



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M™ Scotch-Weld™ Structural Adhesive Primer EC-2333

Product Identification Numbers

ID Number	UPC	ID Number	UPC
62-2333-7501-3	00-21200-20463-0	62-2333-7560-9	00-21200-20464-7

7000046363

1.2. Recommended use and restrictions on use

Recommended use

Primer, Industrial use

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.
Serious Eye Damage/Irritation: Category 1.
Skin Corrosion/Irritation: Category 2.
Skin Sensitizer: Category 1.
Aspiration Hazard: Category 1.
Reproductive Toxicity: Category 1B.
Carcinogenicity: Category 1B.
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.

May be fatal if swallowed and enters airways.

May cause drowsiness or dizziness.

May damage fertility or the unborn child.

May cause 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 SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Do NOT induce vomiting.

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.

10% 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	80 - 90 Trade Secret *
Organosilane	2530-83-8	5 - 10 Trade Secret *
Cyclohexane	110-82-7	< 2 Trade Secret *
MEK	78-93-3	<= 1.5 Trade Secret *
C.I. SOLVENT YELLOW 3	97-56-3	< 1 Trade Secret *
Epoxy Resin	29690-82-2	0.1 - 1
SILICA GEL	63231-67-4	<= 1
Acetone	67-64-1	<= 0.99
MIBK	108-10-1	<= 0.99 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 for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

If Swallowed:

Do not induce vomiting. Get immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed

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). Aspiration pneumonitis (coughing, gasping, choking, burning of the mouth, and difficulty breathing). 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>
Aldehydes	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 use in a confined area with minimal air exchange. 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
MIBK	108-10-1	ACGIH	TWA:20 ppm;STEL:75 ppm	A3: Confirmed animal carcin.
MIBK	108-10-1	OSHA	TWA:410 mg/m ³ (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	
Cyclohexane	110-82-7	ACGIH	TWA:100 ppm	
Cyclohexane	110-82-7	OSHA	TWA:1050 mg/m ³ (300 ppm)	
DUST, INERT OR NUISANCE	63231-67-4	OSHA	TWA(as total dust):15 mg/m ³ ;TWA(as total dust):50 millions of particles/cu. ft.(15 mg/m ³);TWA(respirable fraction):5 mg/m ³ ;TWA(respirable fraction):15 millions of particles/cu. ft.(5 mg/m ³)	
Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles	63231-67-4	ACGIH	TWA(inhalable particulates):10 mg/m ³	
Particles (insoluble or poorly soluble) not otherwise specified, respirable particles	63231-67-4	ACGIH	TWA(respirable particles):3 mg/m ³	
SILICA, AMORPHOUS	63231-67-4	OSHA	TWA:20 millions of particles/cu. ft.;TWA concentration:0.8 mg/m ³	
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/m ³ (1000 ppm)	
MEK	78-93-3	ACGIH	TWA:200 ppm;STEL:300 ppm	
MEK	78-93-3	OSHA	TWA:590 mg/m ³ (200 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:

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

Yellow

Odor

Toluene

Odor threshold

No Data Available

pH

Not Applicable

Melting point

Not Applicable

Boiling Point

≥ 110 °C

Flash Point

40 °F [*Test Method: Closed Cup*]

Evaporation rate

4.5 [*Ref Std: ETHER=1*]

Flammability (solid, gas)

Not Applicable

Flammable Limits(LEL)

1.3 % volume

Flammable Limits(UEL)

7.0 % volume

Vapor Pressure

≤ 36.7 mmHg [*@ 86 °F*]

Vapor Density	3.14 [Ref Std: AIR=1]
Density	0.88 g/ml
Specific Gravity	0.88 [Ref Std: WATER=1]
Solubility in Water	Nil
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	480 °C
Decomposition temperature	No Data Available
Viscosity	3 - 8 centipoise [@ 73.4 °F]
Volatile Organic Compounds	799.6 g/l [Test Method:calculated SCAQMD rule 443.1]
Percent volatile	90.9 %
VOC Less H2O & Exempt Solvents	799.6 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

Heat
Sparks and/or flames

10.5. Incompatible materials

Not determined

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:

May be 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:

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:

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:

Chemical (Aspiration) Pneumonitis: Signs/symptoms may include coughing, gasping, choking, burning of the mouth, difficulty breathing, bluish colored skin (cyanosis), and may be fatal.

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.

Ingredient	CAS No.	Class Description	Regulation
Methyl isobutyl ketone	108-10-1	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
o-Aminoazotoluene	97-56-3	Anticipated human carcinogen	National Toxicology Program Carcinogens
ortho-Aminoazotoluene	97-56-3	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-		No data available; calculated ATE >20 - =50 mg/l

	Vapor(4 hr)		
Overall product	Ingestion		No data available; calculated ATE >5,000 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
Organosilane	Dermal	Rabbit	LD50 4,000 mg/kg
Organosilane	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.3 mg/l
Organosilane	Ingestion	Rat	LD50 7,010 mg/kg
Cyclohexane	Dermal	Rat	LD50 > 2,000 mg/kg
Cyclohexane	Inhalation-Vapor (4 hours)	Rat	LC50 > 32.9 mg/l
Cyclohexane	Ingestion	Rat	LD50 6,200 mg/kg
MEK	Dermal	Rabbit	LD50 > 8,050 mg/kg
MEK	Inhalation-Vapor (4 hours)	Rat	LC50 34.5 mg/l
MEK	Ingestion	Rat	LD50 2,737 mg/kg
Epoxy Resin	Ingestion	Not available	LD50 > 2,000 mg/kg
Epoxy Resin	Dermal	Rabbit	LD50 > 3,000 mg/kg
SILICA GEL	Dermal	Rabbit	LD50 > 5,000 mg/kg
SILICA GEL	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
SILICA GEL	Ingestion	Rat	LD50 > 5,110 mg/kg
MIBK	Dermal	Rabbit	LD50 > 16,000 mg/kg
MIBK	Inhalation-Vapor (4 hours)	Rat	LC50 11 mg/l
MIBK	Ingestion	Rat	LD50 3,038 mg/kg
C.I. SOLVENT YELLOW 3	Ingestion	Rat	LD50 1,500 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

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Toluene	Rabbit	Irritant
Organosilane	Rabbit	Mild irritant
Cyclohexane	Rabbit	Mild irritant
MEK	Rabbit	Minimal irritation
Epoxy Resin	Professional judgement	Mild irritant
SILICA GEL	Rabbit	No significant irritation
MIBK	Rabbit	Mild irritant
Acetone	Mouse	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
Toluene	Rabbit	Moderate irritant
Organosilane	Rabbit	Corrosive
Cyclohexane	Rabbit	Mild irritant

MEK	Rabbit	Severe irritant
Epoxy Resin	Professional judgement	Moderate irritant
SILICA GEL	Rabbit	No significant irritation
MIBK	Rabbit	Mild irritant
Acetone	Rabbit	Severe irritant

Skin Sensitization

Name	Species	Value
Toluene	Guinea pig	Not classified
Organosilane	Guinea pig	Not classified
Epoxy Resin	similar compounds	Not classified
SILICA GEL	Human and animal	Not classified
MIBK	Guinea pig	Not classified
C.I. SOLVENT YELLOW 3	Human	Sensitizing

Respiratory Sensitization

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

Germ Cell Mutagenicity

Name	Route	Value
Toluene	In Vitro	Not mutagenic
Toluene	In vivo	Not mutagenic
Organosilane	In vivo	Not mutagenic
Organosilane	In Vitro	Some positive data exist, but the data are not sufficient for classification
Cyclohexane	In Vitro	Not mutagenic
Cyclohexane	In vivo	Some positive data exist, but the data are not sufficient for classification
MEK	In Vitro	Not mutagenic
Epoxy Resin	In Vitro	Not mutagenic
SILICA GEL	In Vitro	Not mutagenic
MIBK	In Vitro	Not mutagenic
C.I. SOLVENT YELLOW 3	In Vitro	Some positive data exist, but the data are not sufficient for classification
C.I. SOLVENT YELLOW 3	In vivo	Mutagenic
Acetone	In vivo	Not mutagenic
Acetone	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
Organosilane	Dermal	Mouse	Not carcinogenic
MEK	Inhalation	Human	Not carcinogenic
SILICA GEL	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
MIBK	Inhalation	Multiple animal	Carcinogenic

		species	
C.I. SOLVENT YELLOW 3	Dermal	Mouse	Carcinogenic
C.I. SOLVENT YELLOW 3	Ingestion	Multiple animal species	Carcinogenic
Acetone	Not Specified	Multiple animal species	Not 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
Organosilane	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
Organosilane	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
Organosilane	Ingestion	Not classified for development	Rat	NOAEL 3,000 mg/kg/day	during organogenesis
Cyclohexane	Inhalation	Not classified for female reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Not classified for male reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Not classified for development	Rat	NOAEL 6.9 mg/l	2 generation
MEK	Inhalation	Not classified for development	Rat	LOAEL 8.8 mg/l	during gestation
SILICA GEL	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
SILICA GEL	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
SILICA GEL	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
MIBK	Inhalation	Not classified for female reproduction	Multiple animal species	NOAEL 8.2 mg/l	2 generation
MIBK	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	13 weeks
MIBK	Inhalation	Not classified for male reproduction	Multiple animal species	NOAEL 8.2 mg/l	2 generation
MIBK	Inhalation	Not classified for development	Mouse	NOAEL 12.3 mg/l	during organogenesis
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

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure
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						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
Cyclohexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Cyclohexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
Cyclohexane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
MEK	Inhalation	central nervous system depression	May cause drowsiness or dizziness	official classification	NOAEL Not available	
MEK	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
MEK	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
MEK	Ingestion	liver	Not classified	Rat	NOAEL Not available	not applicable
MEK	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 1,080 mg/kg	not applicable
Epoxy Resin	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not Available	
MIBK	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	LOAEL 0.1 mg/l	2 hours
MIBK	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
MIBK	Inhalation	vascular system	Not classified	Dog	NOAEL Not available	not available
MIBK	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 900 mg/kg	not applicable
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

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 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
Organosilane	Ingestion	heart endocrine system bone, teeth, nails, and/or hair hematopoietic system liver immune system nervous system kidney and/or bladder respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Cyclohexane	Inhalation	liver	Not classified	Rat	NOAEL 24 mg/l	90 days
Cyclohexane	Inhalation	auditory system	Not classified	Rat	NOAEL 1.7 mg/l	90 days
Cyclohexane	Inhalation	kidney and/or bladder	Not classified	Rabbit	NOAEL 2.7 mg/l	10 weeks
Cyclohexane	Inhalation	hematopoietic system	Not classified	Mouse	NOAEL 24 mg/l	14 weeks
Cyclohexane	Inhalation	peripheral nervous system	Not classified	Rat	NOAEL 8.6 mg/l	30 weeks
MEK	Dermal	nervous system	Not classified	Guinea pig	NOAEL Not available	31 weeks
MEK	Inhalation	liver kidney and/or bladder heart endocrine system gastrointestinal tract bone, teeth, nails, and/or hair hematopoietic system immune system muscles	Not classified	Rat	NOAEL 14.7 mg/l	90 days
MEK	Ingestion	liver	Not classified	Rat	NOAEL Not available	7 days
MEK	Ingestion	nervous system	Not classified	Rat	NOAEL 173 mg/kg/day	90 days

SILICA GEL	Inhalation	respiratory system silicosis	Not classified	Human	NOAEL Not available	occupational exposure
MIBK	Inhalation	liver	Not classified	Rat	NOAEL 0.41 mg/l	13 weeks
MIBK	Inhalation	heart	Not classified	Multiple animal species	NOAEL 0.8 mg/l	2 weeks
MIBK	Inhalation	kidney and/or bladder	Not classified	Multiple animal species	NOAEL 0.4 mg/l	90 days
MIBK	Inhalation	respiratory system	Not classified	Multiple animal species	NOAEL 4.1 mg/l	14 weeks
MIBK	Inhalation	endocrine system hematopoietic system	Not classified	Multiple animal species	NOAEL 0.41 mg/l	90 days
MIBK	Inhalation	nervous system	Not classified	Multiple animal species	NOAEL 0.41 mg/l	13 weeks
MIBK	Ingestion	endocrine system hematopoietic system liver kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
MIBK	Ingestion	heart immune system muscles nervous system respiratory system	Not classified	Rat	NOAEL 1,040 mg/kg/day	120 days
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

Aspiration Hazard

Name	Value
Toluene	Aspiration hazard
Cyclohexane	Aspiration hazard
MIBK	Some positive data exist, but the data are not sufficient for classification

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

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), D035 (Methyl ethyl ketone)

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

Aspiration Hazard

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 80 - 90
Cyclohexane	110-82-7	Trade Secret < 2
MIBK	108-10-1	Trade Secret <= 0.99
C.I. SOLVENT YELLOW 3	97-56-3	Trade Secret < 1
C.I. SOLVENT YELLOW 3 (Benzenamine, 2-methyl-4-[2-(2-methylphenyl)diazenyl]-)	97-56-3	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: 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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