



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M™ Scotch-Weld™ Structural Adhesive Primer EC-1593

Product Identification Numbers

LA-NAMU-0100-A, LA-NAMV-0100-A, 62-1593-7525-2, 62-1593-8525-1, 62-1593-8540-0
7100017345, 7000000809

1.2. Recommended use and restrictions on use

Recommended use

Primer

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

Flammable Liquid: Category 2.
Acute Toxicity (inhalation): Category 4.
Serious Eye Damage/Irritation: Category 1.
Skin Corrosion/Irritation: Category 2.
Skin Sensitizer: Category 1.
Reproductive Toxicity: Category 1B.
Carcinogenicity: Category 2.
Specific Target Organ Toxicity (single exposure): Category 3.
Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements

Signal word

Danger

Symbols

Flame | Corrosion | Exclamation mark | Health Hazard |

Pictograms**Hazard Statements**

Highly flammable liquid and vapor.

Causes serious eye damage.

Causes skin irritation.

May cause an allergic skin reaction.

Harmful if inhaled.

May cause respiratory irritation.

May cause drowsiness or dizziness.

May damage fertility or the unborn child.

Suspected of causing cancer.

Causes damage to organs through prolonged or repeated exposure:

nervous system |

sensory organs |

Precautionary Statements**Prevention:**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Keep container tightly closed.

Use explosion-proof electrical/ventilating/lighting equipment.

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wear protective gloves and eye/face protection.

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 INHALED: Remove person to fresh air and keep comfortable for breathing.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

IF exposed or concerned: Get medical advice/attention.

In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

Storage:

Store in a well-ventilated place. Keep container tightly closed.
Keep cool.
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
METHYL ISOBUTYL KETONE	108-10-1	35 - 65 Trade Secret *
CYCLOHEXANONE	108-94-1	15 - 40 Trade Secret *
ACRYLONITRILE-BUTADIENE POLYMER	9003-18-3	1 - 5
MAGNESIUM OXIDE	1309-48-4	1 - 5
PHENOL-FORMALDEHYDE POLYMER	9003-35-4	1 - 5 Trade Secret *
POLYCHLOROPRENE	9010-98-4	1 - 5
TOLUENE	108-88-3	1 - 5 Trade Secret *
PHENOL	108-95-2	< 1 Trade Secret *
Zinc Oxide	1314-13-2	< 0.35
N-CYCLOHEXYL-2-BENZOTHAZOLESULFENAMIDE	95-33-0	< 0.1

*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:

Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately 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

Irritating to the respiratory tract (coughing, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain). Allergic skin reaction (redness, swelling, blistering, and itching). Serious damage to the eyes (corneal cloudiness, severe pain, tearing, ulcerations, and significantly impaired or loss of vision). Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness). 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 flammable liquids such as dry chemical or carbon dioxide 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

<u>Substance</u>	<u>Condition</u>
Hydrocarbons	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Chloride	During Combustion
Irritant Vapors or Gases	During Combustion

5.3. Special protective actions for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. 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. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. 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. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial/occupational use only. Not for consumer sale or use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. 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. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Wear low static

or properly grounded shoes. Use personal protective equipment (gloves, respirators, etc.) as required. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapor accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep cool. Keep container tightly closed. 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
METHYL ISOBUTYL KETONE	108-10-1	ACGIH	TWA:20 ppm;STEL:75 ppm	A3: Confirmed animal carcin.
METHYL ISOBUTYL KETONE	108-10-1	OSHA	TWA:410 mg/m3(100 ppm)	
TOLUENE	108-88-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcin, Ototoxicant
TOLUENE	108-88-3	OSHA	TWA:200 ppm;CEIL:300 ppm	
CYCLOHEXANONE	108-94-1	ACGIH	TWA:20 ppm;STEL:50 ppm	A3: Confirmed animal carcin., Danger of cutaneous absorption
CYCLOHEXANONE	108-94-1	OSHA	TWA:200 mg/m3(50 ppm)	
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/m3(5 ppm)	SKIN
MAGNESIUM OXIDE	1309-48-4	ACGIH	TWA(inhalable fraction):10 mg/m3	A4: Not class. as human carcin
MAGNESIUM OXIDE	1309-48-4	OSHA	TWA(as total particulates):15 mg/m3	
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 total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3;TWA(as fume):5 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. Use explosion-proof ventilation 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:

Full Face Shield

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

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

Liquid

Color

Blue

Odor

Strong Methyl isobutyl ketone

Odor threshold

No Data Available

pH

Not Applicable

Melting point

No Data Available

Boiling Point

232 °F [Details:CONDITIONS: (toluene)]

Flash Point

63 °F [Test Method:Closed Cup]

Evaporation rate

>=4 [Ref Std:ETHER=1]

Flammability (solid, gas)

Not Applicable

Flammable Limits(LEL)

1.1 % volume

Flammable Limits(UEL)

7.5 % volume

Vapor Pressure

25.19 mmHg [@ 20 °C]

Vapor Density

3.4 [@ 20 °C] [Ref Std:AIR=1]

Density

0.89 g/ml

Specific Gravity

0.89 [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	40 - 120 centipoise [@ 73 °F]
Molecular weight	No Data Available
Volatile Organic Compounds	794 g/l [Test Method:calculated SCAQMD rule 443.1]
Percent volatile	No Data Available
VOC Less H2O & Exempt Solvents	796 g/l [Test Method:calculated SCAQMD rule 443.1]

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

Not determined

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

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

Harmful if inhaled.

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:

May be harmful in contact with skin.

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.

Eye Contact:

Corrosive (Eye Burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion:

May be harmful if swallowed.

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Prolonged or repeated exposure may cause target organ effects:

Ocular Effects: Signs/symptoms may include blurred or significantly impaired vision.

Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

Olfactory Effects: Signs/symptoms may include decreased ability to detect odors and/or complete loss of smell.

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.

Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

<u>Ingredient</u>	<u>CAS No.</u>	<u>Class Description</u>	<u>Regulation</u>
Methyl isobutyl ketone	108-10-1	Grp. 2B: Possible 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

<u>Name</u>	<u>Route</u>	<u>Species</u>	<u>Value</u>
Overall product	Dermal		No data available; calculated ATE >2,000 - =5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE >10 - =20 mg/l
Overall product	Ingestion		No data available; calculated ATE >2,000 - =5,000 mg/kg
METHYL ISOBUTYL KETONE	Dermal	Rabbit	LD50 > 16,000 mg/kg
METHYL ISOBUTYL KETONE	Inhalation-Vapor (4 hours)	Rat	LC50 11 mg/l
METHYL ISOBUTYL KETONE	Ingestion	Rat	LD50 3,038 mg/kg
CYCLOHEXANONE	Dermal	Rabbit	LD50 >794, <3160 mg/kg
CYCLOHEXANONE	Inhalation-Vapor (4	Rat	LC50 > 6.2 mg/l

	hours)		
CYCLOHEXANONE	Ingestion	Rat	LD50 1,296 mg/kg
TOLUENE	Dermal	Rat	LD50 12,000 mg/kg
TOLUENE	Inhalation-Vapor (4 hours)	Rat	LC50 30 mg/l
TOLUENE	Ingestion	Rat	LD50 5,550 mg/kg
ACRYLONITRILE-BUTADIENE POLYMER	Dermal	Rabbit	LD50 > 15,000 mg/kg
ACRYLONITRILE-BUTADIENE POLYMER	Ingestion	Rat	LD50 > 30,000 mg/kg
PHENOL-FORMALDEHYDE POLYMER	Dermal	Rat	LD50 > 2,000 mg/kg
PHENOL-FORMALDEHYDE POLYMER	Ingestion	Rat	LD50 > 2,900 mg/kg
POLYCHLOROPRENE	Dermal		LD50 estimated to be > 5,000 mg/kg
POLYCHLOROPRENE	Ingestion	Rat	LD50 > 20,000 mg/kg
MAGNESIUM OXIDE	Dermal	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
MAGNESIUM OXIDE	Ingestion	Rat	LD50 3,870 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
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
N-CYCLOHEXYL-2-BENZOTHAZOLESULFENAMIDE	Dermal	Rabbit	LD50 > 7,940 mg/kg
N-CYCLOHEXYL-2-BENZOTHAZOLESULFENAMIDE	Ingestion	Rat	LD50 5,300 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
METHYL ISOBUTYL KETONE	Rabbit	Mild irritant
CYCLOHEXANONE	Rabbit	Irritant
TOLUENE	Rabbit	Irritant
ACRYLONITRILE-BUTADIENE POLYMER	Professional judgement	No significant irritation
PHENOL-FORMALDEHYDE POLYMER	Human and animal	Mild irritant
POLYCHLOROPRENE	Human	No significant irritation
MAGNESIUM OXIDE	Professional judgement	No significant irritation
Zinc Oxide	Human and animal	No significant irritation
PHENOL	Rat	Corrosive
N-CYCLOHEXYL-2-BENZOTHAZOLESULFENAMIDE	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
METHYL ISOBUTYL KETONE	Rabbit	Mild irritant
CYCLOHEXANONE	In vitro data	Corrosive
TOLUENE	Rabbit	Moderate irritant
ACRYLONITRILE-BUTADIENE POLYMER	Professional	No significant irritation

	judgement	
PHENOL-FORMALDEHYDE POLYMER	Human and animal	Moderate irritant
POLYCHLOROPRENE	Professional judgement	No significant irritation
Zinc Oxide	Rabbit	Mild irritant
PHENOL	Rabbit	Corrosive
N-CYCLOHEXYL-2-BENZOTHAZOLESULFENAMIDE	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
METHYL ISOBUTYL KETONE	Guinea pig	Not classified
CYCLOHEXANONE	Guinea pig	Not classified
TOLUENE	Guinea pig	Not classified
PHENOL-FORMALDEHYDE POLYMER	Human and animal	Sensitizing
Zinc Oxide	Guinea pig	Not classified
PHENOL	Guinea pig	Not classified
N-CYCLOHEXYL-2-BENZOTHAZOLESULFENAMIDE	Human	Sensitizing

Respiratory Sensitization

Name	Species	Value
PHENOL-FORMALDEHYDE POLYMER	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
METHYL ISOBUTYL KETONE	In Vitro	Not mutagenic
CYCLOHEXANONE	In vivo	Not mutagenic
CYCLOHEXANONE	In Vitro	Some positive data exist, but the data are not sufficient for classification
TOLUENE	In Vitro	Not mutagenic
TOLUENE	In vivo	Not mutagenic
MAGNESIUM OXIDE	In Vitro	Not mutagenic
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
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
N-CYCLOHEXYL-2-BENZOTHAZOLESULFENAMIDE	In vivo	Not mutagenic
N-CYCLOHEXYL-2-BENZOTHAZOLESULFENAMIDE	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
METHYL ISOBUTYL KETONE	Inhalation	Multiple animal species	Carcinogenic
CYCLOHEXANONE	Ingestion	Multiple animal	Some positive data exist, but the data are not sufficient for classification

		species	
TOLUENE	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
TOLUENE	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
TOLUENE	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
MAGNESIUM OXIDE	Not Specified	Human and animal	Some positive data exist, but the data are not sufficient for classification
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
N-CYCLOHEXYL-2-BENZOTHAZOLESULFENAMIDE	Ingestion	Mouse	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
METHYL ISOBUTYL KETONE	Inhalation	Not classified for female reproduction	Multiple animal species	NOAEL 8.2 mg/l	2 generation
METHYL ISOBUTYL KETONE	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	13 weeks
METHYL ISOBUTYL KETONE	Inhalation	Not classified for male reproduction	Multiple animal species	NOAEL 8.2 mg/l	2 generation
METHYL ISOBUTYL KETONE	Inhalation	Not classified for development	Mouse	NOAEL 12.3 mg/l	during organogenesis
CYCLOHEXANONE	Inhalation	Not classified for female reproduction	Rat	NOAEL 4 mg/l	2 generation
CYCLOHEXANONE	Inhalation	Not classified for male reproduction	Rat	NOAEL 2 mg/l	2 generation
CYCLOHEXANONE	Ingestion	Not classified for development	Mouse	LOAEL 1,100 mg/kg/day	during organogenesis
CYCLOHEXANONE	Inhalation	Not classified for development	Rat	NOAEL 2 mg/l	2 generation
TOLUENE	Inhalation	Not classified for female reproduction	Human	NOAEL Not available	occupational exposure
TOLUENE	Inhalation	Not classified for male reproduction	Rat	NOAEL 2.3 mg/l	1 generation
TOLUENE	Ingestion	Toxic to development	Rat	LOAEL 520 mg/kg/day	during gestation
TOLUENE	Inhalation	Toxic to development	Human	NOAEL Not available	poisoning and/or abuse
Zinc Oxide	Ingestion	Not classified for reproduction and/or development	Multiple animal species	NOAEL 125 mg/kg/day	premating & during gestation
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
N-CYCLOHEXYL-2-BENZOTHAZOLESULFENAMIDE	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
METHYL ISOBUTYL KETONE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	LOAEL 0.1 mg/l	2 hours
METHYL ISOBUTYL KETONE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
METHYL ISOBUTYL KETONE	Inhalation	vascular system	Not classified	Dog	NOAEL Not available	not available
METHYL ISOBUTYL KETONE	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 900 mg/kg	not applicable
CYCLOHEXANONE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Guinea pig	LOAEL 16.1 mg/l	6 hours
CYCLOHEXANONE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
CYCLOHEXANONE	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
TOLUENE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
TOLUENE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
TOLUENE	Inhalation	immune system	Not classified	Mouse	NOAEL 0.004 mg/l	3 hours
TOLUENE	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
PHENOL-FORMALDEHYDE POLYMER	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
MAGNESIUM OXIDE	Inhalation	respiratory system	Not classified	Human	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

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
METHYL ISOBUTYL KETONE	Inhalation	liver	Not classified	Rat	NOAEL 0.41 mg/l	13 weeks
METHYL ISOBUTYL KETONE	Inhalation	heart	Not classified	Multiple animal species	NOAEL 0.8 mg/l	2 weeks
METHYL ISOBUTYL KETONE	Inhalation	kidney and/or bladder	Not classified	Multiple animal species	NOAEL 0.4 mg/l	90 days
METHYL ISOBUTYL	Inhalation	respiratory system	Not classified	Multiple	NOAEL 4.1	14 weeks

KETONE				animal species	mg/l	
METHYL ISOBUTYL KETONE	Inhalation	endocrine system hematopoietic system	Not classified	Multiple animal species	NOAEL 0.41 mg/l	90 days
METHYL ISOBUTYL KETONE	Inhalation	nervous system	Not classified	Multiple animal species	NOAEL 0.41 mg/l	13 weeks
METHYL ISOBUTYL KETONE	Ingestion	endocrine system hematopoietic system liver kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
METHYL ISOBUTYL KETONE	Ingestion	heart immune system muscles nervous system respiratory system	Not classified	Rat	NOAEL 1,040 mg/kg/day	120 days
CYCLOHEXANONE	Inhalation	liver kidney and/or bladder	Not classified	Rabbit	NOAEL 0.76 mg/l	50 days
CYCLOHEXANONE	Ingestion	liver	Not classified	Mouse	NOAEL 4,800 mg/kg/day	90 days
TOLUENE	Inhalation	auditory system eyes olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
TOLUENE	Inhalation	nervous system	May cause damage to organs though prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
TOLUENE	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2.3 mg/l	15 months
TOLUENE	Inhalation	heart liver kidney and/or bladder	Not classified	Rat	NOAEL 11.3 mg/l	15 weeks
TOLUENE	Inhalation	endocrine system	Not classified	Rat	NOAEL 1.1 mg/l	4 weeks
TOLUENE	Inhalation	immune system	Not classified	Mouse	NOAEL Not available	20 days
TOLUENE	Inhalation	bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 1.1 mg/l	8 weeks
TOLUENE	Inhalation	hematopoietic system vascular system	Not classified	Human	NOAEL Not available	occupational exposure
TOLUENE	Inhalation	gastrointestinal tract	Not classified	Multiple animal species	NOAEL 11.3 mg/l	15 weeks
TOLUENE	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 625 mg/kg/day	13 weeks
TOLUENE	Ingestion	heart	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
TOLUENE	Ingestion	liver kidney and/or bladder	Not classified	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
TOLUENE	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 600 mg/kg/day	14 days
TOLUENE	Ingestion	endocrine system	Not classified	Mouse	NOAEL 105 mg/kg/day	28 days
TOLUENE	Ingestion	immune system	Not classified	Mouse	NOAEL 105 mg/kg/day	4 weeks
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	Not classified	Other	NOAEL 500 mg/kg/day	6 months

		system kidney and/or bladder				
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
N-CYCLOHEXYL-2-BENZOTHAZOLESULF ENAMIDE	Dermal	skin hematopoietic system	Not classified	Rabbit	NOAEL 2,000 mg/kg/day	21 days
N-CYCLOHEXYL-2-BENZOTHAZOLESULF ENAMIDE	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-BENZOTHAZOLESULF ENAMIDE	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 800 mg/kg/day	28 days
N-CYCLOHEXYL-2-BENZOTHAZOLESULF ENAMIDE	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 80 mg/kg/day	28 days
N-CYCLOHEXYL-2-BENZOTHAZOLESULF ENAMIDE	Ingestion	heart endocrine system gastrointestinal tract immune system nervous system	Not classified	Rat	NOAEL 800 mg/kg/day	28 days

Aspiration Hazard

Name	Value
METHYL ISOBUTYL KETONE	Some positive data exist, but the data are not sufficient for classification
TOLUENE	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.

Incinerate in a permitted waste incineration facility. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. As a disposal alternative, utilize an acceptable permitted waste disposal facility. 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): D001 (Ignitable)

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

Flammable (gases, aerosols, liquids, or solids)

Health Hazards

Acute toxicity

Carcinogenicity

Reproductive toxicity

Respiratory or Skin Sensitization

Serious eye damage or eye irritation

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):

Ingredient	C.A.S. No	% by Wt
METHYL ISOBUTYL KETONE	108-10-1	Trade Secret 35 - 65
TOLUENE	108-88-3	Trade Secret 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. One or more chemical components of this material have been commercialized under the TSCA polymer exemption at 40CFR723.250. Polymers subject to this exemption are not listed on the TSCA Inventory, but are in compliance with TSCA requirements.

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: 3 **Flammability:** 3 **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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