Rat	NOAEL 1,000 mg/kg/day	44 days
DICYANDIAMIDE	Ingestion	Not toxic to development	Rat	NOAEL 1,000 mg/kg/day	prematuring & during gestation
PETROLEUM DISTILLATES	Ingestion	Not toxic to female reproduction	Rat	NOAEL 1,000 mg/kg/day	prematuring & during gestation
PETROLEUM DISTILLATES	Ingestion	Not toxic to male reproduction	Rat	NOAEL 1,000 mg/kg/day	prematuring & during gestation
PETROLEUM DISTILLATES	Dermal	Not toxic to development	Rat	NOAEL 2,000 mg/kg/day	during gestation
PETROLEUM DISTILLATES	Ingestion	Not toxic to development	Rat	NOAEL 1,000 mg/kg/day	prematuring & during gestation
PETROLEUM DISTILLATES	Dermal	Some positive male reproductive data exist, but the data are not sufficient for classification	Rabbit	NOAEL 1,000 mg/kg/day	28 days

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
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Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
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GLASS BUBBLES	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL not available	occupational exposure
EPOXY RESIN	Dermal	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,000 mg/kg/day	2 years
EPOXY RESIN	Dermal	nervous system	All data are negative	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	All data are negative	Rat	NOAEL 1,000 mg/kg/day	28 days
DICYANDIAMIDE	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 6,822 mg/kg/day	13 weeks

Aspiration Hazard

Name	Value
PETROLEUM DISTILLATES	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

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. 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

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.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

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.

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: 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.

HMIS Hazard Classification

Health: 2 Flammability: 1 Physical Hazard: 0 Personal Protection: X - See PPE section.

Hazardous Material Identification System (HMIS® III) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® III ratings are to be used with a fully implemented HMIS® III program. HMIS® is a registered mark of the American Coatings Association (ACA).

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