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 Color 886i v2 Orange

1.2. Recommended use and restrictions on use

Intended Use
Ink

Restrictions on use
Not applicable

1.3. Supplier's details

Company:	3M Canada Company
Division:	Commercial Branding and Transportation 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 / 1800 364 3577

SECTION 2: Hazard identification

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

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. May cause an allergic skin reaction. May cause cancer. May damage fertility or the unborn child.

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. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical, ventilating and lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Avoid breathing vapours. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves, eye protection, face protection, and if needed, respiratory protection (see SDS Section 8).

Response:
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 CENTER or doctor. If skin irritation or rash occurs: Get medical attention. Take off contaminated clothing and wash it before reuse. 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 and container in accordance with applicable local, regional, national, and international regulations.

2.3. Other hazards
None known.

16% of the mixture consists of ingredients of unknown acute oral toxicity.
16% of the mixture consists of ingredients of unknown acute dermal toxicity.
66% 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
PROPANOL, 1(OR 2)-(2-METHOXYMETHYLETHOXY)-, ACETATE	88917-22-0	30 - 60	Propanol, 1(or 2)-(2-methoxymethylethoxy)-, acetate (9CI)
2-Propenoic acid, 2-methyl-, polymer with butyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate	28262-63-7	10 - 30	2-Propenoic acid, 2-methyl-, polymer with butyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate
Acrylic Polymers	Trade Secret	10 - 30	Not Applicable

1-methoxy-2-propyl acetate	108-65-6	3 - 7	2-Propanol, 1-methoxy-, acetate
Cyclohexanone	108-94-1	3 - 7 Trade Secret *	Cyclohexanone
Vinyl Polymer	Trade Secret	1 - 5	Not Applicable
Organic pigment	Trade Secret	< 2	Not Applicable
NICKEL, 5,5'-AZOBIS-2,4,6(1H,3H,5H)-PYRIMIDINETRIONE COMPLEXES	68511-62-6	0.1 - 1 Trade Secret *	Nickel, 5,5'-azobis-2,4,6(1H,3H,5H)-pyrimidinetrione complexes
Xylene	1330-20-7	0.1 - 1	Dimethylbenzene
3-DODECYL-1-(2,2,6,6-TETRAMETHYL-4-PIPERIDINYL) -2,5-PYRROLIDINEDIONE	79720-19-7	< 0.6	2,5-Pyrrolidinedione, 3-dodecyl-1-(2,2,6,6-tetramethyl-4-piperidinyl)-
Ethylbenzene	100-41-4	< 0.3	Benzene, ethyl-
N-Butyl Methacrylate	97-88-1	< 0.3	2-Propenoic acid, 2-methyl-, butyl ester
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	2386-87-0	< 0.2	7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 7-oxabicyclo[4.1.0]hept-3-ylmethyl ester
Toluene	108-88-3	< 0.2	No Data Available
Red Pigment	Trade Secret	< 0.09	Not Applicable
NICKEL SALTS OF NAPHTHENIC ACIDS	61788-71-4	< 0.02	Naphthenic acids, nickel salts

Acrylic Polymers is a non-hazardous material according to WHMIS criteria. Specific information has been withheld as a trade secret.
Vinyl Polymer is a non-hazardous material according to WHMIS criteria. Specific information has been withheld as a trade secret.
Organic pigment is a non-hazardous material according to WHMIS criteria. Specific information has been withheld as a trade secret.

*The concentration (exact or range) of this component 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).

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. Unsuitable extinguishing media
None Determined

5.3. 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
Aldehydes	During Combustion
Hydrocarbons	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Chloride	During Combustion

5.4. Special protection 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. Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS.

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 that is resistant to polar solvents. 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. Store locked up.

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	
Toluene	108-88-3	ACGIH	TWA:20 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 (e.g., spraying, high splash potential, etc.), then use of a protective apron may be necessary. See recommended glove material(s) for determining appropriate apron material(s). If a glove material is not available as an apron, polymer laminate is a suitable option.

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
Half facepiece or full facepiece supplied-air respirator

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	Orange
Odour	Sweet Ether
Odour threshold	*No Data Available*
pH	*Not Applicable*
Melting point/Freezing point	*Not Applicable*
Boiling point	>=140 ºC
Flash Point	42.2 ºC [*Test Method:*Tagliabue Closed Cup]
Evaporation rate	<=0.4 [*Ref Std:*BUOAC=1]
Flammability	Flammable Liquid: Category 3.
Flammable Limits(LEL)	1.1 % volume
Flammable Limits(UEL)	8.6 % volume
Vapour Pressure	<=3.7 mmHg [@ 20 ºC]
Relative Vapour Density	*No Data Available*
Density	0.95 g/ml
Relative density	0.95 [*Ref Std:*WATER=1]
Water solubility	*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*
Kinematic Viscosity	1,158 mm2/sec
Volatile Organic Compounds	600 - 800 g/l [*Details:*As Packaged.]
Percent volatile	65 - 75 %
VOC Less H2O & Exempt Solvents	*No Data Available*

Particle Characteristics	*Not Applicable*

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 acids
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:
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:
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. 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:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

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
Nickel Compounds (except alloys)	61788-71-4	Known To Be Human Carcinogen.	National Toxicology Program Carcinogens
Nickel Compounds (except alloys)	68511-62-6	Known To Be 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
Red Pigment	Trade Secret	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
Red Pigment	Trade Secret	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
Red Pigment	Trade Secret	Known To Be Human Carcinogen.	National Toxicology Program Carcinogens
Red Pigment	Trade Secret	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
Butyl Methacrylate	97-88-1	Grp. 2B: Possible human carc.	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 ATE >5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
PROPANOL, 1(OR 2)-(2-METHOXYMETHYLETHOXY)-, ACETATE	Dermal	Rat	LD50 > 2,000 mg/kg
PROPANOL, 1(OR 2)-(2-METHOXYMETHYLETHOXY)-, ACETATE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.7 mg/l
PROPANOL, 1(OR 2)-(2-METHOXYMETHYLETHOXY)-, ACETATE	Ingestion	Rat	LD50 > 5,000 mg/kg
2-Propenoic acid, 2-methyl-, polymer with butyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate	Dermal		LD50 estimated to be > 5,000 mg/kg
2-Propenoic acid, 2-methyl-, polymer with butyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate	Ingestion		LD50 estimated to be 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
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
Organic pigment	Dermal	Rat	LD50 > 2,000 mg/kg
Organic pigment	Ingestion	Rat	LD50 > 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

3-DODECYL-1-(2,2,6,6-TETRAMETHYL-4-PIPERIDINYL) -2,5-PYRROLIDINEDIONE	Dermal	Rabbit	LD50 > 2,000 mg/kg
3-DODECYL-1-(2,2,6,6-TETRAMETHYL-4-PIPERIDINYL) -2,5-PYRROLIDINEDIONE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5 mg/l
3-DODECYL-1-(2,2,6,6-TETRAMETHYL-4-PIPERIDINYL) -2,5-PYRROLIDINEDIONE	Ingestion	Rat	LD50 > 2,000 mg/kg
NICKEL, 5,5'-AZOBIS-2,4,6(1H,3H,5H)-PYRIMIDINETRIONE COMPLEXES	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
NICKEL, 5,5'-AZOBIS-2,4,6(1H,3H,5H)-PYRIMIDINETRIONE COMPLEXES	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.222 mg/l
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
N-Butyl Methacrylate	Dermal	Rabbit	LD50 > 2,000 mg/kg
N-Butyl Methacrylate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 27 mg/l
N-Butyl Methacrylate	Ingestion	Rat	LD50 > 2,000 mg/kg
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	Dermal	Rat	LD50 > 2,000 mg/kg
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.19 mg/l
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	Ingestion	Rat	LD50 5,000 mg/kg
Toluene	Dermal	Rat	LD50 12,000 mg/kg
Toluene	Inhalation-Vapor (4 hours)	Rat	LC50 30 mg/l
Toluene	Ingestion	Rat	LD50 5,550 mg/kg
Red Pigment	Dermal		LD50 estimated to be > 5,000 mg/kg
Red Pigment	Inhalation-Dust/Mist		LC50 estimated to be > 12.5 mg/l
Red Pigment	Ingestion		LD50 estimated to be > 5,000 mg/kg
NICKEL SALTS OF NAPHTHENIC ACIDS	Ingestion	Rat	LD50 419 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
PROPANOL, 1(OR 2)-(2-METHOXYMETHYLETHOXY)-, ACETATE	Rabbit	No significant irritation
Cyclohexanone	Rabbit	Irritant
1-methoxy-2-propyl acetate	Rabbit	No significant irritation
Vinyl Polymer	Professional judgement	No significant irritation
Organic pigment	Rabbit	No significant irritation
Xylene	Rabbit	Mild irritant
3-DODECYL-1-(2,2,6,6-TETRAMETHYL-4-PIPERIDINYL) -2,5-PYRROLIDINEDIONE	Rabbit	Corrosive
NICKEL, 5,5'-AZOBIS-2,4,6(1H,3H,5H)-PYRIMIDINETRIONE COMPLEXES	Rabbit	No significant irritation
Ethylbenzene	Rabbit	Mild irritant
N-Butyl Methacrylate	Rabbit	Irritant
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	Rabbit	Minimal irritation
Toluene	Rabbit	Irritant

Red Pigment	Professional judgement	No significant irritation
NICKEL SALTS OF NAPHTHENIC ACIDS	Professional judgement	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
PROPANOL, 1(OR 2)-(2-METHOXYMETHYLETHOXY)-, ACETATE	Rabbit	No significant irritation
Cyclohexanone	In vitro data	Corrosive
1-methoxy-2-propyl acetate	Rabbit	Mild irritant
Vinyl Polymer	Professional judgement	No significant irritation
Organic pigment	Rabbit	No significant irritation
Xylene	Rabbit	Mild irritant
3-DODECYL-1-(2,2,6,6-TETRAMETHYL-4-PIPERIDINYL) -2,5-PYRROLIDINEDIONE	Rabbit	Corrosive
NICKEL, 5,5'-AZOBIS-2,4,6(1H,3H,5H)-PYRIMIDINETRIONE COMPLEXES	Rabbit	No significant irritation
Ethylbenzene	Rabbit	Moderate irritant
N-Butyl Methacrylate	Rabbit	Mild irritant
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	Rabbit	Mild irritant
Toluene	Rabbit	Moderate irritant
Red Pigment	Professional judgement	No significant irritation
NICKEL SALTS OF NAPHTHENIC ACIDS	Professional judgement	Mild irritant

Skin Sensitization

Name	Species	Value
PROPANOL, 1(OR 2)-(2-METHOXYMETHYLETHOXY)-, ACETATE	Guinea pig	Not classified
Cyclohexanone	Guinea pig	Not classified
1-methoxy-2-propyl acetate	Guinea pig	Not classified
Organic pigment	Mouse	Not classified
NICKEL, 5,5'-AZOBIS-2,4,6(1H,3H,5H)-PYRIMIDINETRIONE COMPLEXES	similar compounds	Sensitizing
Ethylbenzene	Human	Not classified
N-Butyl Methacrylate	Guinea pig	Sensitizing
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	Guinea pig	Sensitizing
Toluene	Guinea pig	Not classified
NICKEL SALTS OF NAPHTHENIC ACIDS	similar compounds	Sensitizing

Respiratory Sensitization

Name	Species	Value

NICKEL SALTS OF NAPHTHENIC ACIDS	Professional judgement	Sensitizing

Germ Cell Mutagenicity

Name	Route	Value
PROPANOL, 1(OR 2)-(2-METHOXYMETHYLETHOXY)-, ACETATE	In Vitro	Not mutagenic
PROPANOL, 1(OR 2)-(2-METHOXYMETHYLETHOXY)-, ACETATE	In vivo	Not mutagenic
Cyclohexanone	In Vitro	Not mutagenic
Cyclohexanone	In vivo	Not mutagenic
1-methoxy-2-propyl acetate	In Vitro	Not mutagenic
Organic pigment	In Vitro	Not mutagenic
Xylene	In Vitro	Not mutagenic
Xylene	In vivo	Not mutagenic
3-DODECYL-1-(2,2,6,6-TETRAMETHYL-4-PIPERIDINYL) -2,5-PYRROLIDINEDIONE	In Vitro	Not mutagenic
NICKEL, 5,5'-AZOBIS-2,4,6(1H,3H,5H)-PYRIMIDINETRIONE COMPLEXES	In Vitro	Not mutagenic
Ethylbenzene	In vivo	Not mutagenic
Ethylbenzene	In Vitro	Some positive data exist, but the data are not sufficient for classification
N-Butyl Methacrylate	In Vitro	Not mutagenic
N-Butyl Methacrylate	In vivo	Not mutagenic
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	In Vitro	Some positive data exist, but the data are not sufficient for classification
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	In vivo	Some positive data exist, but the data are not sufficient for classification
Toluene	In Vitro	Not mutagenic
Toluene	In vivo	Not mutagenic
NICKEL SALTS OF NAPHTHENIC ACIDS	In Vitro	Some positive data exist, but the data are not sufficient for classification
NICKEL SALTS OF NAPHTHENIC ACIDS	In vivo	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
N-Butyl Methacrylate	Inhalation	Multiple animal species	Carcinogenic
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	Dermal	Mouse	Not carcinogenic
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
NICKEL SALTS OF NAPHTHENIC ACIDS	Inhalation	similar compoun	Carcinogenic

		ds	

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	Ingestion	Not classified for development	Rabbit	NOAEL 500 mg/kg/day	during gestation
Cyclohexanone	Inhalation	Not classified for male reproduction	Rat	NOAEL 2 mg/l	2 generation
Cyclohexanone	Inhalation	Not classified for development	Rat	NOAEL 2.6 mg/l	during gestation
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
Organic pigment	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Organic pigment	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	28 days
Organic pigment	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
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
NICKEL, 5,5'-AZOBIS-2,4,6(1H,3H,5H)-PYRIMIDINETRIONE COMPLEXES	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	during gestation
Ethylbenzene	Inhalation	Not classified for development	Rat	NOAEL 4.3 mg/l	premating & during gestation
N-Butyl Methacrylate	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	44 days
N-Butyl Methacrylate	Ingestion	Not classified for female reproduction	Rat	NOAEL 300 mg/kg/day	premating & during gestation
N-Butyl Methacrylate	Ingestion	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during gestation
N-Butyl Methacrylate	Inhalation	Not classified for development	Rat	NOAEL 1.8 mg/l	during gestation
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	Ingestion	Not classified for development	Rat	NOAEL 125 mg/kg/day	during gestation
Toluene	Inhalation	Not classified for female reproduction	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	Not classified for male reproduction	Rat	NOAEL 2.3 mg/l	1 generation
Toluene	Ingestion	Toxic to development	Rat	LOAEL 520 mg/kg/day	during gestation
Toluene	Inhalation	Toxic to development	Human	NOAEL Not	poisoning

				available	and/or abuse
NICKEL SALTS OF NAPHTHENIC ACIDS	Ingestion	Toxic to development	similar compounds	NOAEL not available	2 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	May cause respiratory irritation	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
3-DODECYL-1-(2,2,6,6-TETRAMETHYL-4-PIPERIDINYL) -2,5-PYRROLIDINEDIONE	Inhalation	respiratory irritation	May cause respiratory irritation	similar health hazards	NOAEL Not available	
Ethylbenzene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Ethylbenzene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
N-Butyl Methacrylate	Inhalation	respiratory irritation	May cause respiratory irritation		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	Not classified	Mouse	NOAEL 0.004 mg/l	3 hours
Toluene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
PROPANOL, 1(OR 2)-(2-METHOXYMETHYLETHOXY)-, ACETATE	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	4 weeks
PROPANOL, 1(OR 2)-(2-METHOXYMETHYLETHOXY)-, ACETATE	Ingestion	heart	Not classified	Rat	NOAEL 1,000 mg/kg/day	4 weeks
PROPANOL, 1(OR 2)-(2-METHOXYMETHYLETHOXY)-, ACETATE	Ingestion	endocrine system	Not classified	Rat	NOAEL 1,000 mg/kg/day	4 weeks
PROPANOL, 1(OR 2)-(2-METHOXYMETHYLETHOXY)-, ACETATE	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	4 weeks
PROPANOL, 1(OR 2)-(2-METHOXYMETHYLETHOXY)-, ACETATE	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	4 weeks
Cyclohexanone	Inhalation	liver	Not classified	Rat	NOAEL 2.5 mg/l	13 weeks
Cyclohexanone	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 2.5 mg/l	13 weeks
Cyclohexanone	Inhalation	heart	Not classified	Rat	NOAEL 2.5 mg/l	13 weeks
Cyclohexanone	Inhalation	skin	Not classified	Rat	NOAEL 2.5 mg/l	13 weeks
Cyclohexanone	Inhalation	endocrine system	Not classified	Rat	NOAEL 2.5 mg/l	13 weeks
Cyclohexanone	Inhalation	gastrointestinal tract	Not classified	Rat	NOAEL 2.5 mg/l	13 weeks
Cyclohexanone	Inhalation	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 2.5 mg/l	13 weeks
Cyclohexanone	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 2.5 mg/l	13 weeks
Cyclohexanone	Inhalation	immune system	Not classified	Rat	NOAEL 2.5 mg/l	13 weeks
Cyclohexanone	Inhalation	muscles	Not classified	Rat	NOAEL 2.5 mg/l	13 weeks
Cyclohexanone	Inhalation	nervous system	Not classified	Rat	NOAEL 2.5 mg/l	13 weeks
Cyclohexanone	Inhalation	eyes	Not classified	Rat	NOAEL 2.5 mg/l	13 weeks
Cyclohexanone	Inhalation	respiratory system	Not classified	Rat	NOAEL 2.5 mg/l	13 weeks
Cyclohexanone	Inhalation	vascular system	Not classified	Rat	NOAEL 2.5 mg/l	13 weeks
Cyclohexanone	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 407 mg/kg/day	3 months
Cyclohexanone	Ingestion	eyes	Not classified	Rat	NOAEL 407 mg/kg/day	3 months
Cyclohexanone	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 407 mg/kg/day	3 months
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
Organic pigment	Ingestion	heart	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Organic pigment	Ingestion	endocrine system	Not classified	Rat	NOAEL	28 days

					1,000 mg/kg/day	
Organic pigment	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Organic pigment	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Organic pigment	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Organic pigment	Ingestion	immune system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Organic pigment	Ingestion	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Organic pigment	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Organic pigment	Ingestion	respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 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	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Inhalation	endocrine system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Inhalation	gastrointestinal tract	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Inhalation	hematopoietic system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Inhalation	muscles	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Inhalation	kidney and/or bladder	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Inhalation	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	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Ingestion	skin	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Ingestion	endocrine system	Not classified	Mouse	NOAEL 1,000	103 weeks

					mg/kg/day	
Xylene	Ingestion	bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Ingestion	immune system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Ingestion	nervous system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Ingestion	respiratory system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
NICKEL, 5,5'-AZOBIS-2,4,6(1H,3H,5H)-PYRIMIDINETRIONE COMPLEXES	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Ethylbenzene	Inhalation	auditory system	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 0.9 mg/l	13 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	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	Not classified	Multiple animal species	NOAEL 4.2 mg/l	90 days
Ethylbenzene	Inhalation	muscles	Not classified	Multiple animal species	NOAEL 4.2 mg/l	90 days
Ethylbenzene	Inhalation	heart	Not classified	Multiple animal species	NOAEL 3.3 mg/l	2 years
Ethylbenzene	Inhalation	immune system	Not classified	Multiple animal species	NOAEL 3.3 mg/l	2 years
Ethylbenzene	Inhalation	respiratory system	Not classified	Multiple animal species	NOAEL 3.3 mg/l	2 years
Ethylbenzene	Ingestion	liver	Not classified	Rat	NOAEL 680 mg/kg/day	6 months
Ethylbenzene	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 680 mg/kg/day	6 months
N-Butyl Methacrylate	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 11 mg/l	28 days
N-Butyl Methacrylate	Inhalation	olfactory system	Not classified	Rat	NOAEL 1.8 mg/l	28 days
N-Butyl Methacrylate	Inhalation	heart	Not classified	Rat	NOAEL 11 mg/l	28 days
N-Butyl Methacrylate	Inhalation	endocrine system	Not classified	Rat	NOAEL 11 mg/l	28 days
N-Butyl Methacrylate	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 11 mg/l	28 days
N-Butyl Methacrylate	Inhalation	liver	Not classified	Rat	NOAEL 11 mg/l	28 days
N-Butyl Methacrylate	Inhalation	nervous system	Not classified	Rat	NOAEL 11 mg/l	28 days

N-Butyl Methacrylate	Inhalation	respiratory system	Not classified	Rat	NOAEL 11 mg/l	28 days
N-Butyl Methacrylate	Ingestion	olfactory system	Not classified	Rat	NOAEL 60 mg/kg/day	90 days
N-Butyl Methacrylate	Ingestion	endocrine system	Not classified	Rat	NOAEL 360 mg/kg/day	90 days
N-Butyl Methacrylate	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 360 mg/kg/day	90 days
N-Butyl Methacrylate	Ingestion	liver	Not classified	Rat	NOAEL 360 mg/kg/day	90 days
N-Butyl Methacrylate	Ingestion	nervous system	Not classified	Rat	NOAEL 360 mg/kg/day	90 days
N-Butyl Methacrylate	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 360 mg/kg/day	90 days
N-Butyl Methacrylate	Ingestion	heart	Not classified	Rat	NOAEL 360 mg/kg/day	90 days
N-Butyl Methacrylate	Ingestion	immune system	Not classified	Rat	NOAEL 360 mg/kg/day	90 days
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	Ingestion	olfactory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 50 mg/kg/day	91 days
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	Ingestion	liver	Not classified	Rat	NOAEL 500 mg/kg/day	91 days
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 500 mg/kg/day	91 days
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	Ingestion	heart	Not classified	Rat	NOAEL 500 mg/kg/day	91 days
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	Ingestion	skin	Not classified	Rat	NOAEL 500 mg/kg/day	91 days
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	Ingestion	endocrine system	Not classified	Rat	NOAEL 500 mg/kg/day	91 days
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 500 mg/kg/day	91 days
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 500 mg/kg/day	91 days
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	Ingestion	immune system	Not classified	Rat	NOAEL 500 mg/kg/day	91 days
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	Ingestion	nervous system	Not classified	Rat	NOAEL 500 mg/kg/day	91 days

(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	Ingestion	eyes	Not classified	Rat	NOAEL 500 mg/kg/day	91 days
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	Ingestion	respiratory system	Not classified	Rat	NOAEL 500 mg/kg/day	91 days
(3',4'-EPOXYCYCLOHEXYLMETHYL) 3,4-EPOXYCYCLOHEXANECARBOXYLATE	Ingestion	vascular system	Not classified	Rat	NOAEL 500 mg/kg/day	91 days
Toluene	Inhalation	auditory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Toluene	Inhalation	nervous system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Toluene	Inhalation	eyes	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Toluene	Inhalation	olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Toluene	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2.3 mg/l	15 months
Toluene	Inhalation	heart	Not classified	Rat	NOAEL 11.3 mg/l	15 weeks
Toluene	Inhalation	liver	Not classified	Rat	NOAEL 11.3 mg/l	15 weeks
Toluene	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 11.3 mg/l	15 weeks
Toluene	Inhalation	endocrine system	Not classified	Rat	NOAEL 1.1 mg/l	4 weeks
Toluene	Inhalation	immune system	Not classified	Mouse	NOAEL Not available	20 days
Toluene	Inhalation	bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 1.1 mg/l	8 weeks
Toluene	Inhalation	hematopoietic system	Not classified	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	vascular system	Not classified	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	gastrointestinal tract	Not classified	Multiple animal species	NOAEL 11.3 mg/l	15 weeks
Toluene	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 625 mg/kg/day	13 weeks
Toluene	Ingestion	heart	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	liver	Not classified	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	kidney and/or bladder	Not classified	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 600 mg/kg/day	14 days
Toluene	Ingestion	endocrine system	Not classified	Mouse	NOAEL 105 mg/kg/day	28 days
Toluene	Ingestion	immune system	Not classified	Mouse	NOAEL 105 mg/kg/day	4 weeks
NICKEL SALTS OF NAPHTHENIC ACIDS	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	similar compounds	NOAEL not available	13 weeks

Aspiration Hazard

Name	Value
Xylene	Aspiration hazard
Ethylbenzene	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

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. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

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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