



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M(TM) Screen Printing Ink 1913 Red Shade Orange

Product Identification Numbers

75-3469-4421-0

1.2. Recommended use and restrictions on use

Recommended use

Ink

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Commercial 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 3.
Acute Toxicity (inhalation): Category 4.
Serious Eye Damage/Irritation: Category 2A.
Skin Corrosion/Irritation: Category 2.
Skin Sensitizer: Category 1A.
Reproductive Toxicity: Category 1B.
Specific Target Organ Toxicity (central nervous system): Category 3.
Specific Target Organ Toxicity (repeated exposure): Category 2.

2.2. Label elements

Signal word

Danger

Symbols

Flame | Exclamation mark | Health Hazard |

Pictograms



Hazard Statements

Flammable liquid and vapor.

Causes serious eye irritation.

Causes skin irritation.

May cause an allergic skin reaction.

Harmful if inhaled.

May cause drowsiness or dizziness.

May damage fertility or the unborn child.

May cause damage to organs through prolonged or repeated exposure:
blood or blood-forming 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.

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.

Take off contaminated clothing and wash it 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 container tightly closed.

Keep cool.

Store locked up in a well-ventilated place.

Disposal:

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

2.3. Hazards not otherwise classified

None.

1% of the mixture consists of ingredients of unknown acute dermal toxicity.

43% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
CYCLOHEXANONE	108-94-1	20 - 30 Trade Secret *
ETHYL 3-ETHOXYPROPIONATE	763-69-9	10 - 20 Trade Secret *
VINYL ACETATE-VINYL ALCOHOL-VINYL CHLORIDE POLYMER	25086-48-0	10 - 20 Trade Secret *
2-BUTOXYETHYL ACETATE	112-07-2	5 - 10 Trade Secret *
ETHYL ACRYLATE-METHYL METHACRYLATE POLYMER	9010-88-2	5 - 10 Trade Secret *
PYRROLO[3,4-C]PYRROLE-1,4-DIONE, 2,5-DIHYDRO-3,6-DIPHENYL-	54660-00-3	5 - 10 Trade Secret *
POLYMERIC PLASTICIZER	Trade Secret*	5 - 10 Trade Secret *
2,4-DIHYDROXYBENZOPHENONE	131-56-6	1 - 5 Trade Secret *
DIUNDECYL PHTHALATE	3648-20-2	1 - 5 Trade Secret *
Bis(1,2,2,6,6-pentamethyl-4-piperidiny) sebacate	41556-26-7	< 0.5 Trade Secret *
Ca 2-Ethylhexanoate	136-51-6	< 0.5 Trade Secret *
HEAVY AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-94-5	< 0.5 Trade Secret *
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6	< 0.5 Trade Secret *
Methyl Methacrylate	80-62-6	< 0.5 Trade Secret *
TOLUENE	108-88-3	< 0.5 Trade Secret *
Triphenyl Phosphite	101-02-0	< 0.1 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

Substance

Carbon monoxide

Carbon dioxide

Hydrogen Chloride

Condition

During Combustion

During Combustion

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.

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 designed for use on solvents, such as alcohols and acetone, that can dissolve in water. An AR - AFFF type foam is recommended. 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 detergent and water. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial or professional use only. 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 container tightly closed. Keep cool. Protect from sunlight. 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
Triphenyl Phosphite	101-02-0	CMRG	TWA:0.1 mg/m ³	
TOLUENE	108-88-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcin
TOLUENE	108-88-3	CMRG	STEL:75 ppm	Skin Notation
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., Skin Notation
CYCLOHEXANONE	108-94-1	OSHA	TWA:200 mg/m ³ (50 ppm)	
2-BUTOXYETHYL ACETATE	112-07-2	ACGIH	TWA:20 ppm	A3: Confirmed animal carcin.
2-BUTOXYETHYL ACETATE	112-07-2	CMRG	TWA:25 ppm	Skin Notation
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	41556-26-7	CMRG	TWA:1 mg/m ³	
HEAVY AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-94-5	CMRG	TWA:17 ppm(100 mg/m ³)	
Naphtha	64742-94-5	OSHA	TWA:400 mg/m ³ (100 ppm)	
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6	CMRG	TWA:50 ppm(245 mg/m ³)	
ETHYL 3-ETHOXYPROPIONATE	763-69-9	CMRG	TWA:50 ppm;STEL:100 ppm	
Methyl Methacrylate	80-62-6	ACGIH	TWA:50 ppm;STEL:100 ppm	Dermal Sensitizer, A4: Not class. as human carcin
Methyl Methacrylate	80-62-6	OSHA	TWA:410 mg/m ³ (100 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 with appropriate local exhaust ventilation. 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. Provide local exhaust ventilation at transfer points.

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

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

General Physical Form:	Liquid
Specific Physical Form:	Liquid
Odor, Color, Grade:	Solvent Odor, Red Orange Color
Odor threshold	<i>No Data Available</i>
pH	<i>Not Applicable</i>
Melting point	<i>Not Applicable</i>
Boiling Point	>=312 °F
Flash Point	120 °F [<i>Test Method:</i> Closed Cup]
Evaporation rate	<i>No Data Available</i>
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	0.5 %
Flammable Limits(UEL)	8.7 %
Vapor Pressure	<=3.4 mmHg [@ 20 °C]
Vapor Density	> 1 [<i>Ref Std:</i> AIR=1]
Density	1.07 g/ml
Specific Gravity	1.07 [<i>Ref Std:</i> WATER=1]
Solubility in Water	Moderate
Solubility- non-water	<i>No Data Available</i>
Partition coefficient: n-octanol/ water	<i>No Data Available</i>

Autoignition temperature	> 640 °F
Decomposition temperature	No Data Available
Viscosity	5,000 - 7,000 centipoise [<i>Test Method:</i> Tested per ASTM protocol]
Volatile Organic Compounds	590 g/l [<i>Details:</i> As formulated]
Volatile Organic Compounds	634 g/l [<i>Details:</i> After manufacturing thinning]
Percent volatile	50 - 60 %
VOC Less H2O & Exempt Solvents	590 g/l [<i>Details:</i> As formulated]
VOC Less H2O & Exempt Solvents	634 g/l [<i>Details:</i> After manufacturing thinning]

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:

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:

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

Blood Effects: Signs/symptoms may include generalized weakness and fatigue, skin pallor, changes in blood clotting time, internal bleeding, and/or hemoglobinemia.

Reproductive/Developmental Toxicity:

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

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 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
CYCLOHEXANONE	Dermal	Rabbit	LD50 >794, <3160 mg/kg
CYCLOHEXANONE	Inhalation-Vapor (4 hours)	Rat	LC50 > 6.2 mg/l
CYCLOHEXANONE	Ingestion	Rat	LD50 1,296 mg/kg
ETHYL 3-ETHOXYPROPIONATE	Dermal	Rabbit	LD50 4,080 mg/kg
ETHYL 3-ETHOXYPROPIONATE	Inhalation-Vapor (4 hours)	Rat	LC50 > 14.4 mg/l
ETHYL 3-ETHOXYPROPIONATE	Ingestion	Rat	LD50 3,200 mg/kg
VINYL ACETATE-VINYL ALCOHOL-VINYL CHLORIDE POLYMER	Dermal	Rabbit	LD50 > 8,000 mg/kg
VINYL ACETATE-VINYL ALCOHOL-VINYL CHLORIDE POLYMER	Ingestion	Rat	LD50 > 8,000 mg/kg
2-BUTOXYETHYL ACETATE	Inhalation-Vapor	official classification	LC50 estimated to be 10 - 20 mg/l
2-BUTOXYETHYL ACETATE	Dermal	Rabbit	LD50 > 4,766 mg/kg

2-BUTOXYETHYL ACETATE	Ingestion	Rat	LD50 2,400 mg/kg
ETHYL ACRYLATE-METHYL METHACRYLATE POLYMER	Dermal		LD50 estimated to be > 5,000 mg/kg
ETHYL ACRYLATE-METHYL METHACRYLATE POLYMER	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
PYRROLO[3,4-C]PYRROLE-1,4-DIONE, 2,5-DIHYDRO-3,6-DIPHENYL-	Dermal	Rat	LD50 > 2,000 mg/kg
PYRROLO[3,4-C]PYRROLE-1,4-DIONE, 2,5-DIHYDRO-3,6-DIPHENYL-	Ingestion	Rat	LD50 > 5,000 mg/kg
DIUNDECYL PHTHALATE	Dermal	Rabbit	LD50 > 7,900 mg/kg
DIUNDECYL PHTHALATE	Ingestion	Rat	LD50 > 15,000 mg/kg
2,4-DIHYDROXYBENZOPHENONE	Ingestion	Rat	LD50 8,600 mg/kg
HEAVY AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Dermal	Rabbit	LD50 > 2,000 mg/kg
HEAVY AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Ingestion	Rat	LD50 > 5,000 mg/kg
Ca 2-Ethylhexanoate	Dermal	Rabbit	LD50 > 5,000 mg/kg
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Dermal	Rabbit	LD50 > 2,000 mg/kg
Ca 2-Ethylhexanoate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.2 mg/l
Ca 2-Ethylhexanoate	Ingestion	Rat	LD50 > 5,000 mg/kg
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation-Vapor (4 hours)	Rat	LC50 > 5.2 mg/l
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Ingestion	Rat	LD50 > 5,000 mg/kg
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	Ingestion	Rat	LD50 3,125 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
Methyl Methacrylate	Dermal	Rabbit	LD50 > 5,000 mg/kg
Methyl Methacrylate	Inhalation-Vapor (4 hours)	Rat	LC50 29 mg/l
Methyl Methacrylate	Ingestion	Rat	LD50 7,900 mg/kg
Triphenyl Phosphite	Dermal	Rabbit	LD50 > 2,000 mg/kg
Triphenyl Phosphite	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.7 mg/l
Triphenyl Phosphite	Ingestion	Rat	LD50 1,590 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
CYCLOHEXANONE	Rabbit	Irritant
ETHYL 3-ETHOXYPROPIONATE	Rabbit	No significant irritation
VINYL ACETATE-VINYL ALCOHOL-VINYL CHLORIDE POLYMER	Professional judgement	No significant irritation
2-BUTOXYETHYL ACETATE	Rabbit	Minimal irritation
ETHYL ACRYLATE-METHYL METHACRYLATE POLYMER	Professional judgement	No significant irritation
PYRROLO[3,4-C]PYRROLE-1,4-DIONE, 2,5-DIHYDRO-3,6-DIPHENYL-	Rabbit	No significant irritation
2,4-DIHYDROXYBENZOPHENONE	Rabbit	No significant irritation
HEAVY AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Rabbit	Irritant
Ca 2-Ethylhexanoate	Rabbit	No significant irritation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Rabbit	Irritant
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	Rabbit	No significant irritation
TOLUENE	Rabbit	Irritant
Methyl Methacrylate	Human	Mild irritant

	and animal	
Triphenyl Phosphite	Rabbit	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
CYCLOHEXANONE	Rabbit	Severe irritant
ETHYL 3-ETHOXYPROPIONATE	Rabbit	Mild irritant
VINYL ACETATE-VINYL ALCOHOL-VINYL CHLORIDE POLYMER	Professional judgment	No significant irritation
2-BUTOXYETHYL ACETATE	Rabbit	Mild irritant
ETHYL ACRYLATE-METHYL METHACRYLATE POLYMER	Professional judgment	No significant irritation
PYRROLO[3,4-C]PYRROLE-1,4-DIONE, 2,5-DIHYDRO-3,6-DIPHENYL-2,4-DIHYDROXYBENZOPHENONE	Rabbit	No significant irritation
HEAVY AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Rabbit	Mild irritant
Ca 2-Ethylhexanoate	Rabbit	Corrosive
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Rabbit	Mild irritant
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	Rabbit	No significant irritation
TOLUENE	Rabbit	Moderate irritant
Methyl Methacrylate	Rabbit	Moderate irritant
Triphenyl Phosphite	Rabbit	Moderate irritant

Skin Sensitization

Name	Species	Value
CYCLOHEXANONE	Guinea pig	Not sensitizing
ETHYL 3-ETHOXYPROPIONATE	Guinea pig	Not sensitizing
HEAVY AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Guinea pig	Not sensitizing
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Guinea pig	Not sensitizing
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	Guinea pig	Sensitizing
TOLUENE	Guinea pig	Not sensitizing
Methyl Methacrylate	Human and animal	Sensitizing
Triphenyl Phosphite	Mouse	Sensitizing

Respiratory Sensitization

Name	Species	Value
Methyl Methacrylate	Human	Some positive data exist, but the data are not sufficient for classification

Germ Cell Mutagenicity

Name	Route	Value
CYCLOHEXANONE	In vivo	Not mutagenic
CYCLOHEXANONE	In Vitro	Some positive data exist, but the data are not sufficient for classification
ETHYL 3-ETHOXYPROPIONATE	In Vitro	Not mutagenic
Ca 2-Ethylhexanoate	In Vitro	Not mutagenic
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	In Vitro	Not mutagenic
TOLUENE	In Vitro	Not mutagenic
TOLUENE	In vivo	Not mutagenic

Methyl Methacrylate	In vivo	Not mutagenic
Methyl Methacrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
CYCLOHEXANONE	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
HEAVY AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
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
Methyl Methacrylate	Ingestion	Rat	Not carcinogenic
Methyl Methacrylate	Inhalation	Human and animal	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
CYCLOHEXANONE	Inhalation	Not toxic to female reproduction	Rat	NOAEL 4 mg/l	2 generation
CYCLOHEXANONE	Inhalation	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 2 mg/l	2 generation
CYCLOHEXANONE	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Mouse	LOAEL 1,100 mg/kg/day	during organogenesis
CYCLOHEXANONE	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 2 mg/l	2 generation
Ca 2-Ethylhexanoate	Ingestion	Toxic to female reproduction	Rat	NOAEL 300 mg/kg/day	1 generation
Ca 2-Ethylhexanoate	Ingestion	Toxic to male reproduction	Rat	NOAEL 300 mg/kg/day	1 generation
Ca 2-Ethylhexanoate	Ingestion	Toxic to development	Rat	NOAEL 100 mg/kg/day	1 generation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	Not toxic to female reproduction	Rat	NOAEL 1,500 ppm	2 generation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	Not toxic to male reproduction	Rat	NOAEL 1,500 ppm	2 generation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 500 ppm	2 generation
TOLUENE	Inhalation	Some positive female reproductive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
TOLUENE	Inhalation	Some positive male reproductive data exist, but the data are not sufficient for classification	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
Methyl Methacrylate	Inhalation	Not toxic to male reproduction	Mouse	NOAEL 36.9 mg/l	
Methyl Methacrylate	Inhalation	Not toxic to development	Rat	NOAEL 8.3	during

				mg/l	organogenesis
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Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
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	
2-BUTOXYETHYL ACETATE	Dermal	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL Not available	24 hours
2-BUTOXYETHYL ACETATE	Dermal	blood	Some positive data exist, but the data are not sufficient for classification	Rabbit	LOAEL 3,191 mg/kg	24 hours
2-BUTOXYETHYL ACETATE	Dermal	heart endocrine system hematopoietic system liver nervous system	All data are negative	Rabbit	NOAEL 10,000 mg/kg	24 hours
2-BUTOXYETHYL ACETATE	Inhalation	central nervous system depression	Some positive data exist, but the data are not sufficient for classification	similar compounds	NOAEL Not available	
2-BUTOXYETHYL ACETATE	Inhalation	blood	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 2.6 mg/l	4 hours
2-BUTOXYETHYL ACETATE	Inhalation	heart endocrine system hematopoietic system liver nervous system kidney and/or bladder respiratory system	All data are negative	Multiple animal species	NOAEL 2.6 mg/l	4 hours
2-BUTOXYETHYL ACETATE	Ingestion	blood	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2,400 mg/kg	not applicable
2-BUTOXYETHYL ACETATE	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,400 mg/kg	not applicable
2-BUTOXYETHYL ACETATE	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2,400 mg/kg	not applicable
2-BUTOXYETHYL ACETATE	Ingestion	heart liver nervous system	All data are negative	Rat	NOAEL 3,000 mg/kg	not applicable
HEAVY AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
HEAVY AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Professional judgement	NOAEL Not available	
HEAVY AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Ca 2-Ethylhexanoate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	

LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Professional judgement	NOAEL Not available	
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	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	Some positive data exist, but the data are not sufficient for classification	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
Methyl Methacrylate	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not available	occupational exposure

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
CYCLOHEXANONE	Inhalation	liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL 0.76 mg/l	50 days
CYCLOHEXANONE	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 4,800 mg/kg/day	90 days
ETHYL 3-ETHOXYPROPIONATE	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 6 mg/l	90 days
ETHYL 3-ETHOXYPROPIONATE	Inhalation	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 6 mg/l	17 days
ETHYL 3-ETHOXYPROPIONATE	Inhalation	heart liver immune system kidney and/or bladder	All data are negative	Rat	NOAEL 6 mg/l	17 days
ETHYL 3-ETHOXYPROPIONATE	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,000 mg/kg/day	17 days
ETHYL 3-ETHOXYPROPIONATE	Ingestion	hematopoietic system	All data are negative	Rat	NOAEL 1,000 mg/kg/day	28 days
ETHYL 3-ETHOXYPROPIONATE	Ingestion	kidney and/or bladder respiratory system	All data are negative	Rat	NOAEL 1,000 mg/kg/day	17 days
2-BUTOXYETHYL ACETATE	Inhalation	blood	May cause damage to organs though prolonged or repeated exposure	Multiple animal species	NOAEL 0.7 mg/l	10 months
2-BUTOXYETHYL ACETATE	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	LOAEL 0.7 mg/l	10 months
2-BUTOXYETHYL ACETATE	Inhalation	heart endocrine system hematopoietic system liver nervous system respiratory system	All data are negative	Multiple animal species	NOAEL 0.7 mg/l	10 months
TOLUENE	Inhalation	auditory system nervous system eyes olfactory	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse

		system				
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	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 11.3 mg/l	15 weeks
TOLUENE	Inhalation	endocrine system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.1 mg/l	4 weeks
TOLUENE	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL Not available	20 days
TOLUENE	Inhalation	bone, teeth, nails, and/or hair	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 1.1 mg/l	8 weeks
TOLUENE	Inhalation	hematopoietic system vascular system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
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	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	13 weeks
TOLUENE	Ingestion	liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
TOLUENE	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 600 mg/kg/day	14 days
TOLUENE	Ingestion	endocrine system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 105 mg/kg/day	28 days
TOLUENE	Ingestion	immune system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 105 mg/kg/day	4 weeks
Methyl Methacrylate	Dermal	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Methyl Methacrylate	Inhalation	olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Methyl Methacrylate	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	14 weeks
Methyl Methacrylate	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 12.3 mg/l	14 weeks
Methyl Methacrylate	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure

Aspiration Hazard

Name	Value
HEAVY AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Aspiration hazard
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Aspiration hazard
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), D018 (Benzene)

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.

311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
2-BUTOXYETHYL ACETATE (GLYCOL ETHERS)	112-07-2	5 - 10

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.

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:** 2 **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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