



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

3M™ Scotch-Weld™ Structural Adhesive Film AF 32

Product Identification Numbers

62-1591-4706-5

7000046334

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Structural Adhesive Film

1.3. Details of the supplier of the safety data sheet

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4. Emergency telephone number

+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

CLASSIFICATION:

Skin Sensitization, Category 1 - Skin Sens. 1; H317

Hazardous to the Aquatic Environment (Chronic), Category 2 - Aquatic Chronic 2; H411

For full text of H phrases, see Section 16.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

SIGNAL WORD

WARNING.

Symbols:

GHS07 (Exclamation mark) |GHS09 (Environment) |

Pictograms



Ingredients:

Ingredient	CAS Nbr	EC No.	% by Wt
Formaldehyde, oligomeric reaction products with phenol	9003-35-4	500-005-2	15 - 40
Methenamine	100-97-0	202-905-8	1 - 5
N-Cyclohexylbenzothiazole-2-sulphenamide	95-33-0	202-411-2	0.1 - 1

HAZARD STATEMENTS:

- H317 May cause an allergic skin reaction.
- H411 Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

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

Response:

- 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

Persons previously sensitised to amines may develop a cross-sensitisation reaction to certain other amines.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EC No.	REACH Registration No.	% by Wt	Classification
Acrylonitrile - butadiene polymer	9003-18-3			40 - 70	Substance not classified as hazardous
Formaldehyde, oligomeric reaction products with phenol	9003-35-4	500-005-2		15 - 40	Skin Sens. 1, H317
Zinc oxide	1314-13-2	215-222-5		1 - 5	Aquatic Acute 1, H400,M=1;

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					Aquatic Chronic 1, H410,M=1
Methenamine	100-97-0	202-905-8		1 - 5	Flam. Sol. 2, H228; Skin Sens. 1B, H317
N-Cyclohexylbenzothiazole-2-sulphenamide	95-33-0	202-411-2		0.1 - 1	Skin Sens. 1, H317; Aquatic Acute 1, H400,M=1; Aquatic Chronic 1, H410,M=10

Please see section 16 for the full text of any H statements referred to in this section

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

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. 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**

Formaldehyde
Carbon monoxide.
Carbon dioxide.
Ammonia
Oxides of nitrogen.
Oxides of sulphur.
Toxic vapour, gas, particulate.

Condition

During combustion.
During combustion.
During combustion.
During combustion.
During combustion.
During combustion.
During combustion.

5.3. Advice 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. 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.

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial or professional use only. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from amines.

7.3. Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No occupational exposure limit values exist for any of the components listed in Section 3 of this Safety Data Sheet.

Biological limit values

No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

8.2. Exposure controls

8.2.1. Engineering controls

Curing enclosures must be exhausted to outdoors or to a suitable emission control device. 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:
Safety glasses with side shields.

Applicable Norms/Standards

Use eye protection conforming to EN 166

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:

Material	Thickness (mm)	Breakthrough Time
Polymer laminate	No data available	No data available

Applicable Norms/Standards

Use gloves tested to EN 374

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 vapours and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

Applicable Norms/Standards

Use a respirator conforming to EN 140 or EN 136: filter types A & P

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state	Solid.
Specific Physical Form:	Film
Appearance/Odour	tan, essentially no odour
Odour threshold	<i>No data available.</i>
pH	<i>Not applicable.</i>
Boiling point/boiling range	<i>Not applicable.</i>
Melting point	<i>No data available.</i>
Flammability (solid, gas)	Not classified
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	No flash point
Autoignition temperature	<i>Not applicable.</i>
Flammable Limits(LEL)	<i>Not applicable.</i>

Flammable Limits(UEL)	<i>Not applicable.</i>
Vapour pressure	<i>Not applicable.</i>
Relative density	<i>No data available.</i>
Water solubility	Nil
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Evaporation rate	<i>Not applicable.</i>
Vapour density	<i>Not applicable.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity	<i>Not applicable.</i>
Density	<i>No data available.</i>

9.2. Other information

EU Volatile Organic Compounds	<i>No data available.</i>
Percent volatile	Nil

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

Amines.

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 agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from 3M assessments.

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.

Skin contact

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

Additional information:

Persons previously sensitised to amines may develop a cross-sensitisation reaction to certain other amines.

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
Acrylonitrile - butadiene polymer	Dermal	Rabbit	LD50 > 15,000 mg/kg
Acrylonitrile - butadiene polymer	Ingestion	Rat	LD50 > 30,000 mg/kg
Formaldehyde, oligomeric reaction products with phenol	Dermal	Rat	LD50 > 2,000 mg/kg
Formaldehyde, oligomeric reaction products with phenol	Ingestion	Rat	LD50 > 2,900 mg/kg
Methenamine	Dermal	Rabbit	LD50 > 2,000 mg/kg
Methenamine	Ingestion	Rat	LD50 9,200 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

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Acrylonitrile - butadiene polymer	Professional judgement	No significant irritation
Formaldehyde, oligomeric reaction products with phenol	Human and animal	Mild irritant
Methenamine	Rabbit	No significant irritation
Zinc oxide	Human and animal	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Acrylonitrile - butadiene polymer	Professional judgement	No significant irritation
Formaldehyde, oligomeric reaction products with phenol	Human	Moderate irritant

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	and animal	
Methenamine	Rabbit	No significant irritation
Zinc oxide	Rabbit	Mild irritant

Skin Sensitisation

Name	Species	Value
Formaldehyde, oligomeric reaction products with phenol	Human and animal	Sensitising
Methenamine	Multiple animal species	Sensitising
Zinc oxide	Guinea pig	Not classified

Respiratory Sensitisation

Name	Species	Value
Formaldehyde, oligomeric reaction products with phenol	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

Carcinogenicity

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

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

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Formaldehyde, oligomeric reaction products with phenol	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
Formaldehyde, oligomeric reaction products with phenol	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	Not classified	Other	NOAEL 500 mg/kg/day	6 months

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and/or bladder

Aspiration Hazard

For the component/components, either no data is currently available or the data is 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 agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Acrylonitrile - butadiene polymer	9003-18-3		Data not available or insufficient for classification			
Formaldehyde, oligomeric reaction products with phenol	9003-35-4		Data not available or insufficient for classification			
Methenamine	100-97-0	Water flea	Experimental	48 hours	LC50	36,000 mg/l
Methenamine	100-97-0	Bluegill	Experimental	96 hours	LC50	41,000 mg/l
Zinc oxide	1314-13-2	Rainbow trout	Estimated	96 hours	LC50	0.21 mg/l
Zinc oxide	1314-13-2	Crustacea other	Experimental	24 hours	LC50	0.24 mg/l
Zinc oxide	1314-13-2	Green Algae	Experimental	72 hours	EC50	0.057 mg/l
Zinc oxide	1314-13-2	Rainbow trout	Estimated	30 days	NOEC	0.049 mg/l
Zinc oxide	1314-13-2	Algae or other aquatic plants	Estimated	96 hours	Effect Concentration 10%	0.026 mg/l
Zinc oxide	1314-13-2	Crustacea other	Estimated	24 days	NOEC	0.007 mg/l
N-Cyclohexylbenzothiazole-2-sulphenamide	95-33-0	Green Algae	Experimental	72 hours	EC50	0.15 mg/l
N-Cyclohexylbenzothiazole-2-sulphenamide	95-33-0	Water flea	Experimental	48 hours	EC50	0.79 mg/l
N-Cyclohexylbenzothiazole-2-sulphenamide	95-33-0	Ricefish	Experimental	96 hours	LC50	2.1 mg/l
N-Cyclohexylbenzothiazole-2-sulphenamide	95-33-0	Green Algae	Experimental	72 days	NOEC	0.008 mg/l
N-Cyclohexylbenzothiazole-2-sulphenamide	95-33-0	Water flea	Experimental	21 days	NOEC	0.058 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Acrylonitrile - butadiene	9003-18-3	Data not available	N/A	N/A	N/A	N/A

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polymer		or insufficient for classification				
Formaldehyde, oligomeric reaction products with phenol	9003-35-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Methenamine	100-97-0	Experimental Hydrolysis		Hydrolytic half-life	13.8 hours (t 1/2)	Other methods
Zinc oxide	1314-13-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
N-Cyclohexylbenzothiazole-2-sulphenamide	95-33-0	Experimental Biodegradation	28 days	BOD	0 % BOD/ThBOD	Other methods
N-Cyclohexylbenzothiazole-2-sulphenamide	95-33-0	Experimental Hydrolysis		Hydrolytic half-life	12.5 hours (t 1/2)	Other methods

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Acrylonitrile - butadiene polymer	9003-18-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Formaldehyde, oligomeric reaction products with phenol	9003-35-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Methenamine	100-97-0	Experimental Bioconcentration		Log Kow	-2.18	Other methods
Zinc oxide	1314-13-2	Experimental BCF-Carp	56 days	Bioaccumulation factor	≤217	OECD 305E - Bioaccumulation flow-through fish test
N-Cyclohexylbenzothiazole-2-sulphenamide	95-33-0	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. Results of the PBT and vPvB assessment

No information available at this time, contact manufacturer for more details

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

See Section 11.1 Information on toxicological effects

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.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are

complied with and always use a licensed waste contractor.

EU waste code (product as sold)

08 04 09* Waste adhesives and sealants containing organic solvents or other dangerous substances

SECTION 14: Transportation information

62-1591-4706-5

ADR/RID: UN1845, CARBON DIOXID, SOLID, AS COOLANT, --.

IMDG-CODE: UN1845, CARBON DIOXIDE, SOLID, (DRY ICE), AS COOLANT(FORBIDDEN FOR SEA EXCEPT FOR SHORT EUROPEAN FERRYCROSSINGS), 9., IMDG-Code segregation code: NONE, longer distance allowed in Reefer Container, EMS: FC,SV.

ICAO/IATA: UN1845, CARBON DIOXIDE, SOLID, 9..

SECTION 15: Regulatory information

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

Global inventory status

Contact 3M for more information. The components of this product are in compliance with the chemical notification requirements of TSCA.

15.2. Chemical Safety Assessment

Not applicable

SECTION 16: Other information

List of relevant H statements

H228	Flammable solid.
H317	May cause an allergic skin reaction.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Revision information:

Section 01: SAP Material Numbers information was added.

CLP: Ingredient table information was modified.

Section 2: Indication of danger information information was deleted.

Label: CLP Classification information was modified.

Label: CLP Environmental Hazard Statements information was modified.

Label: CLP Percent Unknown information was deleted.

Label: Graphic Text information was deleted.

Label: Graphic information was deleted.

Label: Signal Word information was modified.

Section 2: Label ingredient information information was deleted.

Section 2: R phrase reference information was deleted.

Risk phrase information was deleted.

Safety phrase information was deleted.

Section 3: Composition/ Information of ingredients table information was added.

Section 3: Composition/ Information of ingredients table information was deleted.

Section 3: Reference to H statement explanation in Section 016 information was added.

Section 3: Reference to R and H statement explanation in Section 16 information was deleted.

Section 3: Reference to section 15 for Nota info information was deleted.
Section 5: Fire - Advice for fire fighters information information was modified.
Section 6: Accidental release personal information information was modified.
Section 8: glove data value information was added.
Section 8: Personal Protection - Skin/hand information information was modified.
Section 8: Skin protection - recommended gloves information information was deleted.
Section 9: Density information information was modified.
Section 9: Flash point information information was modified.
Section 9: Property description for optional properties information was added.
Section 9: Property description for optional properties information was deleted.
Section 9: Relative density information information was modified.
Section 11: Aspiration Hazard text information was added.
Section 11: Carcinogenicity text information was added.
Section 11: Health Effects - Ingestion information information was modified.
Section 11: Health Effects - Inhalation information information was modified.
Section 11: Health Effects - Skin information information was modified.
Section 11: Reproductive and/or Developmental Effects text information was added.
Section 11: Reproductive Toxicity Table information was modified.
Section 11: Respiratory Sensitization 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: Target Organs - Repeated Table information was modified.
Section 12: Component ecotoxicity information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12: Biocumulative potential information information was modified.
Section 13: Standard Phrase Category Waste GHS information was modified.
Section 16: List of relevant R phrase information information was deleted.
Section 16: List of relevant R-phrases 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 United Kingdom MSDSs are available at www.3M.com/uk