



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M™ Process Color 990-06 Orange

Product Identification Numbers

42-0016-3985-7, 75-0300-8075-0

1.2. Recommended use and restrictions on use

Recommended use

Ink

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Transportation Safety 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.
Serious Eye Damage/Irritation: Category 2A.
Skin Corrosion/Irritation: Category 2.
Skin Sensitizer: Category 1.
Reproductive Toxicity: Category 1B.
Carcinogenicity: Category 1A.
Specific Target Organ Toxicity (single exposure): Category 1.
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

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.

May cause cancer.

Causes damage to organs:

sensory organs |

Causes damage to organs through prolonged or repeated exposure:

nervous system |

May cause damage to organs through prolonged or repeated exposure:

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.

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:

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
Cyclohexanone	108-94-1	15 - 40 Trade Secret *
1-Methoxy-2-propyl acetate	108-65-6	10 - 30
Dipropylene glycol methyl ether acetate	88917-22-0	10 - 30
Vinyl polymer (New Jersey Trade Secret Registry # 04499600-5238P)	Trade Secret*	10 - 30
Alkyd resin 3261 (NJ TSR # 04499600-6267P)	Trade Secret*	3 - 7
2,3,4,5- Tetrachloro-6-cyanobenzoic acid,methyl ester,reaction products with 2-methyl-1,3-benzenediamine and sodium methoxide	106276-79-3	1 - 5 Trade Secret *
Xylene	1330-20-7	1 - 5 Trade Secret *
Organic pigment (NJ TSR # 04499600-5836P)	Trade Secret*	1 - 5
Nickel, 5,5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes	68511-62-6	0.1 - 2 Trade Secret *
Ethylbenzene	100-41-4	< 0.7 Trade Secret *
(3',4'-Epoxy cyclohexylmethyl) 3,4-epoxycyclohexanecarboxylate	2386-87-0	< 0.6 Trade Secret *
Bis(2,2,6,6-tetramethyl-4-piperidinyl) sebacate	52829-07-9	< 0.5 Trade Secret *
Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	104810-48-2	< 0.3 Trade Secret *
Polymeric benzotriazole	104810-47-1	< 0.3 Trade Secret *
2-Methoxy-1-propylacetate	70657-70-4	< 0.2 Trade Secret *
Calcium 2-ethylhexanoate	136-51-6	< 0.2 Trade Secret *
Dibutyltin dilaurate	77-58-7	< 0.2 Trade Secret *
Zinc 2-ethylhexanoate	136-53-8	< 0.2 Trade Secret *
Nickel salts of naphthenic acids	61788-71-4	< 0.03 Trade Secret *
Triphenyl phosphite	101-02-0	< 0.03 Trade Secret *

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:

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

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

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

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>
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. 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. 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 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 cool. Keep container tightly closed. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Ethylbenzene	100-41-4	ACGIH	TWA:20 ppm	A3: Confirmed animal carcin.
Ethylbenzene	100-41-4	OSHA	TWA:435 mg/m3(100 ppm)	
1-Methoxy-2-propyl acetate	108-65-6	AIHA	TWA:50 ppm	
Cyclohexanone	108-94-1	ACGIH	TWA:20 ppm;STEL:50 ppm	A3: Confirmed animal carcin., SKIN
Cyclohexanone	108-94-1	OSHA	TWA:200 mg/m3(50 ppm)	
Xylene	1330-20-7	ACGIH	TWA:100 ppm;STEL:150 ppm	A4: Not class. as human carcin
Xylene	1330-20-7	OSHA	TWA:435 mg/m3(100 ppm)	
NICKEL, SOLUBLE COMPOUNDS	61788-71-4	OSHA	TWA(as Ni):1 mg/m3	
NICKEL, INSOLUBLE COMPOUNDS	68511-62-6	OSHA	TWA(as Ni):1 mg/m3	
TIN, ORGANIC COMPOUNDS	77-58-7	ACGIH	TWA(as Sn):0.1 mg/m3;STEL(as Sn):0.2 mg/m3	SKIN, A4: Not class. as human carcin

TIN, ORGANIC COMPOUNDS	77-58-7	OSHA	TWA(as Sn):0.1 mg/m3	
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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

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:	orange, solvent odor
Odor threshold	<i>No Data Available</i>
pH	<i>Not Applicable</i>
Melting point	<i>Not Applicable</i>
Boiling Point	>=281 °F
Flash Point	109 °F [<i>Test Method:</i> Tagliabue Closed Cup]

Evaporation rate	<=1 [Ref Std:BUOAC=1]
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	1 %
Flammable Limits(UEL)	12.75 %
Vapor Pressure	<=6.72 mmHg [@ 68 °F]
Vapor Density	>=3.4 [Ref Std:AIR=1]
Density	0.97 g/ml [@ 20 °C]
Specific Gravity	0.97 [Ref Std:WATER=1]
Solubility In Water	No Data Available
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	No Data Available
Decomposition temperature	No Data Available
Viscosity	900 - 1,500 centipoise
Volatile Organic Compounds	700 - 800 g/l [Details:As Packaged.]
Percent volatile	65 - 80 % weight
VOC Less H2O & Exempt Solvents	No Data Available

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

Sparks and/or flames

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

Substance

None known.

Condition

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:

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.

May cause additional health effects (see below).

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:

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

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:

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

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
NI CMPDS NOT ALLOYS	61788-71-4	Known human carcinogen	National Toxicology Program Carcinogens
NI CMPDS NOT ALLOYS	68511-62-6	Known human carcinogen	National Toxicology Program Carcinogens
NICKEL COMPOUNDS	61788-71-4	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
NICKEL COMPOUNDS	68511-62-6	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
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 ATE2,000 - 5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE20 - 50 mg/l
Overall product	Ingestion		No data available; calculated ATE2,000 - 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
1-Methoxy-2-propyl acetate	Dermal	Rabbit	LD50 > 5,000 mg/kg
1-Methoxy-2-propyl acetate	Inhalation-Vapor (4 hours)	Rat	LC50 > 28.8 mg/l
1-Methoxy-2-propyl acetate	Ingestion	Rat	LD50 8,532 mg/kg
Vinyl polymer (New Jersey Trade Secret Registry # 04499600-5238P)	Dermal	Rabbit	LD50 > 8,000 mg/kg
Vinyl polymer (New Jersey Trade Secret Registry # 04499600-5238P)	Ingestion	Rat	LD50 > 8,000 mg/kg
Dipropylene glycol methyl ether acetate	Dermal	Rat	LD50 > 2,000 mg/kg
Dipropylene glycol methyl ether acetate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.7 mg/l
Dipropylene glycol methyl ether acetate	Ingestion	Rat	LD50 > 5,000 mg/kg
Alkyd resin 3261 (NJ TSR # 04499600-6267P)	Dermal		LD50 estimated to be > 5,000 mg/kg
Alkyd resin 3261 (NJ TSR # 04499600-6267P)	Ingestion		LD50 estimated to be > 5,000 mg/kg
Xylene	Dermal	Rabbit	LD50 > 4,200 mg/kg
Xylene	Inhalation-Vapor (4 hours)	Rat	LC50 29 mg/l
Xylene	Ingestion	Rat	LD50 3,523 mg/kg
Nickel, 5,5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
Nickel, 5,5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes	Ingestion	Rat	LD50 5,000 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
(3,4'-Epoxy-cyclohexylmethyl) 3,4-epoxycyclohexanecarboxylate	Dermal	Rabbit	LD50 > 23,400 mg/kg
(3,4'-Epoxy-cyclohexylmethyl) 3,4-epoxycyclohexanecarboxylate	Ingestion	Rat	LD50 5,000 mg/kg
Bis(2,2,6,6-tetramethyl-4-piperidiny) sebacate	Dermal	Rat	LD50 > 3,170 mg/kg
Bis(2,2,6,6-tetramethyl-4-piperidiny) sebacate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.5 mg/l
Bis(2,2,6,6-tetramethyl-4-piperidiny) sebacate	Ingestion	Rat	LD50 3,700 mg/kg
Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	Dermal	Rat	LD50 > 2,000 mg/kg
Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.8 mg/l
Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	Ingestion	Rat	LD50 > 5,000 mg/kg
Polymeric benzotriazole	Dermal	Rat	LD50 > 2,000 mg/kg
Polymeric benzotriazole	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.8 mg/l
Polymeric benzotriazole	Ingestion	Rat	LD50 > 5,000 mg/kg
Dibutyltin dilaurate	Dermal	Rat	LD50 > 2,000 mg/kg
Dibutyltin dilaurate	Ingestion	Rat	LD50 1,290 mg/kg

2-Methoxy-1-propylacetate	Dermal	Rabbit	LD50 > 2,000 mg/kg
2-Methoxy-1-propylacetate	Ingestion	Rat	LD50 > 5,000 mg/kg
Zinc 2-ethylhexanoate	Dermal		LD50 estimated to be > 5,000 mg/kg
Zinc 2-ethylhexanoate	Ingestion	Rat	LD50 > 5,000 mg/kg
Calcium 2-ethylhexanoate	Dermal	Rabbit	LD50 > 5,000 mg/kg
Calcium 2-ethylhexanoate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.2 mg/l
Calcium 2-ethylhexanoate	Ingestion	Rat	LD50 > 5,000 mg/kg
Nickel salts of naphthenic acids	Ingestion		LD50 estimated to be 50 - 300 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
1-Methoxy-2-propyl acetate	Rabbit	No significant irritation
Vinyl polymer (New Jersey Trade Secret Registry # 04499600-5238P)	Professional judgement	No significant irritation
Dipropylene glycol methyl ether acetate	Rabbit	No significant irritation
Xylene	Rabbit	Mild irritant
Nickel, 5,5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes	Rabbit	No significant irritation
Ethylbenzene	Rabbit	Mild irritant
(3',4'-Epoxy-cyclohexylmethyl) 3,4-epoxy-cyclohexanecarboxylate	Rabbit	Minimal irritation
Bis(2,2,6,6-tetramethyl-4-piperidinyl) sebacate	Rabbit	No significant irritation
Poly(oxy-1,2-ethanediyl), alpha-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	Rabbit	No significant irritation
Polymeric benzotriazole	Rabbit	No significant irritation
Dibutyltin dilaurate	Rabbit	Corrosive
2-Methoxy-1-propylacetate	Rabbit	No significant irritation
Zinc 2-ethylhexanoate	Rabbit	Mild irritant
Calcium 2-ethylhexanoate	Rabbit	No significant irritation
Nickel salts of naphthenic acids	Professional judgement	Minimal irritation
Triphenyl phosphite	Rabbit	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
Cyclohexanone	Rabbit	Severe irritant
1-Methoxy-2-propyl acetate	Rabbit	Mild irritant
Vinyl polymer (New Jersey Trade Secret Registry # 04499600-5238P)	Professional judgement	No significant irritation
Dipropylene glycol methyl ether acetate	Rabbit	No significant irritation
Xylene	Rabbit	Mild irritant
Nickel, 5,5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes	Rabbit	No significant irritation
Ethylbenzene	Rabbit	Moderate irritant
(3',4'-Epoxy-cyclohexylmethyl) 3,4-epoxy-cyclohexanecarboxylate	Rabbit	Mild irritant
Bis(2,2,6,6-tetramethyl-4-piperidinyl) sebacate	Rabbit	Corrosive
Poly(oxy-1,2-ethanediyl), alpha-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	Rabbit	No significant irritation
Polymeric benzotriazole	Rabbit	No significant irritation

Dibutyltin dilaurate	Rabbit	Corrosive
Zinc 2-ethylhexanoate	Rabbit	Severe irritant
Calcium 2-ethylhexanoate	Rabbit	Corrosive
Nickel salts of naphthenic acids	Professional judgment	Mild irritant
Triphenyl phosphite	Rabbit	Moderate irritant

Skin Sensitization

Name	Species	Value
Cyclohexanone	Guinea pig	Not classified
1-Methoxy-2-propyl acetate	Guinea pig	Not classified
Dipropylene glycol methyl ether acetate	Guinea pig	Not classified
Nickel, 5,5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes	similar compounds	Sensitizing
Ethylbenzene	Human	Not classified
(3',4'-Epoxy-cyclohexylmethyl) 3,4-epoxycyclohexanecarboxylate	Guinea pig	Sensitizing
Bis(2,2,6,6-tetramethyl-4-piperidinyl) sebacate	Human	Not classified
Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	Guinea pig	Sensitizing
Polymeric benzotriazole	Guinea pig	Sensitizing
Dibutyltin dilaurate	Guinea pig	Sensitizing
Nickel salts of naphthenic acids	similar compounds	Sensitizing
Triphenyl phosphite	Mouse	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
Cyclohexanone	In vivo	Not mutagenic
Cyclohexanone	In Vitro	Some positive data exist, but the data are not sufficient for classification
1-Methoxy-2-propyl acetate	In Vitro	Not mutagenic
Dipropylene glycol methyl ether acetate	In Vitro	Not mutagenic
Dipropylene glycol methyl ether acetate	In vivo	Not mutagenic
Xylene	In Vitro	Not mutagenic
Xylene	In vivo	Not mutagenic
Ethylbenzene	In vivo	Not mutagenic
Ethylbenzene	In Vitro	Some positive data exist, but the data are not sufficient for classification
(3',4'-Epoxy-cyclohexylmethyl) 3,4-epoxycyclohexanecarboxylate	In vivo	Not mutagenic
(3',4'-Epoxy-cyclohexylmethyl) 3,4-epoxycyclohexanecarboxylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
Dibutyltin dilaurate	In vivo	Some positive data exist, but the data are not sufficient for classification
Calcium 2-ethylhexanoate	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Cyclohexanone	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification

Xylene	Dermal	Rat	Not carcinogenic
Xylene	Ingestion	Multiple animal species	Not carcinogenic
Xylene	Inhalation	Human	Some positive data exist, but the data are not sufficient for classification
Nickel, 5,5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes	Not Specified	similar compounds	Carcinogenic
Ethylbenzene	Inhalation	Multiple animal species	Carcinogenic
(3',4'-Epoxy-cyclohexylmethyl) 3,4-epoxy-cyclohexanecarboxylate	Dermal	Mouse	Not carcinogenic
Nickel salts of naphthenic acids	Not Specified	similar compounds	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Cyclohexanone	Inhalation	Not classified for female reproduction	Rat	NOAEL 4 mg/l	2 generation
Cyclohexanone	Inhalation	Not classified for male reproduction	Rat	NOAEL 2 mg/l	2 generation
Cyclohexanone	Ingestion	Not classified for development	Mouse	LOAEL 1,100 mg/kg/day	during organogenesis
Cyclohexanone	Inhalation	Not classified for development	Rat	NOAEL 2 mg/l	2 generation
1-Methoxy-2-propyl acetate	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	prematuring & during gestation
1-Methoxy-2-propyl acetate	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	prematuring & during gestation
1-Methoxy-2-propyl acetate	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	prematuring & during gestation
1-Methoxy-2-propyl acetate	Inhalation	Not classified for development	Rat	NOAEL 21.6 mg/l	during organogenesis
Xylene	Inhalation	Not classified for female reproduction	Human	NOAEL Not available	occupational exposure
Xylene	Ingestion	Not classified for development	Mouse	NOAEL Not available	during organogenesis
Xylene	Inhalation	Not classified for development	Multiple animal species	NOAEL Not available	during gestation
Ethylbenzene	Inhalation	Not classified for development	Rat	NOAEL 4.3 mg/l	prematuring & during gestation
(3',4'-Epoxy-cyclohexylmethyl) 3,4-epoxy-cyclohexanecarboxylate	Ingestion	Not classified for development	Rat	NOAEL 125 mg/kg/day	during gestation
Dibutyltin dilaurate	Ingestion	Toxic to female reproduction	Rat	NOAEL 2 mg/kg/day	prematuring into lactation
Dibutyltin dilaurate	Ingestion	Toxic to development	Rat	NOAEL 2.5 mg/kg/day	during gestation
2-Methoxy-1-propylacetate	Dermal	Not classified for development	Rabbit	NOAEL 2,000 mg/kg/day	during organogenesis
2-Methoxy-1-propylacetate	Inhalation	Toxic to development	Rabbit	NOAEL 0.8 mg/l	during organogenesis

Zinc 2-ethylhexanoate	Ingestion	Toxic to female reproduction	Rat	NOAEL 300 mg/kg/day	1 generation
Zinc 2-ethylhexanoate	Ingestion	Toxic to male reproduction	Rat	NOAEL 300 mg/kg/day	1 generation
Zinc 2-ethylhexanoate	Ingestion	Toxic to development	Rat	NOAEL 100 mg/kg/day	1 generation
Calcium 2-ethylhexanoate	Ingestion	Toxic to female reproduction	Rat	NOAEL 300 mg/kg/day	1 generation
Calcium 2-ethylhexanoate	Ingestion	Toxic to male reproduction	Rat	NOAEL 300 mg/kg/day	1 generation
Calcium 2-ethylhexanoate	Ingestion	Toxic to development	Rat	NOAEL 100 mg/kg/day	1 generation

Lactation

Name	Route	Species	Value
Xylene	Ingestion	Mouse	Not classified for effects on or via lactation

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	
1-Methoxy-2-propyl acetate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Xylene	Inhalation	auditory system	Causes damage to organs	Rat	LOAEL 6.3 mg/l	8 hours
Xylene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Xylene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Xylene	Inhalation	eyes	Not classified	Rat	NOAEL 3.5 mg/l	not available
Xylene	Inhalation	liver	Not classified	Multiple animal species	NOAEL Not available	
Xylene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	
Xylene	Ingestion	eyes	Not classified	Rat	NOAEL 250 mg/kg	not applicable
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	
2-Methoxy-1-propylacetate	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
2-Methoxy-1-propylacetate	Ingestion	central nervous	Some positive data exist, but the	Rat	LOAEL	not applicable

		system depression	data are not sufficient for classification		5,000 mg/kg	
Zinc 2-ethylhexanoate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	
Calcium 2-ethylhexanoate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Cyclohexanone	Inhalation	liver kidney and/or bladder	Not classified	Rabbit	NOAEL 0.76 mg/l	50 days
Cyclohexanone	Ingestion	liver	Not classified	Mouse	NOAEL 4,800 mg/kg/day	90 days
1-Methoxy-2-propyl acetate	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 16.2 mg/l	9 days
1-Methoxy-2-propyl acetate	Inhalation	olfactory system	Not classified	Mouse	LOAEL 1.62 mg/l	9 days
1-Methoxy-2-propyl acetate	Inhalation	blood	Not classified	Multiple animal species	NOAEL 16.2 mg/l	9 days
1-Methoxy-2-propyl acetate	Ingestion	endocrine system	Not classified	Rat	NOAEL 1,000 mg/kg/day	44 days
Dipropylene glycol methyl ether acetate	Ingestion	liver heart endocrine system hematopoietic system kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	4 weeks
Xylene	Inhalation	nervous system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.4 mg/l	4 weeks
Xylene	Inhalation	auditory system	May cause damage to organs through prolonged or repeated exposure	Rat	LOAEL 7.8 mg/l	5 days
Xylene	Inhalation	liver	Not classified	Multiple animal species	NOAEL Not available	
Xylene	Inhalation	heart endocrine system gastrointestinal tract hematopoietic system muscles kidney and/or bladder respiratory system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Ingestion	auditory system	Not classified	Rat	NOAEL 900 mg/kg/day	2 weeks
Xylene	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,500 mg/kg/day	90 days
Xylene	Ingestion	liver	Not classified	Multiple animal species	NOAEL Not available	
Xylene	Ingestion	heart skin endocrine system bone, teeth, nails, and/or hair hematopoietic system immune system nervous system respiratory system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Ethylbenzene	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for	Rat	NOAEL 1.1 mg/l	2 years

			classification			
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
(3',4'-Epoxy)cyclohexylmethyl 3,4-epoxycyclohexanecarboxylate	Ingestion	olfactory system	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 5 mg/kg/day	90 days
(3',4'-Epoxy)cyclohexylmethyl 3,4-epoxycyclohexanecarboxylate	Ingestion	liver kidney and/or bladder hematopoietic system	Not classified	Rat	NOAEL 500 mg/kg/day	90 days
(3',4'-Epoxy)cyclohexylmethyl 3,4-epoxycyclohexanecarboxylate	Ingestion	endocrine system respiratory system	Not classified	Rat	NOAEL 1,113 mg/kg/day	14 days
Dibutyltin dilaurate	Ingestion	liver	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 2 mg/kg/day	2 weeks
Dibutyltin dilaurate	Ingestion	immune system	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 0.3 mg/kg/day	28 days
2-Methoxy-1-propylacetate	Inhalation	immune system bone marrow	Not classified	Rat	NOAEL 15.4 mg/l	28 days
2-Methoxy-1-propylacetate	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 2,600 mg/kg/day	2 weeks
Triphenyl phosphite	Ingestion	nervous system	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 15 mg/kg/day	28 days

Aspiration Hazard

Name	Value
Xylene	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):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
Xylene	1330-20-7	Trade Secret 1 - 5
Nickel, 5,5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes (NICKEL COMPOUNDS)	68511-62-6	0.1 - 2
Ethylbenzene	100-41-4	Trade Secret < 0.7
Nickel salts of naphthenic acids (NICKEL COMPOUNDS)	61788-71-4	< 0.03

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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