



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M™ Scotch-Weld™ Structural Adhesive Film AF 31

Product Identification Numbers

62-1514-0125-4, 62-1514-0451-4, 62-1514-1005-7, 62-1514-1201-2, 62-1514-2801-8, 62-1514-3501-3, 62-1514-3905-6, 62-1514-4705-9, 62-1514-4706-7, 87-2500-0256-2, 87-3300-0513-0, 87-3300-0514-8
7000046332, 7010367202, 7100166583, 7100066718, 7000046333, 7100067278

1.2. Recommended use and restrictions on use

Recommended use

Structural Adhesive Film, Structural adhesive

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Automotive and Aerospace Solutions 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

Skin Corrosion/Irritation: Category 2.

Skin Sensitizer: Category 1.

Specific Target Organ Toxicity (single exposure): Category 1.

Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements

Signal word

Danger

Symbols

Exclamation mark | Health Hazard |

Pictograms

**Hazard Statements**

Causes skin irritation.
May cause an allergic skin reaction.

Causes damage to organs:
blood or blood-forming organs |
cardiovascular system |
nervous system |
kidney/urinary tract |
respiratory system |

Causes damage to organs through prolonged or repeated exposure:
blood or blood-forming organs |
cardiovascular system |
liver |
kidney/urinary tract |
respiratory system |

May cause damage to organs through prolonged or repeated exposure:
nervous system |

Precautionary Statements**Prevention:**

Do not breathe dust/fume/gas/mist/vapors/spray.
Wear protective gloves.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.
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.
Take off contaminated clothing and wash it before reuse.
IF exposed: Call a POISON CENTER or doctor/physician.

Storage:

Store locked up.

Disposal:

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

Supplemental Information:

Persons previously sensitized to amines may develop a cross-sensitization reaction to certain other amines.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Phenol-Formaldehyde Polymer	9003-35-4	40 - 70 Trade Secret *

Acrylonitrile-Butadiene Polymer	9003-18-3	15 - 40
Hexamine	100-97-0	4 - 10 Trade Secret *
Sulfur	7704-34-9	1 - 5
Phenol	108-95-2	< 3 Trade Secret *
NUC - HYDROTREATED LIGHT PETROLEUM DISTILLATES	64742-47-8	< 2 Trade Secret *
Zinc Oxide	1314-13-2	< 2
N-Cyclohexyl-2-Benzothiazolesulfenamide	95-33-0	< 0.5 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

Allergic skin reaction (redness, swelling, blistering, and itching). Target organ effects. See Section 11 for additional details. Target organ effects following prolonged or repeated exposure. See Section 11 for additional details.

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

Formaldehyde
Carbon monoxide
Carbon dioxide
Ammonia
Oxides of Nitrogen
Oxides of Sulfur

Condition

During Combustion
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. 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/occupational use only. Not for consumer sale or use. Do not breathe 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.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from amines.

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
Hexamine	100-97-0	ACGIH	TWA(inhalable fraction and vapor):1 mg/m ³	A4: Not class. as human carcin, Dermal Sensitizer
Phenol	108-95-2	ACGIH	TWA:5 ppm	A4: Not class. as human carcin, Danger of cutaneous absorption
Phenol	108-95-2	OSHA	TWA:19 mg/m ³ (5 ppm)	SKIN
Zinc Oxide	1314-13-2	ACGIH	TWA(respirable fraction):2 mg/m ³ ;STEL(respirable fraction):10 mg/m ³	
Zinc Oxide	1314-13-2	OSHA	TWA(as total dust):15 mg/m ³ ;TWA(respirable fraction):5 mg/m ³ ;TWA(as fume):5 mg/m ³	
Kerosine (petroleum)	64742-47-8	ACGIH	TWA(as total hydrocarbon vapor, non-aerosol):200 mg/m ³	A3: Confirmed animal carcin., SKIN

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

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/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

Appearance

Physical state
Color

Solid
 Brown, Yellow

Specific Physical Form:

Odor

Film
 Odorless

Odor threshold

No Data Available

pH

Not Applicable

Melting point

No Data Available

Boiling Point

Not Applicable

Flash Point	No flash point
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	<i>No Data Available</i>
Specific Gravity	<i>No Data Available</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>Not Applicable</i>
Decomposition temperature	<i>No Data Available</i>
Viscosity	<i>Not Applicable</i>
Volatile Organic Compounds	<i>Not Applicable</i>
Percent volatile	Nil
VOC Less H2O & 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 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 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:

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.
Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

May cause additional health effects (see below).

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:

Single exposure may cause target organ effects:

Cardiac Effects: Signs/symptoms may include irregular heartbeat (arrhythmia), changes in heart rate, damage to heart muscle, heart attack, and may be fatal.

Hematopoietic Effects: Signs/symptoms may include generalized weakness, fatigue and alterations in numbers of circulating blood cells.

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

Kidney/Bladder Effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

Prolonged or repeated exposure may cause target organ effects:

Cardiac Effects: Signs/symptoms may include irregular heartbeat (arrhythmia), changes in heart rate, damage to heart muscle, heart attack, and may be fatal.

Hematopoietic Effects: Signs/symptoms may include generalized weakness, fatigue and alterations in numbers of circulating blood cells.

Liver Effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice.

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

Kidney/Bladder Effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

Additional Information:

Persons previously sensitized to amines may develop a cross-sensitization 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	Dermal		No data available; calculated ATE >5,000 mg/kg
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
Hexamine	Dermal	Rabbit	LD50 > 2,000 mg/kg
Hexamine	Ingestion	Rat	LD50 9,200 mg/kg
Phenol	Inhalation-Vapor		LC50 estimated to be 2 - 10 mg/l
Phenol	Dermal	Rat	LD50 670 mg/kg
Phenol	Ingestion	Rat	LD50 340 mg/kg
Sulfur	Dermal	Rabbit	LD50 > 2,000 mg/kg
Sulfur	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 9.2 mg/l
Sulfur	Ingestion	Rat	LD50 > 5,000 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
NUC - HYDROTREATED LIGHT PETROLEUM DISTILLATES	Dermal	Rabbit	LD50 > 3,160 mg/kg
NUC - HYDROTREATED LIGHT PETROLEUM DISTILLATES	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 3 mg/l
NUC - HYDROTREATED LIGHT PETROLEUM DISTILLATES	Ingestion	Rat	LD50 > 5,000 mg/kg
N-Cyclohexyl-2-Benzothiazolesulfenamide	Dermal	Rabbit	LD50 > 7,940 mg/kg
N-Cyclohexyl-2-Benzothiazolesulfenamide	Ingestion	Rat	LD50 5,300 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
Hexamine	Rabbit	No significant irritation
Phenol	Rat	Corrosive
Sulfur	Rabbit	Irritant
Zinc Oxide	Human and animal	No significant irritation

NUC - HYDROTREATED LIGHT PETROLEUM DISTILLATES	Rabbit	Mild irritant
N-Cyclohexyl-2-Benzothiazolesulfenamide	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
Hexamine	Rabbit	No significant irritation
Phenol	Rabbit	Corrosive
Sulfur	Rabbit	Mild irritant
Zinc Oxide	Rabbit	Mild irritant
NUC - HYDROTREATED LIGHT PETROLEUM DISTILLATES	Rabbit	Mild irritant
N-Cyclohexyl-2-Benzothiazolesulfenamide	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Phenol-Formaldehyde Polymer	Human and animal	Sensitizing
Hexamine	Multiple animal species	Sensitizing
Phenol	Guinea pig	Not classified
Zinc Oxide	Guinea pig	Not classified
NUC - HYDROTREATED LIGHT PETROLEUM DISTILLATES	Guinea pig	Not classified
N-Cyclohexyl-2-Benzothiazolesulfenamide	Human	Sensitizing

Respiratory Sensitization

Name	Species	Value
Phenol-Formaldehyde Polymer	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
Phenol	In Vitro	Some positive data exist, but the data are not sufficient for classification
Phenol	In vivo	Some positive data exist, but the data are not sufficient for classification
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
NUC - HYDROTREATED LIGHT PETROLEUM DISTILLATES	In Vitro	Not mutagenic
N-Cyclohexyl-2-Benzothiazolesulfenamide	In vivo	Not mutagenic
N-Cyclohexyl-2-Benzothiazolesulfenamide	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Phenol	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Phenol	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification

NUC - HYDROTREATED LIGHT PETROLEUM DISTILLATES	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
N-Cyclohexyl-2-Benzothiazolesulfenamide	Ingestion	Mouse	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Phenol	Ingestion	Not classified for female reproduction	Rat	NOAEL 321 mg/kg/day	2 generation
Phenol	Ingestion	Not classified for male reproduction	Rat	NOAEL 321 mg/kg/day	2 generation
Phenol	Ingestion	Not classified for development	Rat	NOAEL 120 mg/kg/day	during organogenesis
Zinc Oxide	Ingestion	Not classified for reproduction and/or development	Multiple animal species	NOAEL 125 mg/kg/day	prematuring & during gestation
N-Cyclohexyl-2-Benzothiazolesulfenamide	Ingestion	Not classified for development	Rat	NOAEL 300 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	
Phenol	Dermal	hematopoietic system	Causes damage to organs	Rat	LOAEL 108 mg/kg	not available
Phenol	Dermal	heart nervous system kidney and/or bladder	Causes damage to organs	Rat	LOAEL 107 mg/kg	24 hours
Phenol	Dermal	liver	Not classified	Human	NOAEL Not available	not available
Phenol	Inhalation	respiratory irritation	May cause respiratory irritation	Multiple animal species	NOAEL Not available	not available
Phenol	Ingestion	kidney and/or bladder	Causes damage to organs	Rat	NOAEL 120 mg/kg/day	not applicable
Phenol	Ingestion	respiratory system	Causes damage to organs	Human	NOAEL not available	poisoning and/or abuse
Phenol	Ingestion	endocrine system liver	Not classified	Rat	NOAEL 224 mg/kg	not applicable
Phenol	Ingestion	heart	Not classified	Human	NOAEL Not available	poisoning and/or abuse
NUC - HYDROTREATED LIGHT PETROLEUM DISTILLATES	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
NUC - HYDROTREATED LIGHT PETROLEUM DISTILLATES	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
NUC - HYDROTREATED LIGHT PETROLEUM DISTILLATES	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Notavailable	

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	Human	NOAEL Not available	occupational exposure

			classification			
Phenol	Dermal	nervous system	May cause damage to organs though prolonged or repeated exposure	Rabbit	LOAEL 260 mg/kg/day	18 days
Phenol	Inhalation	heart liver kidney and/or bladder respiratory system	Causes damage to organs through prolonged or repeated exposure	Guinea pig	LOAEL 0.1 mg/l	41 days
Phenol	Inhalation	nervous system	May cause damage to organs though prolonged or repeated exposure	Multiple animal species	LOAEL 0.1 mg/l	14 days
Phenol	Inhalation	hematopoietic system	Not classified	Human	NOAEL Not available	occupational exposure
Phenol	Inhalation	immune system	Not classified	Rat	NOAEL 0.1 mg/l	2 weeks
Phenol	Ingestion	kidney and/or bladder	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 12 mg/kg/day	14 days
Phenol	Ingestion	hematopoietic system	Causes damage to organs through prolonged or repeated exposure	Mouse	LOAEL 1.8 mg/kg/day	28 days
Phenol	Ingestion	nervous system	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 308 mg/kg/day	13 weeks
Phenol	Ingestion	liver	Not classified	Rat	NOAEL 40 mg/kg/day	14 days
Phenol	Ingestion	respiratory system	Not classified	Rat	LOAEL 40 mg/kg/day	14 days
Phenol	Ingestion	immune system	Not classified	Mouse	NOAEL 1.8 mg/kg/day	28 days
Phenol	Ingestion	endocrine system	Not classified	Rat	NOAEL 120 mg/kg/day	14 days
Phenol	Ingestion	skin bone, teeth, nails, and/or hair	Not classified	Multiple animal species	NOAEL 1,204 mg/kg/day	103 weeks
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
N-Cyclohexyl-2-Benzothiazolesulfenamide	Dermal	skin hematopoietic system	Not classified	Rabbit	NOAEL 2,000 mg/kg/day	21 days
N-Cyclohexyl-2-Benzothiazolesulfenamide	Inhalation	hematopoietic system immune system respiratory system eyes kidney and/or bladder	Not classified	Rat	NOAEL 0.048 mg/l	29 days
N-Cyclohexyl-2-Benzothiazolesulfenamide	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 800 mg/kg/day	28 days
N-Cyclohexyl-2-Benzothiazolesulfenamide	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 80 mg/kg/day	28 days
N-Cyclohexyl-2-Benzothiazolesulfenamide	Ingestion	heart endocrine system gastrointestinal tract immune system nervous system	Not classified	Rat	NOAEL 800 mg/kg/day	28 days

Aspiration Hazard

Name	Value
NUC - HYDROTREATED LIGHT 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.

EPCRA 311/312 Hazard Classifications:

Physical Hazards

Not applicable

Health Hazards

Respiratory or Skin Sensitization

Skin Corrosion or Irritation

Specific target organ toxicity (single or repeated exposure)

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>
Phenol	108-95-2	Trade Secret < 3
Zinc Oxide (ZINC COMPOUNDS)	1314-13-2	< 2

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:** 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.

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