



Safety Data Sheet

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Document Group:	10-2796-0	Version Number:	38.03
Issue Date:	07/22/20	Supersedes Date:	01/15/20

SECTION 1: Identification

1.1. Product identifier

3M™ Neoprene Rubber and Gasket Adhesive 2141

Product Identification Numbers

62-2141-6530-0, 62-2141-6535-9, 62-2141-7530-9, 62-2141-8530-8, 62-2141-9530-7
7000046346, 7010301025, 7000121215, 7000121216

1.2. Recommended use and restrictions on use

Recommended use

Rubber and gasket adhesive.

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Industrial Adhesives and Tapes 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.
Serious Eye Damage/Irritation: Category 2A.
Skin Corrosion/Irritation: Category 2.
Skin Sensitizer: Category 1A.
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 | Exclamation mark | Health Hazard |

Pictograms



Hazard Statements

Highly flammable liquid and vapor.

Causes serious eye irritation.

Causes skin irritation.

May cause an allergic skin reaction.

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.

If eye irritation persists: Get medical advice/attention.

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:

Keep cool.

Keep container tightly closed.
Store locked up in a well-ventilated place.

Disposal:

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

4% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Toluene	108-88-3	30 - 40 Trade Secret *
Petroleum Distillates	64741-84-0	10 - 25 Trade Secret *
Acetone	67-64-1	10 - 20 Trade Secret *
Magnesium Resinate	68037-42-3	10 - 20 Trade Secret *
Polychloroprene	9010-98-4	10 - 20 Trade Secret *
Hexane	110-54-3	5 - 15 Trade Secret *
Heptane	142-82-5	1 - 7 Trade Secret *
Glycerol Esters of Rosin Acids	8050-31-5	1 - 5 Trade Secret *
2-Methylpentane	107-83-5	< 3 Trade Secret *
3-Methylpentane	96-14-0	< 3 Trade Secret *
Ethylbenzene	100-41-4	< 1 Trade Secret *
Rosin	8050-09-7	< 1 Trade Secret *
Styrenated Phenol	61788-44-1	< 1 Trade Secret *
Zinc Oxide	1314-13-2	< 1 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:

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. 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 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>
Aldehydes	During Combustion
Hydrocarbons	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Chloride	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 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
Ethylbenzene	100-41-4	ACGIH	TWA:20 ppm	A3: Confirmed animal carcin.
Ethylbenzene	100-41-4	OSHA	TWA:435 mg/m3(100 ppm)	
2-Methylpentane	107-83-5	ACGIH	TWA:500 ppm;STEL:1000 ppm	
Toluene	108-88-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcin
Toluene	108-88-3	OSHA	TWA:200 ppm;CEIL:300 ppm	
Hexane	110-54-3	ACGIH	TWA:50 ppm	Danger of cutaneous absorption
Hexane	110-54-3	OSHA	TWA:1800 mg/m3(500 ppm)	
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	
Heptane	142-82-5	ACGIH	TWA:400 ppm;STEL:500 ppm	
Heptane	142-82-5	OSHA	TWA:2000 mg/m3(500 ppm)	
Acetone	67-64-1	ACGIH	TWA:250 ppm;STEL:500 ppm	A4: Not class. as human carcin
Acetone	67-64-1	OSHA	TWA:2400 mg/m3(1000 ppm)	
Rosin	8050-09-7	ACGIH	Limit value not established:	Cntrl all exposr-low as possib, Dermal/Respiratory Sensitizer
3-Methylpentane	96-14-0	ACGIH	TWA:500 ppm;STEL:1000 ppm	

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:

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

Organic vapor respirators may have short service life.

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

Tan

Odor

Sweet Petroleum

Odor threshold*No Data Available***pH***Not Applicable***Melting point***Not Applicable***Boiling Point**≥56 °C [*Details:Acetone*]**Flash Point**-4 °F [*Test Method:Closed Cup*] [*Details:Petroleum Distillate*]**Evaporation rate**≥2.5 [*Ref Std:ETHER=1*]**Flammability (solid, gas)**

Not Applicable

Flammable Limits(LEL)

1.0 % volume

Flammable Limits(UEL)

12.8 % volume

Vapor Pressure≤185 mmHg [*@ 68 °F*]**Vapor Density**2.0 [*Ref Std:AIR=1*]

Density	0.86 g/ml
Specific Gravity	0.86 [Ref Std: WATER=1]
Solubility in Water	Slight (less than 10%)
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	465 °C
Decomposition temperature	No Data Available
Viscosity	900 - 1,500 centipoise [@ 73.4 °F]
Hazardous Air Pollutants	<=44.5 % weight [Test Method: Calculated]
Molecular weight	No Data Available
VOC Less H2O & Exempt Solvents	<=569 g/l [Test Method: calculated SCAQMD rule 443.1]
Solids Content	20 - 45 %

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
Sparks and/or flames

10.5. Incompatible materials

Strong oxidizing agents

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.

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:

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.

Peripheral Neuropathy: Signs/symptoms may include tingling or numbness of the extremities, incoordination, weakness of the hands and feet, tremors and muscle atrophy.

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.

Ingredient	CAS No.	Class Description	Regulation
Ethylbenzene	100-41-4	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

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Toluene	Dermal	Rat	LD50 12,000 mg/kg
Toluene	Inhalation-	Rat	LC50 30 mg/l

	Vapor (4 hours)		
Toluene	Ingestion	Rat	LD50 5,550 mg/kg
Petroleum Distillates	Dermal	Rat	LD50 > 2,800 mg/kg
Petroleum Distillates	Inhalation-Vapor (4 hours)	Rat	LC50 > 25.2 mg/l
Petroleum Distillates	Ingestion	Rat	LD50 > 5,840 mg/kg
Acetone	Dermal	Rabbit	LD50 > 15,688 mg/kg
Acetone	Inhalation-Vapor (4 hours)	Rat	LC50 76 mg/l
Acetone	Ingestion	Rat	LD50 5,800 mg/kg
Hexane	Dermal	Rabbit	LD50 > 2,000 mg/kg
Hexane	Inhalation-Vapor (4 hours)	Rat	LC50 170 mg/l
Hexane	Ingestion	Rat	LD50 > 28,700 mg/kg
Polychloroprene	Dermal		LD50 estimated to be > 5,000 mg/kg
Polychloroprene	Ingestion	Rat	LD50 > 20,000 mg/kg
Magnesium Resinate	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
Magnesium Resinate	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Heptane	Dermal	Rabbit	LD50 3,000 mg/kg
Heptane	Inhalation-Vapor (4 hours)	Rat	LC50 103 mg/l
Heptane	Ingestion	Rat	LD50 > 15,000 mg/kg
2-Methylpentane	Dermal		LD50 estimated to be > 5,000 mg/kg
2-Methylpentane	Inhalation-Vapor		LC50 estimated to be > 50 mg/l
2-Methylpentane	Ingestion		LD50 estimated to be > 5,000 mg/kg
3-Methylpentane	Dermal		LD50 estimated to be > 5,000 mg/kg
3-Methylpentane	Inhalation-Vapor		LC50 estimated to be > 50 mg/l
3-Methylpentane	Ingestion		LD50 estimated to be > 5,000 mg/kg
Glycerol Esters of Rosin Acids	Dermal	Rabbit	LD50 > 5,000 mg/kg
Glycerol Esters of Rosin Acids	Ingestion	Rat	LD50 > 2,000 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
Rosin	Dermal	Rabbit	LD50 > 2,500 mg/kg
Rosin	Ingestion	Rat	LD50 7,600 mg/kg
Ethylbenzene	Dermal	Rabbit	LD50 15,433 mg/kg
Ethylbenzene	Inhalation-Vapor (4 hours)	Rat	LC50 17.4 mg/l
Ethylbenzene	Ingestion	Rat	LD50 4,769 mg/kg
Styrenated Phenol	Dermal	Rat	LD50 > 2,000 mg/kg
Styrenated Phenol	Ingestion	Rat	LD50 > 2,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Toluene	Rabbit	Irritant
Petroleum Distillates	Rabbit	Irritant
Acetone	Mouse	Minimal irritation
Hexane	Human and animal	Mild irritant
Polychloroprene	Human	No significant irritation

Heptane	Human	Mild irritant
2-Methylpentane	Professional judgement	Mild irritant
3-Methylpentane	Professional judgement	Mild irritant
Glycerol Esters of Rosin Acids	Rabbit	Minimal irritation
Zinc Oxide	Human and animal	No significant irritation
Rosin	Rabbit	No significant irritation
Ethylbenzene	Rabbit	Mild irritant
Styrenated Phenol	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Toluene	Rabbit	Moderate irritant
Petroleum Distillates	Rabbit	Mild irritant
Acetone	Rabbit	Severe irritant
Hexane	Rabbit	Mild irritant
Polychloroprene	Professional judgement	No significant irritation
Heptane	Professional judgement	Moderate irritant
2-Methylpentane	Professional judgement	Moderate irritant
3-Methylpentane	Professional judgement	Moderate irritant
Glycerol Esters of Rosin Acids	Rabbit	Mild irritant
Zinc Oxide	Rabbit	Mild irritant
Rosin	Rabbit	Mild irritant
Ethylbenzene	Rabbit	Moderate irritant
Styrenated Phenol	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Toluene	Guinea pig	Not classified
Petroleum Distillates	Guinea pig	Not classified
Hexane	Human	Not classified
Glycerol Esters of Rosin Acids	Guinea pig	Not classified
Zinc Oxide	Guinea pig	Not classified
Rosin	Guinea pig	Sensitizing
Ethylbenzene	Human	Not classified
Styrenated Phenol	Mouse	Sensitizing

Respiratory Sensitization

Name	Species	Value

Rosin	Human	Not classified
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Germ Cell Mutagenicity

Name	Route	Value
Toluene	In Vitro	Not mutagenic
Toluene	In vivo	Not mutagenic
Acetone	In vivo	Not mutagenic
Acetone	In Vitro	Some positive data exist, but the data are not sufficient for classification
Hexane	In Vitro	Not mutagenic
Hexane	In vivo	Not mutagenic
Heptane	In Vitro	Not mutagenic
Glycerol Esters of Rosin Acids	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
Ethylbenzene	In vivo	Not mutagenic
Ethylbenzene	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
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
Acetone	Not Specified	Multiple animal species	Not carcinogenic
Hexane	Dermal	Mouse	Not carcinogenic
Hexane	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
Ethylbenzene	Inhalation	Multiple animal species	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
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
Petroleum Distillates	Ingestion	Toxic to male reproduction	similar compounds	NOAEL not available	not available
Petroleum Distillates	Inhalation	Toxic to male reproduction	similar compounds	NOAEL not available	not available
Acetone	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,700 mg/kg/day	13 weeks
Acetone	Inhalation	Not classified for development	Rat	NOAEL 5.2 mg/l	during organogenesis

Hexane	Ingestion	Not classified for development	Mouse	NOAEL 2,200 mg/kg/day	during organogenesis
Hexane	Inhalation	Not classified for development	Rat	NOAEL 0.7 mg/l	during gestation
Hexane	Ingestion	Toxic to male reproduction	Rat	NOAEL 1,140 mg/kg/day	90 days
Hexane	Inhalation	Toxic to male reproduction	Rat	LOAEL 3.52 mg/l	28 days
Zinc Oxide	Ingestion	Not classified for reproduction and/or development	Multiple animal species	NOAEL 125 mg/kg/day	prematuring & during gestation
Ethylbenzene	Inhalation	Not classified for development	Rat	NOAEL 4.3 mg/l	prematuring & during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
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
Petroleum Distillates	Inhalation	central nervous system depression	May cause drowsiness or dizziness	similar compounds	NOAEL not available	not available
Petroleum Distillates	Ingestion	central nervous system depression	May cause drowsiness or dizziness	similar compounds	NOAEL not available	not available
Acetone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Acetone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Acetone	Inhalation	immune system	Not classified	Human	NOAEL 1.19 mg/l	6 hours
Acetone	Inhalation	liver	Not classified	Guinea pig	NOAEL Not available	
Acetone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Hexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
Hexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL Not available	8 hours
Hexane	Inhalation	respiratory system	Not classified	Rat	NOAEL 24.6 mg/l	8 hours
Heptane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Heptane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Heptane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
2-Methylpentane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
2-Methylpentane	Inhalation	respiratory irritation	Some positive data exist, but the		NOAEL Not	

			data are not sufficient for classification		available	
2-Methylpentane	Inhalation	cardiac sensitization	Not classified	Dog	NOAEL Not available	
2-Methylpentane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
3-Methylpentane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
3-Methylpentane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
3-Methylpentane	Inhalation	cardiac sensitization	Not classified	Dog	NOAEL Not available	
3-Methylpentane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Ethylbenzene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Ethylbenzene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
Ethylbenzene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
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 through 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	Not classified	Mouse	NOAEL 600	14 days

		system			mg/kg/day	
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
Petroleum Distillates	Inhalation	peripheral nervous system	May cause damage to organs though prolonged or repeated exposure	similar compounds	NOAEL not available	not available
Acetone	Dermal	eyes	Not classified	Guinea pig	NOAEL Not available	3 weeks
Acetone	Inhalation	hematopoietic system	Not classified	Human	NOAEL 3 mg/l	6 weeks
Acetone	Inhalation	immune system	Not classified	Human	NOAEL 1.19 mg/l	6 days
Acetone	Inhalation	kidney and/or bladder	Not classified	Guinea pig	NOAEL 119 mg/l	not available
Acetone	Inhalation	heart liver	Not classified	Rat	NOAEL 45 mg/l	8 weeks
Acetone	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 900 mg/kg/day	13 weeks
Acetone	Ingestion	heart	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 200 mg/kg/day	13 weeks
Acetone	Ingestion	liver	Not classified	Mouse	NOAEL 3,896 mg/kg/day	14 days
Acetone	Ingestion	eyes	Not classified	Rat	NOAEL 3,400 mg/kg/day	13 weeks
Acetone	Ingestion	respiratory system	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	muscles	Not classified	Rat	NOAEL 2,500 mg/kg	13 weeks
Acetone	Ingestion	skin bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
Hexane	Inhalation	peripheral nervous system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Hexane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Mouse	LOAEL 1.76 mg/l	13 weeks
Hexane	Inhalation	liver	Not classified	Rat	NOAEL Not available	6 months
Hexane	Inhalation	kidney and/or bladder	Not classified	Rat	LOAEL 1.76 mg/l	6 months
Hexane	Inhalation	hematopoietic system	Not classified	Mouse	NOAEL 35.2 mg/l	13 weeks
Hexane	Inhalation	auditory system immune system eyes	Not classified	Human	NOAEL Not available	occupational exposure
Hexane	Inhalation	heart skin endocrine system	Not classified	Rat	NOAEL 1.76 mg/l	6 months
Hexane	Ingestion	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,140 mg/kg/day	90 days
Hexane	Ingestion	endocrine system hematopoietic system liver immune system kidney and/or bladder	Not classified	Rat	NOAEL Not available	13 weeks
Heptane	Inhalation	liver nervous system kidney and/or bladder	Not classified	Rat	NOAEL 12 mg/l	26 weeks

2-Methylpentane	Inhalation	peripheral nervous system	Not classified	Rat	NOAEL 5.3 mg/l	14 weeks
2-Methylpentane	Ingestion	peripheral nervous system	Not classified	Rat	NOAEL Not available	8 weeks
2-Methylpentane	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 2,000 mg/kg	28 days
3-Methylpentane	Inhalation	peripheral nervous system	Not classified	Rat	NOAEL 5.3 mg/l	14 weeks
3-Methylpentane	Ingestion	peripheral nervous system	Not classified	Rat	NOAEL Not available	8 weeks
3-Methylpentane	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 2,000 mg/kg	28 days
Glycerol Esters of Rosin Acids	Ingestion	liver heart skin endocrine system bone, teeth, nails, and/or hair blood bone marrow hematopoietic system immune system muscles nervous system eyes kidney and/or bladder respiratory system	Not classified	Rat	NOAEL 5,000 mg/kg/day	90 days
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
Ethylbenzene	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.1 mg/l	2 years
Ethylbenzene	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 1.1 mg/l	103 weeks
Ethylbenzene	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 3.4 mg/l	28 days
Ethylbenzene	Inhalation	auditory system	Not classified	Rat	NOAEL 2.4 mg/l	5 days
Ethylbenzene	Inhalation	endocrine system	Not classified	Mouse	NOAEL 3.3 mg/l	103 weeks
Ethylbenzene	Inhalation	gastrointestinal tract	Not classified	Rat	NOAEL 3.3 mg/l	2 years
Ethylbenzene	Inhalation	bone, teeth, nails, and/or hair muscles	Not classified	Multiple animal species	NOAEL 4.2 mg/l	90 days
Ethylbenzene	Inhalation	heart immune system respiratory system	Not classified	Multiple animal species	NOAEL 3.3 mg/l	2 years
Ethylbenzene	Ingestion	liver kidney and/or bladder	Not classified	Rat	NOAEL 680 mg/kg/day	6 months

Aspiration Hazard

Name	Value
Toluene	Aspiration hazard
Petroleum Distillates	Aspiration hazard
Hexane	Aspiration hazard
Heptane	Aspiration hazard
2-Methylpentane	Aspiration hazard
3-Methylpentane	Aspiration hazard
Ethylbenzene	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

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
Toluene	108-88-3	Trade Secret 30 - 40
Hexane	110-54-3	Trade Secret 5 - 15
Ethylbenzene	100-41-4	Trade Secret < 1

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:** 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.

Document Group:	10-2796-0	Version Number:	38.03
Issue Date:	07/22/20	Supersedes Date:	01/15/20

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