Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the Canadian Hazardous Products Regulations.

SECTION 1: Identification

1.1. Product identifier
3M™ Process Colour 990-04 Yellow

Product Identification Numbers
42-0016-3983-2 75-0300-8073-5

1.2. Recommended use and restrictions on use

Intended Use
Ink

Specific Use
Screen printing

Restrictions on use
Not applicable

1.3. Supplier's details

Company:	3M Canada Company
Division:	Transportation Safety Division
Address:	1840 Oxford Street East, Post Office Box 5757, London, Ontario N6A 4T1
Telephone:	(800) 364-3577
Website:	www.3M.ca

1.4. Emergency telephone number
Medical Emergency Telephone:1-800-3M HELPS / 1-800-364-3577; Transportation Emergency Telephone (CANUTEC): (613) 996-6666

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
Flammable Liquid: Category 3.
Serious Eye Damage/Irritation: Category 1.
Skin Corrosion/Irritation: Category 2.
Skin Sensitizer: Category 1A.
Reproductive Toxicity: Category 2.

Carcinogenicity: Category 2.
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 | Corrosion | Exclamation mark | Health Hazard |

Pictograms

Hazard statements
Flammable liquid and vapour.
Causes serious eye damage. Causes skin irritation. May cause an allergic skin reaction. May cause drowsiness or dizziness.
Suspected of damaging fertility or the unborn child. Suspected of causing 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, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground and bond container and receiving equipment. Use non-sparking tools. Take action to prevent static discharges. Keep container tightly closed. Use explosion-proof electrical/ventilating/lighting equipment. Do not breathe dust/fume/gas/mist/vapours/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 exposed skin 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 or 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 CENTRE or doctor/physician. 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 cool. Store locked up.

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

2.3. Other hazards
None known.

23% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt	Common Name
Cyclohexanone	108-94-1	15 - 40 Trade Secret *	Cyclohexanone
Dipropylene glycol methyl ether acetate	88917-22-0	15 - 40	Propanol, 1(or 2)-(2-methoxymethylethoxy)-, acetate (9CI)
Vinyl polymer	Trade Secret	10 - 30	Not Applicable
1-Methoxy-2-propyl acetate	108-65-6	< 20	2-Propanol, 1-methoxy-, acetate
Alkyd resin 3261	Trade Secret	3 - 7	Not Applicable
Benzoic acid, 2,3,4,5-tetrachloro-6-cyano-, methyl ester, reaction products with p-phenylenediamine and sodium methoxide	106276-80-6	3 - 7	Benzoic acid, 2,3,4,5-tetrachloro-6-cyano-, methyl ester, reaction products with p-phenylenediamine and sodium methoxide
Xylene	1330-20-7	3 - 7 Trade Secret *	Dimethylbenzene
2,4-Dihydroxybenzophenone	131-56-6	0.5 - 1.5	Methanone, (2,4-dihydroxyphenyl)phenyl-
Bis(2,2,6,6-tetramethyl-4-piperidinyl) sebacate	52829-07-9	0.1 - 1.0 Trade Secret *	Decanedioic acid, bis(2,2,6,6-tetramethyl-4-piperidinyl) ester
Ethylbenzene	100-41-4	0.1 - 1.0 Trade Secret *	Benzene, ethyl-
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	0.1 - 1.0 Trade Secret *	Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethy lethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydr o xy-
Polymeric benzotriazole	104810-47-1	0.1 - 1.0 Trade Secret *	Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethy lethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-[3-[3 -(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hyd roxyphenyl]-1-oxopropoxy]-
2,3-Epoxypropyl neodecanoate	26761-45-5	0.08 - 0.26	Neodecanoic acid, oxiranylmethyl ester
Phosphonic acid, diphenyl ester	4712-55-4	< 0.2	No Data Available
Calcium 2-ethylhexanoate	136-51-6	0.05 - 0.15	Hexanoic acid, 2-ethyl-, calcium salt
Zinc 2-ethylhexanoate	136-53-8	0.05 - 0.15	Hexanoic acid, 2-ethyl-, zinc salt
Triphenyl phosphite	101-02-0	< 0.03	Phosphorous acid, triphenyl ester

Vinyl polymer is a non-hazardous Trade Secret material according to WHMIS criteria.
Alkyd resin 3261 is a non-hazardous Trade Secret material according to WHMIS criteria.

*The actual concentration of this ingredient 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

Allergic skin reaction (redness, swelling, blistering, and itching). Serious damage to the eyes (corneal cloudiness, severe pain, tearing, ulcerations, and significantly impaired or loss of vision). Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness). Target organ effects. See Section 11 for additional details. 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

Substance	Condition
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 vapours, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapours 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 or professional use only. Not for consumer sale or use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapours/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	
1-Methoxy-2-propyl acetate	108-65-6	AIHA	TWA:50 ppm	
Cyclohexanone	108-94-1	ACGIH	TWA:20 ppm;STEL:50 ppm	Danger of cutaneous absorption
Xylene	1330-20-7	ACGIH	TWA:20 ppm	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
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/vapours/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 vapours 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

Physical state	Liquid
Specific Physical Form:	Liquid
Colour	Yellow
Odour	Solvent
Odour threshold	*No Data Available*
pH	*Not Applicable*
Melting point/Freezing point	*Not Applicable*
Boiling point	>=138.3 ºC
Flash Point	42.8 ºC [*Test Method:*Tagliabue Closed Cup]
Evaporation rate	<=1 [*Ref Std:*BUOAC=1]
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	1 %
Flammable Limits(UEL)	12.75 %
Vapour Pressure	<=895.9 Pa [@ 20 ºC]
Vapour Density and/or Relative Vapour Density	>=3.4 [*Ref Std:*AIR=1]
Density	0.97 g/ml [@ 20 ºC]
Relative density	0.97 [*Ref Std:*WATER=1]
Water solubility	Negligible
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/Kinematic Viscosity	1,300 - 1,500 mPa-s
Volatile Organic Compounds	700 - 800 g/l [*Details:*As Packaged.]
Percent volatile	65 - 80 % weight

VOC Less H2O & Exempt Solvents	*No Data Available*
Molecular weight	*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	**Condition**
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:
May be harmful in contact with skin. Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

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

Ingestion:
May be harmful if swallowed. Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset,

nausea, vomiting and diarrhea. May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
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
Ethylbenzene	100-41-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >2,000 - =5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE >20 - =50 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
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
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	Dermal	Rabbit	LD50 > 8,000 mg/kg
Vinyl polymer	Ingestion	Rat	LD50 > 8,000 mg/kg
Benzoic acid, 2,3,4,5-tetrachloro-6-cyano-, methyl ester, reaction products with p-phenylenediamine and sodium methoxide	Dermal		LD50 estimated to be > 5,000 mg/kg
Benzoic acid, 2,3,4,5-tetrachloro-6-cyano-, methyl ester, reaction products with p-phenylenediamine and sodium methoxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1 mg/l
Benzoic acid, 2,3,4,5-tetrachloro-6-cyano-, methyl ester, reaction products with p-phenylenediamine and sodium methoxide	Ingestion	Rat	LD50 > 5,000 mg/kg
Alkyd resin 3261	Dermal		LD50 estimated to be > 5,000 mg/kg
Alkyd resin 3261	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
2,4-Dihydroxybenzophenone	Dermal		LD50 estimated to be > 5,000 mg/kg
2,4-Dihydroxybenzophenone	Ingestion	Rat	LD50 8,600 mg/kg
Ethylbenzene	Dermal	Rabbit	LD50 15,433 mg/kg
Ethylbenzene	Inhalation-Vapor (4 hours)	Rat	LC50 17.4 mg/l
Ethylbenzene	Ingestion	Rat	LD50 4,769 mg/kg
Bis(2,2,6,6-tetramethyl-4-piperidinyl) sebacate	Dermal	Rat	LD50 > 3,170 mg/kg
Bis(2,2,6,6-tetramethyl-4-piperidinyl) sebacate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.5 mg/l
Bis(2,2,6,6-tetramethyl-4-piperidinyl) 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
2,3-Epoxypropyl neodecanoate	Dermal	Rat	LD50 > 2,000 mg/kg
2,3-Epoxypropyl neodecanoate	Ingestion	Rat	LD50 > 2,000 mg/kg
Phosphonic acid, diphenyl ester	Dermal	Rabbit	LD50 > 2,000 mg/kg
Phosphonic acid, diphenyl ester	Ingestion	Rat	LD50 600 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
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
Dipropylene glycol methyl ether acetate	Rabbit	No significant irritation
1-Methoxy-2-propyl acetate	Rabbit	No significant irritation
Vinyl polymer	Professional judgement	No significant irritation
Benzoic acid, 2,3,4,5-tetrachloro-6-cyano-, methyl ester, reaction products with p-phenylenediamine and sodium methoxide	Rabbit	No significant irritation
Xylene	Rabbit	Mild irritant
2,4-Dihydroxybenzophenone	Rabbit	No significant irritation
Ethylbenzene	Rabbit	Mild irritant
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
2,3-Epoxypropyl neodecanoate	Rabbit	No significant irritation
Zinc 2-ethylhexanoate	Rabbit	Mild irritant
Calcium 2-ethylhexanoate	Rabbit	No significant irritation
Triphenyl phosphite	Rabbit	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
Cyclohexanone	In vitro data	Corrosive
Dipropylene glycol methyl ether acetate	Rabbit	No significant irritation
1-Methoxy-2-propyl acetate	Rabbit	Mild irritant
Vinyl polymer	Professional judgement	No significant irritation
Benzoic acid, 2,3,4,5-tetrachloro-6-cyano-, methyl ester, reaction products with p-phenylenediamine and sodium methoxide	Rabbit	No significant irritation
Xylene	Rabbit	Mild irritant
2,4-Dihydroxybenzophenone	Rabbit	Severe irritant
Ethylbenzene	Rabbit	Moderate 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
2,3-Epoxypropyl neodecanoate	Rabbit	No significant irritation
Zinc 2-ethylhexanoate	Rabbit	Severe irritant
Calcium 2-ethylhexanoate	Rabbit	Corrosive
Triphenyl phosphite	Rabbit	Moderate irritant

Skin Sensitization

Name	Species	Value
Cyclohexanone	Guinea pig	Not classified
Dipropylene glycol methyl ether acetate	Guinea pig	Not classified
1-Methoxy-2-propyl acetate	Guinea pig	Not classified
Benzoic acid, 2,3,4,5-tetrachloro-6-cyano-, methyl ester, reaction products with p-phenylenediamine and sodium methoxide	Human	Not classified
Ethylbenzene	Human	Not classified
Bis(2,2,6,6-tetramethyl-4-piperidinyl) sebacate	Guinea pig	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
2,3-Epoxypropyl neodecanoate	Guinea pig	Sensitizing
Triphenyl phosphite	Mouse	Sensitizing

Photosensitization

Name	Species	Value
Bis(2,2,6,6-tetramethyl-4-piperidinyl) sebacate	Guinea pig	Not 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
Dipropylene glycol methyl ether acetate	In Vitro	Not mutagenic
Dipropylene glycol methyl ether acetate	In vivo	Not mutagenic
1-Methoxy-2-propyl acetate	In Vitro	Not mutagenic
Benzoic acid, 2,3,4,5-tetrachloro-6-cyano-, methyl ester, reaction products with p-phenylenediamine and sodium methoxide	In Vitro	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
Bis(2,2,6,6-tetramethyl-4-piperidinyl) sebacate	In Vitro	Not mutagenic
Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	In Vitro	Not mutagenic
Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	In vivo	Not mutagenic
Polymeric benzotriazole	In Vitro	Not mutagenic
Polymeric benzotriazole	In vivo	Not mutagenic
2,3-Epoxypropyl neodecanoate	In Vitro	Some positive data exist, but the data are not sufficient for classification
2,3-Epoxypropyl neodecanoate	In vivo	Mutagenic
Calcium 2-ethylhexanoate	In Vitro	Not mutagenic
Triphenyl phosphite	In Vitro	Not mutagenic
Triphenyl phosphite	In vivo	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
Ethylbenzene	Inhalation	Multiple animal species	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	premating & during gestation
1-Methoxy-2-propyl acetate	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation

1-Methoxy-2-propyl acetate	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating & 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	premating & during gestation
Bis(2,2,6,6-tetramethyl-4-piperidinyl) sebacate	Ingestion	Not classified for male reproduction	Rat	NOAEL 430 mg/kg/day	2 generation
Bis(2,2,6,6-tetramethyl-4-piperidinyl) sebacate	Ingestion	Not classified for development	Rat	NOAEL 130 mg/kg/day	2 generation
Bis(2,2,6,6-tetramethyl-4-piperidinyl) sebacate	Ingestion	Toxic to female reproduction	Rat	NOAEL 130 mg/kg/day	2 generation
Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	Ingestion	Not classified for female reproduction	Rat	NOAEL 100 mg/kg/day	premating into lactation
Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	Ingestion	Not classified for male reproduction	Rat	NOAEL 100 mg/kg/day	115 days
Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	Ingestion	Not classified for development	Rat	NOAEL 2 mg/kg/day	premating into lactation
Polymeric benzotriazole	Ingestion	Not classified for female reproduction	Rat	NOAEL 100 mg/kg/day	premating into lactation
Polymeric benzotriazole	Ingestion	Not classified for male reproduction	Rat	NOAEL 100 mg/kg/day	115 days
Polymeric benzotriazole	Ingestion	Not classified for development	Rat	NOAEL 2 mg/kg/day	premating into lactation
Zinc 2-ethylhexanoate	Ingestion	Not classified for female reproduction	similar compounds	NOAEL 800 mg/kg/day	2 generation
Zinc 2-ethylhexanoate	Ingestion	Not classified for male reproduction	similar compounds	NOAEL 800 mg/kg/day	2 generation
Zinc 2-ethylhexanoate	Ingestion	Toxic to development	similar compounds	NOAEL 100 mg/kg/day	during gestation
Calcium 2-ethylhexanoate	Ingestion	Not classified for female reproduction	similar compounds	NOAEL 800 mg/kg/day	2 generation
Calcium 2-ethylhexanoate	Ingestion	Not classified for male reproduction	similar compounds	NOAEL 800 mg/kg/day	2 generation
Calcium 2-ethylhexanoate	Ingestion	Toxic to development	similar compounds	NOAEL 100 mg/kg/day	during gestation
Triphenyl phosphite	Ingestion	Not classified for female reproduction	Rat	NOAEL 40 mg/kg/day	premating into lactation
Triphenyl phosphite	Ingestion	Not classified for male reproduction	Rat	NOAEL 40 mg/kg/day	28 days
Triphenyl phosphite	Ingestion	Not classified for development	Rat	NOAEL 40 mg/kg/day	during gestation

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	
1-Methoxy-2-propyl acetate	Ingestion	central nervous system depression	Some positive data exist, but the data are not sufficient for classification	Rat	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	
Bis(2,2,6,6-tetramethyl-4-piperidinyl) sebacate	Dermal	photoirritation	Not classified	Mouse	NOAEL not available	
Bis(2,2,6,6-tetramethyl-4-piperidinyl) sebacate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	
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

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
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
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 though 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 classification	Rat	NOAEL 1.1 mg/l	2 years
Ethylbenzene	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 1.1 mg/l	103 weeks
Ethylbenzene	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 3.4 mg/l	28 days
Ethylbenzene	Inhalation	auditory system	Not classified	Rat	NOAEL 2.4 mg/l	5 days
Ethylbenzene	Inhalation	endocrine system	Not classified	Mouse	NOAEL 3.3 mg/l	103 weeks
Ethylbenzene	Inhalation	gastrointestinal tract	Not classified	Rat	NOAEL 3.3 mg/l	2 years
Ethylbenzene	Inhalation	bone, teeth, nails, and/or hair | muscles	Not classified	Multiple animal species	NOAEL 4.2 mg/l	90 days
Ethylbenzene	Inhalation	heart | immune system | respiratory system	Not classified	Multiple animal species	NOAEL 3.3 mg/l	2 years

Ethylbenzene	Ingestion	liver | kidney and/or bladder	Not classified	Rat	NOAEL 680 mg/kg/day	6 months
Bis(2,2,6,6-tetramethyl-4-piperidinyl) sebacate	Ingestion	heart | skin | endocrine system | gastrointestinal tract | bone, teeth, nails, and/or hair | hematopoietic system | liver | immune system | muscles | nervous system | eyes | kidney and/or bladder | respiratory system | vascular system	Not classified	Rat	NOAEL 261 mg/kg/day	90 days
Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-	Ingestion	liver | endocrine system | hematopoietic system | eyes | kidney and/or bladder | respiratory system	Not classified	Rat	NOAEL 50 mg/kg/day	90 days
Polymeric benzotriazole	Ingestion	liver | endocrine system | hematopoietic system | eyes | kidney and/or bladder | respiratory system	Not classified	Rat	NOAEL 50 mg/kg/day	90 days
2,3-Epoxypropyl neodecanoate	Ingestion	hematopoietic system | liver	Not classified	Rat	NOAEL 400 mg/kg/day	5 weeks
2,3-Epoxypropyl neodecanoate	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 40 mg/kg/day	5 weeks
Triphenyl phosphite	Ingestion	nervous system	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 15 mg/kg/day	28 days
Triphenyl phosphite	Ingestion	hematopoietic system | kidney and/or bladder	Not classified	Rat	NOAEL 40 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

No data available.

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.

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. Safety, health and environmental regulations/legislation specific for the substance or mixture

Global inventory status

Contact 3M for more information. The components of this product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory.

SECTION 16: Other information

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.
Health: 3 **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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3M Canada SDSs are available at www.3M.ca