

Safety Data Sheet

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Transportation version number:

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

3MTM Process Color 882N Traffic Sign Red

Product Identification Numbers

75-0301-3625-5

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Ink

1.3. Details of the supplier of the safety data sheet

ADDRESS: 3M Israel, 91 Medinat Ha'Yehudim Street, Herzeliya 46120

Telephone: 09-961 5000

E Mail: innovation.il@mmm.com

Website: www.3M.com/il

1.4. Emergency telephone number

09-961 5000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

The health and environmental classifications of this material have been derived using the calculation method, except in cases where test data are available or the physical form impacts classification. Classification(s) based on test data or physical form are noted below, if applicable.

Aspiration hazard classification does not apply due to the kinematic viscosity of the product.

CLASSIFICATION:

Flammable Liquid, Category 3 - Flam. Liq. 3; H226 Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315 Serious Eye Damage/Eye Irritation, Category 1 - Eye Dam. 1; H318 Skin Sensitization, Category 1 - Skin Sens. 1; H317 Carcinogenicity, Category 1A - Carc. 1A; H350

Specific Target Organ Toxicity-Single Exposure, Category 3 - STOT SE 3; H336 Hazardous to the Aquatic Environment (Chronic), Category 2 - Aquatic Chronic 2; H411

For full text of H phrases, see Section 16.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

SIGNAL WORD

Danger

Symbols:

GHS02 (Flame) |GHS05 (Corrosion) |GHS07 (Exclamation mark) |GHS08 (Health Hazard) |GHS09 (Environment) |

Pictograms











Ingredients:

Ingredient	C.A.S. No.	EC No.	% by Wt
Hydrocarbons, C10 aromatics, <1% naphthalene		918-811-1	10 - 30
Cyclohexanone	108-94-1	203-631-1	3 - 7
D-LIMONENE	5989-27-5	227-813-5	< 0.5
N-Butyl Methacrylate	97-88-1	202-615-1	< 0.3
2,3-EPOXYPROPYL NEODECANOATE	26761-45-5	247-979-2	< 0.2
Naphthenic Acid	1338-24-5	215-662-8	< 0.2
NICKEL SALTS OF NAPHTHENIC ACIDS	61788-71-4	263-000-1	< 0.2

HAZARD STATEMENTS:

H226 Flammable liquid and vapor.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H317 May cause an allergic skin reaction.
H350 May cause cancer.
H336 May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P201 Obtain special instructions before use.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P261A Avoid breathing vapors.

P280I Wear protective gloves, eye protection, face protection, and if needed, respiratory protection (see

SDS Section 8).

Response:

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

P310

Immediately call a POISON CENTER or doctor.

SUPPLEMENTAL INFORMATION:

Supplemental Precautionary Statements:

Restricted to professional users.

19% of the mixture consists of components of unknown acute oral toxicity.

19% of the mixture consists of components of unknown acute dermal toxicity.

31% of the mixture consists of components of unknown acute inhalation toxicity.

Contains 19% of components with unknown hazards to the aquatic environment.

Nota P applied.

2.3. Other hazards

None known

This material does not contain any substances that are assessed to be a PBT or vPvB

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Ingredient	Identifier(s)	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Acrylic polymers	Trade Secret	10 - 30	Substance not classified as hazardous
2-Propenoic acid, 2-methyl-, polymer with butyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate	(CAS-No.) 28262- 63-7	10 - 30	Substance not classified as hazardous
Hydrocarbons, C10 aromatics, <1% naphthalene	(EC-No.) 918-811-1	10 - 30	Asp. Tox. 1, H304 STOT SE 3, H336 EUH066 Aquatic Chronic 2, H411
Reaction mass of α,α -4-trimethyl-(1S)-3-cyclohexene-1-methanol and α,α -4-trimethyl-(1R)-3-cyclohexene-1-methanol and 1-methyl-4-(1-methylethylidene)-cyclohexanol	(EC-No.) 701-188-3	7 - 13	Skin Irrit. 2, H315 Eye Irrit. 2, H319
Cyclohexanone	(CAS-No.) 108-94- 1 (EC-No.) 203-631-1	3 - 7	Flam. Liq. 3, H226 Acute Tox. 4, H332 Acute Tox. 4, H312 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335
1-methoxy-2-propyl acetate	(CAS-No.) 108-65- 6 (EC-No.) 203-603-9	3 - 7	Flam. Liq. 3, H226 STOT SE 3, H336
Vinyl polymer C.I. PIGMENT RED 179	Trade Secret (CAS-No.) 5521-	1 - 5 0.5 - 5	Substance not classified as hazardous STOT RE 2, H373

	21.2	l	1
	31-3		
T. 1 1.1	(EC-No.) 226-866-1	1 7	A T 1 11204
Light aromatic solvent naphtha	(CAS-No.) 64742-	1 - 5	Asp. Tox. 1, H304
(petroleum)	95-6 (EC.N) 265-100-0		Nota P
	(EC-No.) 265-199-0		Flam. Liq. 3, H226
			Skin Irrit. 2, H315
			STOT SE 3, H336
	T. 1 C	. 2	Aquatic Chronic 3, H412
Organic pigment	Trade Secret	< 2	Substance not classified as hazardous
Xylene	(CAS-No.) 1330-	< 2	Flam. Liq. 3, H226
	20-7		Acute Tox. 4, H332
	(EC-No.) 215-535-7		Acute Tox. 4, H312
			Skin Irrit. 2, H315
			Nota C
			Asp. Tox. 1, H304
			Eye Irrit. 2, H319
			STOT SE 3, H335
			STOT RE 2, H373
1 2 4 TRU AFTINA DENIZENE	(0.4.0.31) 0.5. (2(0.5	Aquatic Chronic 3, H412
1,2,4-TRIMETHYLBENZENE	(CAS-No.) 95-63-6	0.5 -	Flam. Liq. 3, H226
	(EC-No.) 202-436-9	1.5	Acute Tox. 4, H332
			Skin Irrit. 2, H315
			Eye Irrit. 2, H319
			STOT SE 3, H335
2 DODECUL 1 (2.2.(((0.4.0.31) 70700	.0.7	Aquatic Chronic 2, H411
3-DODECYL-1-(2,2,6,6-	(CAS-No.) 79720-	< 0.7	Skin Corr. 1A, H314
TETRAMETHYL-4-PIPERIDINYL) -	19-7		Eye Dam. 1, H318
2,5-PYRROLIDINEDIONE	(EC-No.) 279-242-6		STOT SE 3, H335
			Aquatic Acute 1, H400,M=10
D I B (O) IEI IE	(0.40.11.) 5000	. 0. 5	Aquatic Chronic 1, H410,M=10
D-LIMONENE	(CAS-No.) 5989-	< 0.5	Flam. Liq. 3, H226
	27-5		Asp. Tox. 1, H304
	(EC-No.) 227-813-5		Skin Irrit. 2, H315
			Skin Sens. 1B, H317
			Aquatic Acute 1, H400,M=1
			Aquatic Chronic 3, H412
N. D. de I. Medler and de	(CAC N.) 07 00 1	< 0.2	Nota C
N-Butyl Methacrylate	(CAS-No.) 97-88-1	< 0.3	Flam. Liq. 3, H226
	(EC-No.) 202-615-1		Skin Irrit. 2, H315
			Eye Irrit. 2, H319
			Skin Sens. 1B, H317
			STOT SE 3, H335
Nambahalan a	(CACNI-) 01 00 0	< 0.2	Nota D
Naphthalene	(CAS-No.) 91-20-3	< 0.3	Acute Tox. 4, H302
	(EC-No.) 202-049-5		Carc. 2, H351
			Aquatic Acute 1, H400,M=1
2.2 EDOVVDDODVI	(CACAL) 26761	< 0.2	Aquatic Chronic 1, H410,M=1
2,3-EPOXYPROPYL	(CAS-No.) 26761-	< 0.2	Skin Sens. 1A, H317
NEODECANOATE	45-5		Muta. 2, H341
	(EC-No.) 247-979-2		Repr. 2, H361d
NIGNEL GALEGOESIA PROPERTY CONTRACTOR	VQ + Q > 1 - 22	. 0. 7	Aquatic Chronic 2, H411
NICKEL SALTS OF NAPHTHENIC	(CAS-No.) 61788-	< 0.2	Acute Tox. 4, H302
ACIDS	71-4		Resp. Sens. 1, H334
	(EC-No.) 263-000-1		Skin Sens. 1, H317
			Muta. 2, H341

			Carc. 1A, H350i
			STOT RE 1, H372
			Aquatic Acute 1, H400,M=10
			Aquatic Chronic 1, H410,M=10
Naphthenic Acid	(CAS-No.) 1338-	< 0.2	Eye Irrit. 2, H319
	24-5		Skin Sens. 1A, H317
	(EC-No.) 215-662-8		Repr. 2, H361d
			Aquatic Chronic 2, H411
GLYCOLIC ACID, BUTYL ESTER	(CAS-No.) 7397-	< 0.2	Eye Dam. 1, H318
	62-8		Repr. 2, H361d
	(EC-No.) 230-991-7		STOT SE 3, H335
Cumene	(CAS-No.) 98-82-8	< 0.2	Flam. Liq. 3, H226
	(EC-No.) 202-704-5		Asp. Tox. 1, H304
			Carc. 1B, H350
			STOT SE 3, H335
			Aquatic Chronic 2, H411
			STOT SE 3, H336
Toluene	(CAS-No.) 108-88-	< 0.2	Flam. Liq. 2, H225
	3		Asp. Tox. 1, H304
	(EC-No.) 203-625-9		Skin Irrit. 2, H315
			Repr. 2, H361d
			STOT SE 3, H336
			STOT RE 2, H373
			Aquatic Chronic 3, H412

Any entry in the Identifier(s) column that begins with the numbers 6, 7, 8, or 9 are a Provisional List Number provided by ECHA pending publication of the official EC Inventory Number for the substance. Please see section 16 for the full text of any H statements referred to in this section

Specific Concentration Limits

Ingredient	Identifier(s)	Specific Concentration Limits
2,3-EPOXYPROPYL NEODECANOATE	(CAS-No.) 26761-45-5 (EC-No.) 247-979-2	(C >= 0.001%) Skin Sens. 1A, H317

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

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.

Eve 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

The most important symptoms and effects based on the CLP classification include:

Irritation to the skin (localized redness, swelling, itching, and dryness). Allergic skin reaction (redness, swelling, blistering, and itching). Dermal defatting (localized redness, itching, drying and cracking of skin). 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).

4.3. Indication of any immediate medical attention and special treatment required

Not applicable.

SECTION 5: Fire-fighting measures

5.1. 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. Exposure to extreme heat can give rise to thermal decomposition.

Hazardous Decomposition or By-Products

<u>Substance</u>	Condition
Hydrocarbons	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Chloride	During Combustion

5.3. Advice 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. 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.

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Do not breathe thermal decomposition products. For industrial/occupational 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/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.

7.3. Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

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
Toluene	108-88-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcin,Ototoxicant
Cyclohexanone	108-94-1	ACGIH	TWA:20 ppm;STEL:50 ppm	A3: Confirmed animal carcin.,Danger of cutaneous absorption
Xylene	1330-20-7	ACGIH	TWA:20 ppm	
Naphthalene	91-20-3	ACGIH	TWA:10 ppm	A3: Confirmed animal carcin.,Danger of cutaneous absorption
1,2,4-TRIMETHYLBENZENE	95-63-6	ACGIH	TWA:10 ppm	A4: Not class. as human carcin
Cumene	98-82-8	ACGIH	TWA:5 ppm	A3: Confirmed animal carcin.

ACGIH: American Conference of Governmental Industrial Hygienists

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

For those situations where the material might be exposed to extreme overheating due to misuse or equipment failure, use with appropriate local exhaust ventilation sufficient to maintain levels of thermal decomposition products below their exposure guidelines. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Use explosion-proof ventilation equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Full Face Shield

Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (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:

For those situations where the material might be exposed to extreme overheating due to misuse or equipment failure, use a positive pressure supplied-air respirator.

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates 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

information on basic physical and chemical properties	
Physical state	Liquid
Color	Red
Odor	Moderate Solvent
Odor threshold	No Data Available
Melting point/freezing point	Not Applicable
Boiling point/boiling range	>=140 °C
Flammability	Flammable Liquid: Category 3.

Flammable Limits(LEL)	No Data Available
Flammable Limits(UEL)	No Data Available
Flash Point	52.2 °C [Test Method:Closed Cup]
Autoignition temperature	No Data Available
Decomposition temperature	No Data Available
рН	substance/mixture reacts with water
Kinematic Viscosity	1,196 mm2/sec
Water solubility	No Data Available
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Vapor Pressure	<=493.3 Pa [@ 20 °C]
Density	0.99 g/ml
Relative Density	0.99 [<i>Ref Std</i> :WATER=1]
Relative Vapor Density	No Data Available
Particle Characteristics	Not Applicable

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds

No Data Available

Evaporation rate <=0.05 [*Ref Std*:BUOAC=1]

Molecular weightNot ApplicablePercent volatile50 - 65 % weight

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 agree with the EU material classification in Section 2 and/or the ingredient

classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from internal hazard assessments.

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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.

Allergic Respiratory Reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest.

May cause additional health effects (see below).

Skin Contact:

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

May cause additional health effects (see below).

Eye Contact:

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

Ingestion:

May be harmful if swallowed.

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Prolonged or repeated exposure may cause target organ effects:

Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

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.

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 >20 - =50 mg/l
Overall product	Ingestion		No data available; calculated ATE >2,000 - =5,000 mg/kg
Hydrocarbons, C10 aromatics, <1% naphthalene	Inhalation- Vapor	Professio nal judgeme nt	LC50 estimated to be 20 - 50 mg/l
Hydrocarbons, C10 aromatics, <1% naphthalene	Dermal	Rabbit	LD50 > 2,000 mg/kg
Hydrocarbons, C10 aromatics, <1% naphthalene	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
Reaction mass of α , α -4-trimethyl-(1S)-3-cyclohexene-1-methanol and α , α -4-trimethyl-(1R)-3-cyclohexene-1-methanol and 1-methyl-4-(1-methylethylidene)-cyclohexanol	Dermal	Rat	LD50 > 2,000 mg/kg
Reaction mass of α , α -4-trimethyl-(1S)-3-cyclohexene-1-methanol and α , α -4-trimethyl-(1R)-3-cyclohexene-1-methanol and 1-methyl-4-(1-methylethylidene)-cyclohexanol	Inhalation- Dust/Mist (4 hours)	Rat	LC50 > 4.76 mg/l
Reaction mass of α , α -4-trimethyl-(1S)-3-cyclohexene-1-methanol and α , α -4-trimethyl-(1R)-3-cyclohexene-1-methanol and 1-methyl-4-(1-methylethylidene)-cyclohexanol	Ingestion	Rat	LD50 > 2,000 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
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
Light aromatic solvent naphtha (petroleum)	Dermal	Rabbit	LD50 > 2,000 mg/kg
Light aromatic solvent naphtha (petroleum)	Inhalation- Vapor (4 hours)	Rat	LC50 > 5.2 mg/l
Light aromatic solvent naphtha (petroleum)	Ingestion	Rat	LD50 > 5,000 mg/kg
Vinyl polymer	Dermal	Rabbit	LD50 > 8,000 mg/kg
Vinyl polymer	Ingestion	Rat	LD50 > 8,000 mg/kg
C.I. PIGMENT RED 179	Dermal	Rat	LD50 > 2,500 mg/kg
C.I. PIGMENT RED 179 C.I. PIGMENT RED 179	Ingestion Inhalation-	Rat similar	LD50 > 5,000 mg/kg LC50 > 5.2 mg/l
C.I. FIGMENT RED 1/9	Dust/Mist (4 hours)	compoun	LC30 > 3.2 ling/1
1,2,4-TRIMETHYLBENZENE	Dermal	Rabbit	LD50 > 3,160 mg/kg
1,2,4-TRIMETHYLBENZENE	Inhalation- Vapor (4 hours)	Rat	LC50 18 mg/l
1,2,4-TRIMETHYLBENZENE	Ingestion	Rat	LD50 3,400 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
Organic pigment	Dermal		LD50 estimated to be > 5,000 mg/kg
Organic pigment	Inhalation- Dust/Mist		LC50 estimated to be > 12.5 mg/l
Organic pigment	Ingestion		LD50 estimated to be > 5,000 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	Rat	LC50 > 5 mg/l

D-DIMONENE		(4 hours)		
D-LIMONENE	3-DODECYL-1-(2,2,6,6-TETRAMETHYL-4-PIPERIDINYL) -	Ingestion	Rat	LD50 > 2,000 mg/kg
Vapor (4 hours)	2,5-PYRROLIDINEDIONE			
hours hours Dermal Rabbit LD50 > 5,000 mg/kg	D-LIMONENE		Mouse	LC50 > 3.14 mg/l
D-LIMONENE Dermal Rabbit LD50 > 5,000 mg/kg				
D-LIMONENE				
N-Butyl Methacrylate Dermal Inhalation-Dust/Mist (4 hours) Rat (4 hours) LC50 > 2,000 mg/kg N-Butyl Methacrylate Inhalation-Dust/Mist (4 hours) Rat (2 hours) LC50 > 2,000 mg/kg N-Butyl Methacrylate Ingestion Rat (2 hours) LD50 > 2,000 mg/kg Naphthalene Inhalation-Vapor Human LD50 estimated to be 2,000 - 5,000 mg/kg Naphthalene Ingestion Human LD50 estimated to be 300 - 2,000 mg/kg Naphthenic Acid Dermal Rabbit LD50 > 20,000 mg/kg Naphthenic Acid Ingestion Rat LD50 5,880 mg/kg Cumene Dermal Rabbit LD50 > 3,160 mg/kg Cumene Inhalation-Vapor (4 hours) NICKEL SALTS OF NAPHTHENIC ACIDS Ingestion Rat LD50 2,260 mg/kg Toluene Ingestion Rat LD50 12,000 mg/kg Toluene Inhalation-Vapor (4 hours) Toluene Inhalation-Vapor (4 hours) GLYCOLIC ACID, BUTYL ESTER Dermal Rat LD50 5,550 mg/kg GLYCOLIC ACID, BUTYL ESTER Inhalation-Dust/Mist (4 hours) GLYCOLIC ACID, BUTYL ESTER Ingestion Rat LD50 4,595 mg/kg GLYCOLIC ACID, BUTYL ESTER Ingestion Rat LD50 4,595 mg/kg			+	, & &
N-Butyl Methacrylate				
Dust/Mist (4 hours) N-Butyl Methacrylate Ingestion Rat LD50 > 2,000 mg/kg				
N-Butyl Methacrylate	N-Butyl Methacrylate		Rat	LC50 > 27 mg/l
N-Butyl Methacrylate Ingestion Rat LD50 > 2,000 mg/kg Naphthalene Dermal Human LD50 estimated to be 2,000 - 5,000 mg/kg Naphthalene Inhalation-Vapor LC50 estimated to be 20 - 50 mg/l Naphthalene Ingestion Human LD50 estimated to be 300 - 2,000 mg/kg Naphthenic Acid Dermal Rabbit LD50 > 20,000 mg/kg Naphthenic Acid Dermal Rat LD50 > 5,880 mg/kg Cumene Dermal Rabbit LD50 > 3,160 mg/kg Cumene Inhalation-Vapor (4 hours) Rat LC50 39.4 mg/l NICKEL SALTS OF NAPHTHENIC ACIDS Ingestion Rat LD50 2,260 mg/kg Toluene Dermal Rat LD50 3,160 mg/kg Toluene Inhalation-Vapor (4 hours) Rat LD50 12,000 mg/kg Toluene Inhalation-Vapor (4 hours) Rat LD50 3,550 mg/kg GLYCOLIC ACID, BUTYL ESTER Inhalation-Dust/Mist (4 hours) LD50 estimated to be 2,000 - 5,000 mg/kg GLYCOLIC ACID, BUTYL ESTER Inpestion Rat LD50 4,595 mg/kg GLYCOLIC ACID, BUTYL ESTER <td></td> <td></td> <td></td> <td></td>				
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hours) hours) Toluene Ingestion Rat LD50 5,550 mg/kg GLYCOLIC ACID, BUTYL ESTER Dermal LD50 estimated to be 2,000 - 5,000 mg/kg GLYCOLIC ACID, BUTYL ESTER Inhalation-Dust/Mist (4 hours) Rat (4 hours) LC50 > 6.2 mg/l GLYCOLIC ACID, BUTYL ESTER Ingestion Rat LD50 4,595 mg/kg 2,3-EPOXYPROPYL NEODECANOATE Dermal Rat LD50 > 2,000 mg/kg	Toluene		Rat	LC50 30 mg/l
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Dust/Mist (4 hours) Use of the control o	GLYCOLIC ACID, BUTYL ESTER	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
GLYCOLIC ACID, BUTYL ESTER Ingestion Rat LD50 4,595 mg/kg 2,3-EPOXYPROPYL NEODECANOATE Dermal Rat LD50 > 2,000 mg/kg	GLYCOLIC ACID, BUTYL ESTER	Inhalation-	Rat	LC50 > 6.2 mg/l
GLYCOLIC ACID, BUTYL ESTER Ingestion Rat LD50 4,595 mg/kg 2,3-EPOXYPROPYL NEODECANOATE Dermal Rat LD50 > 2,000 mg/kg	, in the second	Dust/Mist		
2,3-EPOXYPROPYL NEODECANOATE Dermal Rat LD50 > 2,000 mg/kg		(4 hours)		
	GLYCOLIC ACID, BUTYL ESTER	Ingestion	Rat	LD50 4,595 mg/kg
2,3-EPOXYPROPYL NEODECANOATE Ingestion Rat LD50 > 2,000 mg/kg	2,3-EPOXYPROPYL NEODECANOATE	Dermal	Rat	
	2,3-EPOXYPROPYL NEODECANOATE	Ingestion	Rat	LD50 > 2,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Hydrocarbons, C10 aromatics, <1% naphthalene	Rabbit	Minimal irritation
Reaction mass of α,α -4-trimethyl-(1S)-3-cyclohexene-1-methanol and α,α -4-trimethyl-(1R)-3-cyclohexene-1-methanol and 1-methyl-4-(1-methylethylidene)-cyclohexanol	Rabbit	Irritant
1-methoxy-2-propyl acetate	Rabbit	No significant irritation
Cyclohexanone	Rabbit	Irritant
Light aromatic solvent naphtha (petroleum)	Rabbit	Irritant
Vinyl polymer	Professio	No significant irritation
	nal judgemen t	
C.I. PIGMENT RED 179	Rabbit	No significant irritation
1,2,4-TRIMETHYLBENZENE	Rabbit	Irritant
Xylene	Rabbit	Mild irritant
Organic pigment	Professio nal judgemen t	No significant irritation
3-DODECYL-1-(2,2,6,6-TETRAMETHYL-4-PIPERIDINYL) -2,5- PYRROLIDINEDIONE	Rabbit	Corrosive
D-LIMONENE	Rabbit	Irritant
N-Butyl Methacrylate	Rabbit	Irritant
Naphthalene	Rabbit	Minimal irritation

Naphthenic Acid	Rabbit	Mild irritant
Cumene	Rabbit	Minimal irritation
NICKEL SALTS OF NAPHTHENIC ACIDS	Professio	Minimal irritation
	nal	
	judgemen	
	t	
Toluene	Rabbit	Irritant
GLYCOLIC ACID, BUTYL ESTER	Rabbit	No significant irritation
2,3-EPOXYPROPYL NEODECANOATE	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Hydrocarbons, C10 aromatics, <1% naphthalene	Rabbit	Mild irritant
Reaction mass of α,α -4-trimethyl-(1S)-3-cyclohexene-1-methanol and α,α -4-trimethyl-(1R)-3-cyclohexene-1-methanol and 1-methyl-4-(1-methylethylidene)-cyclohexanol	Rabbit	Moderate irritant
1-methoxy-2-propyl acetate	Rabbit	Mild irritant
Cyclohexanone	In vitro data	Corrosive
Light aromatic solvent naphtha (petroleum)	Rabbit	Mild irritant
Vinyl polymer	Professio nal judgemen t	No significant irritation
C.I. PIGMENT RED 179	Rabbit	No significant irritation
1,2,4-TRIMETHYLBENZENE	Rabbit	Mild irritant
Xylene	Rabbit	Mild irritant
Organic pigment	Professio nal judgemen t	No significant irritation
3-DODECYL-1-(2,2,6,6-TETRAMETHYL-4-PIPERIDINYL) -2,5- PYRROLIDINEDIONE	Rabbit	Corrosive
D-LIMONENE	Rabbit	Mild irritant
N-Butyl Methacrylate	Rabbit	Mild irritant
Naphthalene	Rabbit	No significant irritation
Naphthenic Acid	Rabbit	Moderate irritant
Cumene	Rabbit	Mild irritant
NICKEL SALTS OF NAPHTHENIC ACIDS	Professio nal judgemen t	Mild irritant
Toluene	Rabbit	Moderate irritant
GLYCOLIC ACID, BUTYL ESTER	Rabbit	Corrosive
2,3-EPOXYPROPYL NEODECANOATE	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value
Hydrocarbons, C10 aromatics, <1% naphthalene	Guinea	Not classified
	pıg	
Reaction mass of α , α -4-trimethyl-(1S)-3-cyclohexene-1-methanol and α , α -4-	Human	Not classified
trimethyl-(1R)-3-cyclohexene-1-methanol and 1-methyl-4-(1-methylethylidene)-	and	
cyclohexanol	animal	
1-methoxy-2-propyl acetate	Guinea	Not classified
	pig	
Cyclohexanone	Guinea	Not classified
	pig	
Light aromatic solvent naphtha (petroleum)	Guinea	Not classified
	pig	
C.I. PIGMENT RED 179	Mouse	Not classified
1,2,4-TRIMETHYLBENZENE	Guinea	Not classified
	pig	
D-LIMONENE	Mouse	Sensitizing

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3MTM Process Color 882N Traffic Sign Red

N-Butyl Methacrylate	Guinea	Sensitizing
	pig	
Naphthenic Acid	Guinea	Sensitizing
	pig	
Cumene	Guinea	Not classified
	pig	
NICKEL SALTS OF NAPHTHENIC ACIDS	similar	Sensitizing
	compoun	
	ds	
Toluene	Guinea	Not classified
	pig	
GLYCOLIC ACID, BUTYL ESTER	Guinea	Not classified
	pig	
2,3-EPOXYPROPYL NEODECANOATE	Guinea	Sensitizing
	pig	

Respiratory Sensitization

Name	Species	Value
NICKEL SALTS OF NAPHTHENIC ACIDS	Professio nal judgemen	Sensitizing
	t	

Germ Cell Mutagenicity

Name	Route	Value		
Hydrocarbons, C10 aromatics, <1% naphthalene	In Vitro	Not mutagenic		
Hydrocarbons, C10 aromatics, <1% naphthalene	In vivo	Not mutagenic		
Reaction mass of α , α -4-trimethyl-(1S)-3-cyclohexene-1-methanol and α , α -4-trimethyl-(1R)-3-cyclohexene-1-methanol and 1-methyl-4-(1-methylethylidene)-cyclohexanol	In Vitro	Not mutagenic		
1-methoxy-2-propyl acetate	In Vitro	Not mutagenic		
Cyclohexanone	In Vitro	Not mutagenic		
Cyclohexanone	In vivo	Not mutagenic		
C.I. PIGMENT RED 179	In Vitro	Not mutagenic		
1,2,4-TRIMETHYLBENZENE	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		
D-LIMONENE	In Vitro	Not mutagenic		
D-LIMONENE	In vivo	Not mutagenic		
N-Butyl Methacrylate	In Vitro	Not mutagenic		
N-Butyl Methacrylate	In vivo	Not mutagenic		
Naphthenic Acid	In vivo	Not mutagenic		
Naphthenic Acid	In Vitro	Some positive data exist, but the data are not sufficient for classification		
Cumene	In Vitro	Not mutagenic		
Cumene	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		
Toluene	In Vitro	Not mutagenic		
Toluene	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		

Carcinogenicity

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

Light aromatic solvent naphtha (petroleum)	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
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
D-LIMONENE	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
N-Butyl Methacrylate	Inhalation	Multiple animal species	Carcinogenic
Naphthalene	Inhalation	Multiple animal species	Carcinogenic
Cumene	Inhalation	Multiple animal species	Carcinogenic
NICKEL SALTS OF NAPHTHENIC ACIDS	Inhalation	similar compoun ds	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

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration	
Hydrocarbons, C10 aromatics, <1% naphthalene	Not Specified	Not classified for female reproduction	Rat	NOAEL Not available	2 generation	
Hydrocarbons, C10 aromatics, <1% naphthalene	Not Specified	Not classified for male reproduction	Rat	NOAEL Not available	2 generation	
Hydrocarbons, C10 aromatics, <1% naphthalene	Not Specified	Not classified for development	Rat	NOAEL Not available	2 generation	
Reaction mass of α,α -4-trimethyl-(1S)-3-cyclohexene-1-methanol and α,α -4-trimethyl-(1R)-3-cyclohexene-1-methanol and 1-methyl-4-(1-methylethylidene)-cyclohexanol	Ingestion	Not classified for development	Rat	NOAEL 600 mg/kg/day	during gestation	
Reaction mass of α,α -4-trimethyl-(1S)-3-cyclohexene-1-methanol and α,α -4-trimethyl-(1R)-3-cyclohexene-1-methanol and 1-methyl-4-(1-methylethylidene)-cyclohexanol	Ingestion	Not classified for female reproduction	Rat	NOAEL 250 mg/kg/day	premating into lactation	
Reaction mass of α,α-4-trimethyl-(1S)-3-cyclohexene-1-methanol and α,α-4-trimethyl-(1R)-3-cyclohexene-1-methanol and 1-methyl-4-(1-methylethylidene)-cyclohexanol	Ingestion	Toxic to male reproduction	Rat	NOAEL 250 mg/kg/day	5 weeks	
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	
Cyclohexanone	Inhalation	Not classified for female reproduction	Rat	NOAEL 4	2 generation	

D 15 0

				mg/l	
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
Light aromatic solvent naphtha (petroleum)	Inhalation	Not classified for female reproduction	Rat	NOAEL 1,500 ppm	2 generation
Light aromatic solvent naphtha (petroleum)	Inhalation	Not classified for male reproduction	Rat	NOAEL 1,500 ppm	2 generation
Light aromatic solvent naphtha (petroleum)	Inhalation	Not classified for development	Rat	NOAEL 500 ppm	2 generation
C.I. PIGMENT RED 179	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
C.I. PIGMENT RED 179	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	30 days
C.I. PIGMENT RED 179	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	during gestation
1,2,4-TRIMETHYLBENZENE	Inhalation	Not classified for female reproduction	Rat	NOAEL 1.2 mg/l	3 months
1,2,4-TRIMETHYLBENZENE	Inhalation	Not classified for male reproduction	Rat	NOAEL 1.2 mg/l	3 months
1,2,4-TRIMETHYLBENZENE	Inhalation	Not classified for development	Rat	NOAEL 1.5 mg/l	during gestation
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
D-LIMONENE	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	premating & during gestation
D-LIMONENE	Ingestion	Not classified for development	Multiple animal species	NOAEL 591 mg/kg/day	during organogenesis
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
Naphthenic Acid	Ingestion	Not classified for female reproduction	Rat	NOAEL 900 mg/kg/day	premating into lactation
Naphthenic Acid	Ingestion	Not classified for male reproduction	Rat	NOAEL 900 mg/kg/day	28 days
Naphthenic Acid	Ingestion	Toxic to development	Rat	NOAEL 100 mg/kg/day	premating into lactation
Cumene	Inhalation	Not classified for development	Rabbit	NOAEL 11.3 mg/l	during organogenesis
NICKEL SALTS OF NAPHTHENIC ACIDS	Ingestion	Toxic to development	similar compoun ds	NOAEL not available	2 generation
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	during

				mg/kg/day	gestation
Toluene	Inhalation	Toxic to development	Human	NOAEL Not	poisoning
				available	and/or abuse
GLYCOLIC ACID, BUTYL ESTER	Ingestion	Toxic to development	Rat	NOAEL 250	during
				mg/kg/day	organogenesis
2,3-EPOXYPROPYL NEODECANOATE	Ingestion	Not classified for female reproduction	Rat	NOAEL 300	2 generation
				mg/kg/day	
2,3-EPOXYPROPYL NEODECANOATE	Ingestion	Not classified for male reproduction	Rat	NOAEL 300	2 generation
<u> </u>				mg/kg/day	
2,3-EPOXYPROPYL NEODECANOATE	Ingestion	Toxic to development	Rat	NOAEL 50	2 generation
		-		mg/kg/day	

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
Hydrocarbons, C10 aromatics, <1% naphthalene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Reaction mass of α , α -4-trimethyl-(1S)-3-cyclohexene-1-methanol and α , α -4-trimethyl-(1R)-3-cyclohexene-1-methanol and 1-methyl-4-(1-methylethylidene)-cyclohexanol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	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	
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	Professio nal judgeme nt	NOAEL Not available	
Light aromatic solvent naphtha (petroleum)	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Professio nal judgeme nt	NOAEL Not available	
Light aromatic solvent naphtha (petroleum)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Professio nal judgeme nt	NOAEL Not available	
Light aromatic solvent naphtha (petroleum)	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professio nal judgeme nt	NOAEL Not available	
1,2,4- TRIMETHYLBENZENE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
1,2,4- TRIMETHYLBENZENE	Inhalation	respiratory irritation	May cause respiratory irritation	official classifica tion	NOAEL Not available	
1,2,4-	Ingestion	central nervous	May cause drowsiness or	Professio	NOAEL Not	

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TRIMETHYLBENZENE		system depression	dizziness	nal	available	
				judgeme nt		
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 Human dizziness		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	
D-LIMONENE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
D-LIMONENE	Ingestion	nervous system	Not classified		NOAEL Not available	
N-Butyl Methacrylate	Inhalation	respiratory irritation	May cause respiratory irritation		NOAEL Not available	
Naphthalene	Ingestion	blood	Causes damage to organs	Human	NOAEL Not available	poisoning and/or abuse
Naphthenic Acid	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Cumene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	not available
Cumene	Inhalation	respiratory irritation	May cause respiratory irritation	Human	LOAEL 0.2 mg/l	occupational exposure
Cumene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	not available
Toluene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Toluene	Inhalation		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
GLYCOLIC ACID, BUTYL ESTER	Inhalation	respiratory irritation	May cause respiratory irritation	Rat	NOAEL 0.4 mg/l	4 hours

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure
	110000	Turget organ(s)	, mac	Species	T est Ttesuit	Duration
Reaction mass of α , α -4-trimethyl-(1S)-3-	Inhalation	hematopoietic system eyes	Not classified	Rat	NOAEL 2.23 mg/l	13 weeks
cyclohexene-1-methanol and α,α-4-trimethyl-(1R)-		respiratory system				
3-cyclohexene-1-methanol and 1-methyl-4-(1-						
methylethylidene)- cyclohexanol						

Reaction mass of α, α -4-	Ingestion	liver kidney and/or	Not classified	Rat	NOAEL 750	5 weeks
trimethyl-(1S)-3- cyclohexene-1-methanol and α,α-4-trimethyl-(1R)- 3-cyclohexene-1-methanol and 1-methyl-4-(1-		bladder heart skin endocrine system gastrointestinal tract bone, teeth, nails, and/or hair			mg/kg/day	
methylethylidene)- cyclohexanol		hematopoietic system immune system muscles nervous system respiratory system				
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
Cyclohexanone	Inhalation	liver kidney and/or bladder heart skin endocrine system gastrointestinal tract bone, teeth, nails, and/or hair hematopoietic system immune system muscles nervous system eyes respiratory system vascular system	Not classified	Rat	NOAEL 2.5 mg/l	13 weeks
Cyclohexanone	Ingestion	hematopoietic system eyes kidney and/or bladder	Not classified	Rat	NOAEL 407 mg/kg/day	3 months
C.I. PIGMENT RED 179	Inhalation	respiratory system	May cause damage to organs though prolonged or repeated exposure	similar compoun ds	NOAEL 0.001 mg/l	90 days
1,2,4- TRIMETHYLBENZENE	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.5 mg/l	3 months
1,2,4- TRIMETHYLBENZENE	Inhalation	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.1 mg/l	3 months
1,2,4- TRIMETHYLBENZENE	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
1,2,4- TRIMETHYLBENZENE	Inhalation	liver kidney and/or bladder heart endocrine system gastrointestinal tract immune system	Not classified	Rat	NOAEL 1.2 mg/l	3 months
1,2,4- TRIMETHYLBENZENE	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 600 mg/kg/day	14 days
1,2,4- TRIMETHYLBENZENE	Ingestion	liver immune system kidney and/or bladder	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 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
D-LIMONENE	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 75 mg/kg/day	103 weeks
D-LIMONENE	Ingestion	liver	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
D-LIMONENE	Ingestion	heart endocrine system bone, teeth, nails, and/or hair hematopoietic system immune system muscles nervous system respiratory system	Not classified	Rat	NOAEL 600 mg/kg/day	103 weeks
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 endocrine system hematopoietic system liver nervous system 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 hematopoietic system liver nervous system kidney and/or bladder heart immune system	Not classified	Rat	NOAEL 360 mg/kg/day	90 days
Naphthalene	Dermal	blood	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Naphthalene	Dermal	eyes	Not classified	Human	NOAEL Not available	occupational exposure
Naphthalene	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.01 mg/l	13 weeks
Naphthalene	Inhalation	blood	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Naphthalene	Inhalation	eyes	Not classified	Human	NOAEL Not available	occupational exposure
Naphthalene	Ingestion	blood	Causes damage to organs through	Human	NOAEL Not	poisoning

			prolonged or repeated exposure		available	and/or abuse
Naphthalene	Ingestion	eyes	May cause damage to organs though prolonged or repeated	Rabbit	LOAEL 500 mg/kg/day	15 days
Naphthenic Acid	Ingestion	endocrine system liver heart skin gastrointestinal tract bone, teeth, nails, and/or hair hematopoietic system immune system muscles nervous system eyes kidney and/or bladder respiratory system vascular system	exposure Not classified	Rat	NOAEL 881 mg/kg/day	90 days
Cumene	Inhalation	auditory system endocrine system hematopoietic system liver nervous system eyes	Not classified	Rat	NOAEL 59 mg/l	13 weeks
Cumene	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 4.9 mg/l	13 weeks
Cumene	Inhalation	respiratory system	Not classified	Rat	NOAEL 59 mg/l	13 weeks
Cumene	Ingestion	kidney and/or bladder heart endocrine system hematopoietic system liver respiratory system	Not classified	Rat	NOAEL 769 mg/kg/day	6 months
NICKEL SALTS OF NAPHTHENIC ACIDS	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	similar compoun ds	NOAEL not available	13 weeks
Toluene	Inhalation	auditory system nervous system eyes 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 liver kidney and/or bladder	Not classified	Rat	NOAEL 11.3 mg/l	15 weeks
Toluene	Inhalation	endocrine system	Not classified	Rat	NOAEL 1.1 mg/l	4 weeks
Toluene	Inhalation	immune system	Not classified	Mouse	NOAEL Not available	20 days
Toluene	Inhalation	bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 1.1 mg/l	8 weeks
Toluene	Inhalation	hematopoietic system vascular system	Not classified	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	gastrointestinal tract	Not classified	Multiple animal species	NOAEL 11.3 mg/l	15 weeks
Toluene	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 625 mg/kg/day	13 weeks
Toluene	Ingestion	heart	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	liver kidney and/or bladder	Not classified	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 600 mg/kg/day	14 days

Toluene	Ingestion	endocrine system	Not classified	Mouse	NOAEL 105 mg/kg/day	28 days
Toluene	Ingestion	immune system	Not classified	Mouse	NOAEL 105 mg/kg/day	4 weeks
GLYCOLIC ACID, BUTYL ESTER	Ingestion	blood kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 100 mg/kg/day	90 days
2,3-EPOXYPROPYL NEODECANOATE	Ingestion	endocrine system hematopoietic system liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	90 days
2,3-EPOXYPROPYL NEODECANOATE	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 100 mg/kg/day	90 days
2,3-EPOXYPROPYL NEODECANOATE	Ingestion	heart skin gastrointestinal tract bone, teeth, nails, and/or hair immune system nervous system eyes respiratory system vascular system	Not classified	Rat	NOAEL 1,000 mg/kg/day	90 days

Aspiration Hazard

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Name	Value
Hydrocarbons, C10 aromatics, <1% naphthalene	Aspiration hazard
Light aromatic solvent naphtha (petroleum)	Aspiration hazard
1,2,4-TRIMETHYLBENZENE	Aspiration hazard
Xylene	Aspiration hazard
D-LIMONENE	Aspiration hazard
Cumene	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.

11.2. Information on other hazards

This material does not contain any substances that are assessed to be an endocrine disruptor for human health.

SECTION 12: Ecological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available

Material	CAS#	Organism	Туре	Exposure	Test Endpoint	Test Result
2-Propenoic acid, 2-	28262-63-7	N/A	Data not available	N/A	N/A	N/A
methyl-, polymer with			or insufficient for			
butyl 2-methyl-2-			classification			
propenoate and methyl						
2-methyl-2-propenoate						
Hydrocarbons, C10	918-811-1	Green algae	Estimated	72 hours	EL50	3 mg/l
aromatics, <1%						
naphthalene						
Hydrocarbons, C10	918-811-1	Rainbow Trout	Estimated	96 hours	LL50	5 mg/l
aromatics, <1%						
naphthalene						

Hydrocarbons, C10 aromatics, <1% naphthalene	918-811-1	Water flea	Estimated	48 hours	EL50	10 mg/l
Hydrocarbons, C10 aromatics, <1%	918-811-1	Green algae	Estimated	72 hours	NOEL	1 mg/l
naphthalene Reaction mass of α , α -4-trimethyl-(1S)-3-	701-188-3	Green algae	Experimental	72 hours	EC50	68 mg/l
cyclohexene-1- methanol and α,α-4- trimethyl-(1R)-3- cyclohexene-1- methanol and 1-methyl- 4-(1-methylethylidene)-						
cyclohexanol	701 100 2	W. G		40.1	EGG	72 //
Reaction mass of α , α -4-trimethyl-(1S)-3-cyclohexene-1-methanol and α , α -4-trimethyl-(1R)-3-cyclohexene-1-methanol and 1-methyl-4-(1-methylethylidene)-cyclohexanol	/01-188-3	Water flea	Experimental	48 hours	EC50	73 mg/l
Reaction mass of α,α-4- trimethyl-(1S)-3-	701-188-3	Zebra Fish	Experimental	96 hours	LC50	62-80 mg/l
cyclohexene-1- methanol and α,α-4- trimethyl-(1R)-3- cyclohexene-1- methanol and 1-methyl- 4-(1-methylethylidene)- cyclohexanol						
Reaction mass of α,α -4- trimethyl-(1S)-3- cyclohexene-1- methanol and α,α -4- trimethyl-(1R)-3- cyclohexene-1- methanol and 1-methyl- 4-(1-methylethylidene)- cyclohexanol	701-188-3	Green algae	Experimental	72 hours	NOEC	3.9 mg/l
Reaction mass of α,α-4- trimethyl-(1S)-3- cyclohexene-1- methanol and α,α-4- trimethyl-(1R)-3- cyclohexene-1- methanol and 1-methyl- 4-(1-methylethylidene)- cyclohexanol		Redworm	Experimental	14 days	LC50	499-799 mg/kg (Dry Weight)
1-methoxy-2-propyl acetate	108-65-6	Activated sludge	Experimental	30 minutes	EC10	>1,000 mg/l
1-methoxy-2-propyl acetate	108-65-6	Green algae	Experimental	72 hours	ErC50	>1,000 mg/l
1-methoxy-2-propyl acetate	108-65-6	Rainbow Trout	Experimental	96 hours	LC50	134 mg/l
1-methoxy-2-propyl acetate	108-65-6	Water flea	Experimental	48 hours	EC50	370 mg/l
1-methoxy-2-propyl acetate	108-65-6	Green algae	Experimental	72 hours	NOEC	1,000 mg/l
1-methoxy-2-propyl acetate	108-65-6	Water flea	Experimental	21 days	NOEC	100 mg/l
Cyclohexanone	108-94-1	Activated sludge	Experimental	30 minutes	EC50	>1,000 mg/l
Cyclohexanone	108-94-1	Algae or other aquatic plants	Experimental	72 hours	ErC50	32.9 mg/l
Cyclohexanone	108-94-1	Fathead Minnow	Experimental	96 hours	LC50	527 mg/l

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Cyclohexanone	108-94-1	Water flea	Experimental	24 hours	EC50	800 mg/l
Cyclonexanone	108-94-1	water flea	Experimental	24 nours	ECSU	800 mg/1
Cyclohexanone	108-94-1	Algae or other aquatic plants	Experimental	72 hours	ErC10	3.56 mg/l
C.I. PIGMENT RED 179	5521-31-3	Activated sludge	Experimental	30 minutes	EC50	>1,000 mg/l
C.I. PIGMENT RED 179	5521-31-3	Golden Orfe	Experimental	96 hours	LC50	>10,000 mg/l
C.I. PIGMENT RED 179	5521-31-3	Green algae	Experimental	72 hours	ErC50	>100 mg/l
C.I. PIGMENT RED 179	5521-31-3	Water flea	Experimental	48 hours	EC50	>100 mg/l
C.I. PIGMENT RED 179	5521-31-3	Green algae	Experimental	72 hours	EC50	100 mg/l
Light aromatic solvent naphtha (petroleum)	64742-95-6	Fathead Minnow	Estimated	96 hours	LL50	8.2 mg/l
Light aromatic solvent naphtha (petroleum)	64742-95-6	Green algae	Estimated	72 hours	EL50	7.9 mg/l
Light aromatic solvent naphtha (petroleum)	64742-95-6	Water flea	Estimated	48 hours	EL50	3.2 mg/l
Light aromatic solvent naphtha (petroleum)	64742-95-6	Green algae	Estimated	72 hours	NOEL	0.22 mg/l
Light aromatic solvent naphtha (petroleum)	64742-95-6	Water flea	Experimental	21 days	NOEL	2.6 mg/l
Vinyl polymer	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Organic pigment	Trade Secret	Duckweed	Analogous Compound	7 days	No tox obs at lmt of water sol	>100 mg/l
Organic pigment	Trade Secret	Green algae	Analogous Compound	72 hours	ErC50	>100 mg/l
Organic pigment	Trade Secret	Water flea	Analogous Compound	48 hours	No tox obs at lmt of water sol	>100 mg/l
Organic pigment	Trade Secret	Zebra Fish	Experimental	96 hours	LC50	>5,000 mg/l
Organic pigment	Trade Secret	Duckweed	Analogous Compound	7 days	No tox obs at lmt of water sol	100 mg/l
Organic pigment	Trade Secret	Green algae	Analogous Compound	72 hours	NOEC	>=100 mg/l
Organic pigment	Trade Secret	Activated sludge	Experimental	30 minutes	EC20	>700 mg/l
Xylene	1330-20-7	Green algae	Analogous Compound	73 hours	ErC50	4.36 mg/l
Xylene	1330-20-7	Rainbow Trout	Analogous Compound	96 hours	LC50	2.6 mg/l
Xylene	1330-20-7	Water flea	Analogous Compound	48 hours	EC50	3.82 mg/l
Xylene	1330-20-7	Green algae	Analogous Compound	73 hours	NOEC	0.44 mg/l
Xylene	1330-20-7	Water flea	Analogous Compound	7 days	NOEC	0.96 mg/l
Xylene	1330-20-7	Rainbow Trout	Experimental	56 days	NOEC	1.3 mg/l
Xylene	1330-20-7	Activated sludge	Analogous Compound	30 minutes	EC50	>198 mg/l
Xylene	1330-20-7	Redworm	Experimental	56 days	NOEC	42.6 mg/kg (Dry Weight)
Xylene	1330-20-7	Soil microbes	Experimental	28 days	EC50	>1,000 mg/kg (Dry Weight)
1,2,4- TRIMETHYLBENZE NE	95-63-6	Fathead Minnow	Experimental	96 hours	LC50	7.72 mg/l
1,2,4- TRIMETHYLBENZE NE	95-63-6	Mysid Shrimp	Experimental	96 hours	LC50	2 mg/l
1,2,4- TRIMETHYLBENZE	95-63-6	Water flea	Experimental	48 hours	LC50	3.6 mg/l

NE						
1,2,4- TRIMETHYLBENZE NE	95-63-6	Water flea	Analogous Compound	21 days	NOEC	0.4 mg/l
3-DODECYL-1- (2,2,6,6- TETRAMETHYL-4- PIPERIDINYL) -2,5- PYRROLIDINEDION E	79720-19-7	Common Carp	Experimental	96 hours	LC50	0.097 mg/l
3-DODECYL-1- (2,2,6,6- TETRAMETHYL-4- PIPERIDINYL) -2,5- PYRROLIDINEDION	79720-19-7	Green algae	Experimental	72 hours	ErC50	0.374 mg/l
3-DODECYL-1- (2,2,6,6- TETRAMETHYL-4- PIPERIDINYL) -2,5- PYRROLIDINEDION E	79720-19-7	Water flea	Experimental	48 hours	EC50	0.501 mg/l
3-DODECYL-1- (2,2,6,6- TETRAMETHYL-4- PIPERIDINYL) -2,5- PYRROLIDINEDION E	79720-19-7	Green algae	Experimental	72 hours	ErC10	0.236 mg/l
3-DODECYL-1- (2,2,6,6- TETRAMETHYL-4- PIPERIDINYL) -2,5- PYRROLIDINEDION E	79720-19-7	Activated sludge	Experimental	3 hours	EC50	58.9 mg/l
D-LIMONENE	5989-27-5	Fathead Minnow	Experimental	96 hours	LC50	0.702 mg/l
D-LIMONENE	5989-27-5	Green algae	Experimental	72 hours	ErC50	0.32 mg/l
D-LIMONENE	5989-27-5	Water flea	Experimental	48 hours	EC50	0.307 mg/l
D-LIMONENE	5989-27-5	Fathead Minnow	Experimental	8 days	EC10	0.32 mg/l
D-LIMONENE	5989-27-5	Green algae	Experimental	72 hours	ErC10	0.174 mg/l
D-LIMONENE	5989-27-5	Water flea	Experimental	21 days	NOEC	0.153 mg/l
Naphthalene	91-20-3	Diatom	Experimental	72 hours	EbC50	0.4 mg/l
Naphthalene	91-20-3	Invertebrate	Experimental	96 hours	LC50	2.35 mg/l
Naphthalene	91-20-3	Rainbow Trout	Experimental	96 hours	LC50	0.11 mg/l
Naphthalene	91-20-3	Water flea	Experimental	48 hours	EC50	1.6 mg/l
Naphthalene	91-20-3	Coho salmon	Experimental	40 days	NOEC	0.37 mg/l
Naphthalene	91-20-3	Duckweed	Experimental	8 days	NOEC	16 mg/l
Naphthalene	91-20-3	Invertebrate	Experimental	21 days	NOEC	0.5 mg/l
Naphthalene	91-20-3	Pink Salmon	Experimental	40 days	NOEC	0.12 mg/l
Naphthalene	91-20-3	Bacteria	Experimental	24 hours	IC50	29 mg/l
N-Butyl Methacrylate	97-88-1	Diatom	Experimental	96 hours	ErC50	>1,260 mg/l

N-Butyl Methacrylate 97-88-1 Modaka Experimental 96 hours LC50 \$.57 mg/l							
N-Butyl Methacrylate 97-88-1 Water flea Experimental 48 hours ECS0 25.4 mg/l	N-Butyl Methacrylate	97-88-1	Green algae	Experimental	72 hours	ErC50	23 mg/l
N-Butyl Methacrylate 97-88-1 Diatom Experimental 96 hours NOEC 530 mg/l	N-Butyl Methacrylate	97-88-1	Medaka	Experimental	96 hours	LC50	5.57 mg/l
N-Butyl Methacrylate 97-88-1 Green algae Experimental 72 hours NOEC 7.1 mg/l	N-Butyl Methacrylate	97-88-1	Water flea	Experimental	48 hours	EC50	25.4 mg/l
N-Butyl Methacrylate 97-88-1 Water flea Experimental 21 days NOEC 1.1 mg/l	N-Butyl Methacrylate	97-88-1	Diatom	Experimental	96 hours	NOEC	530 mg/l
N-Billy Methacrylate 97-88-1 Activated sludge Experimental 3 hours EC50 204 mg/l	N-Butyl Methacrylate	97-88-1	Green algae	Experimental	72 hours	NOEC	7.1 mg/l
2.3-EPOXYPROPYL 26761-45-5 Activated sludge Experimental 3 hours NOEC 500 mg/l NEODECANOATE 2761-45-5 Green algae Experimental 72 hours ErC50 2.9 mg/l NEODECANOATE 2761-45-5 Rainbow Trout Experimental 72 hours ErC50 2.9 mg/l NEODECANOATE 2761-45-5 Water flea Experimental 48 hours EC50 4.8 mg/l NEODECANOATE 2.7 forl - 45-5 Green algae Experimental 48 hours EC50 4.8 mg/l NEODECANOATE 2.7 forl - 45-5 Green algae Experimental 72 hours EC50 1 mg/l NEODECANOATE 2.7 forl - 45-5 Green algae Experimental 72 hours EC50 2.6 mg/l NEODECANOATE 2.7 forl - 45-5 Green algae Experimental 72 hours EC50 2.6 mg/l NEODECANOATE 2.7 forl - 45-5 Green algae Experimental 72 hours EC50 2.6 mg/l NEODECANOATE 2.7 mg/l 2.7 mg/l 2.7 mg/l NEODECANOATE 2.7 mg/l 2.7 mg/l 2.7 mg/l 2.7 mg/l NEODECANOATE 2.7 mg/l	N-Butyl Methacrylate	97-88-1	Water flea	Experimental	21 days	NOEC	1.1 mg/l
NEODECANOATE 2.3 FROXYPROPYL 2.2 FROXYPROPYL 2.2 FROXYPROPYL 2.2 FROXYPROPYL 2.2 FROXYPROPYL NEODECANOATE 2.2 FROXYPROPYL NEODECANOATE 2.3 FROXYPROPYL NEODECANOATE 2.4 FROXYPROPYL 1.4 FRO	N-Butyl Methacrylate	97-88-1	Activated sludge	Experimental	3 hours	EC50	204 mg/l
2.3-FPOXYPROPYL D. 26761-45-5 Green algae Experimental 72 hours ErC50 2.9 mg/l	,	26761-45-5	Activated sludge	Experimental	3 hours	NOEC	500 mg/l
2.3-EPOXYPROPYL 2.761-45-5 Rainbow Trout Experimental 96 hours LC50 5 mg/l	2,3-EPOXYPROPYL	26761-45-5	Green algae	Experimental	72 hours	ErC50	2.9 mg/l
		26761-45-5	Rainbow Trout	Experimental	96 hours	LC50	5 mg/l
2.3-EPOXYPROPYL 26761-45-5 Green algae Experimental 96 hours NOEC 1 mg/l		26761-45-5	Water flea	Experimental	48 hours	EC50	4.8 mg/l
Cumene 98-82-8 Green algae Experimental 72 hours EC50 2.6 mg/l Cumene 98-82-8 Mysid Shrimp Experimental 96 hours EC50 1.2 mg/l Cumene 98-82-8 Rainbow Trout Experimental 96 hours LC50 2.7 mg/l Cumene 98-82-8 Water flea Experimental 48 hours EC50 2.14 mg/l Cumene 98-82-8 Green algae Experimental 72 hours NOEC 0.22 mg/l Cumene 98-82-8 Water flea Experimental 21 days NOEC 0.35 mg/l GLYCOLIC ACID, BUTYL ESTER Bacteria Experimental 18 hours EC50 2,320 mg/l BUTYL ESTER 397-62-8 Water flea Experimental 24 hours EC50 280 mg/l BUTYL ESTER 1338-24-5 Copepod Analogous Compound D6 hours LC50 4.8 mg/l Naphthenic Acid 1338-24-5 Fathead Minnow Experimental 96 hours LC50 5.62 mg/l	2,3-EPOXYPROPYL	26761-45-5	Green algae	Experimental	96 hours	NOEC	1 mg/l
Cumene 98-82-8 Mysid Shrimp Experimental 96 hours EC50 1.2 mg/l Cumene 98-82-8 Rainbow Trout Experimental 96 hours LC50 2.7 mg/l Cumene 98-82-8 Water flea Experimental 48 hours EC50 2.14 mg/l Cumene 98-82-8 Green algae Experimental 72 hours NOEC 0.22 mg/l Cumene 98-82-8 Water flea Experimental 21 days NOEC 0.25 mg/l GLYCOLIC ACID, BUTYL ESTER Water flea Experimental 18 hours EC50 2,320 mg/l BUTYL ESTER Rajyr-62-8 Water flea Experimental 24 hours EC50 280 mg/l BUTYL ESTER Naphthenic Acid 1338-24-5 Copepod Analogous Gongous Gongou	Cumene	98-82-8	Activated sludge	Experimental	3 hours	EC10	>2,000 mg/l
Cumene 98-82-8 Rainbow Trout Experimental 96 hours LC50 2.7 mg/l Cumene 98-82-8 Water flea Experimental 48 hours EC50 2.14 mg/l Cumene 98-82-8 Green algae Experimental 72 hours NOEC 0.22 mg/l Cumene 98-82-8 Water flea Experimental 21 days NOEC 0.35 mg/l GLYCOLIC ACID, BUTYL ESTER 7397-62-8 Bacteria Experimental 18 hours EC50 2,320 mg/l BUTYL ESTER 7397-62-8 Water flea Experimental 24 hours EC50 280 mg/l BUTYL ESTER Naphthenic Acid 1338-24-5 Copepod Analogous 96 hours LC50 4.8 mg/l Naphthenic Acid 1338-24-5 Fathead Minnow Experimental 96 hours LC50 5.62 mg/l Naphthenic Acid 1338-24-5 Fathead Minnow Experimental 7 days NOEC 0.4 mg/l Naphthenic Acid 1338-24-5 Water flea Experimental 7 days<	Cumene	98-82-8	Green algae	Experimental	72 hours	EC50	2.6 mg/l
Cumene 98-82-8 Water flea Experimental 48 hours EC50 2.14 mg/l Cumene 98-82-8 Green algae Experimental 72 hours NOEC 0.22 mg/l Cumene 98-82-8 Water flea Experimental 21 days NOEC 0.35 mg/l GLYCOLIC ACID, BUTYL ESTER 7397-62-8 Bacteria Experimental 18 hours EC50 2.320 mg/l BUTYL ESTER 7397-62-8 Water flea Experimental 24 hours EC50 280 mg/l BUTYL ESTER 1338-24-5 Copepod Analogous 96 hours LC50 4.8 mg/l Naphthenic Acid 1338-24-5 Fathead Minnow Experimental 96 hours LC50 5.62 mg/l Naphthenic Acid 1338-24-5 Water flea Experimental 48 hours EC50 20 mg/l Naphthenic Acid 1338-24-5 Fathead Minnow Experimental 7 days NOEC 0.4 mg/l NICKEL SALTS OF NAPHTHENIC ACIDS 61788-71-4 Fathead Minnow Estimated 96 hours	Cumene	98-82-8	Mysid Shrimp	Experimental	96 hours	EC50	1.2 mg/l
Cumene 98-82-8 Green algae Experimental 72 hours NOEC 0.22 mg/l Cumene 98-82-8 Water flea Experimental 21 days NOEC 0.35 mg/l GLYCOLIC ACID, BUTYL ESTER 7397-62-8 Bacteria Experimental 18 hours EC50 2,320 mg/l GLYCOLIC ACID, BUTYL ESTER 7397-62-8 Water flea Experimental 24 hours EC50 280 mg/l Naphthenic Acid 1338-24-5 Copepod Analogous Compound 16 hours LC50 4.8 mg/l Naphthenic Acid 1338-24-5 Fathead Minnow Experimental 96 hours LC50 5.62 mg/l Naphthenic Acid 1338-24-5 Fathead Minnow Experimental 48 hours EC50 20 mg/l Naphthenic Acid 1338-24-5 Water flea Experimental 7 days NOEC 0.4 mg/l Naphthenic Acid 1338-24-5 Water flea Experimental 7 days NOEC 0.5 mg/l Nickel SaltTs OF 61788-71-4 Fathead Minnow Estimated	Cumene	98-82-8	Rainbow Trout	Experimental	96 hours	LC50	2.7 mg/l
Cumene 98-82-8 Water flea Experimental 21 days NOEC 0.35 mg/l	Cumene	98-82-8	Water flea	Experimental	48 hours	EC50	2.14 mg/l
Experimental 18 hours EC50 2,320 mg/l	Cumene	98-82-8	Green algae	Experimental	72 hours	NOEC	0.22 mg/l
BUTYL ESTER	Cumene	98-82-8	Water flea	Experimental	21 days	NOEC	0.35 mg/l
GLYCOLIC ACID, BUTYL ESTER Water flea Experimental 24 hours EC50 280 mg/l	GLYCOLIC ACID, BUTYL ESTER	7397-62-8	Bacteria	Experimental	18 hours	EC50	2,320 mg/l
Naphthenic Acid 1338-24-5 Copepod Analogous Compound 96 hours LC50 4.8 mg/l Naphthenic Acid 1338-24-5 Fathead Minnow Experimental 96 hours LC50 5.62 mg/l Naphthenic Acid 1338-24-5 Water flea Experimental 48 hours EC50 20 mg/l Naphthenic Acid 1338-24-5 Fathead Minnow Experimental 7 days NOEC 0.4 mg/l Naphthenic Acid 1338-24-5 Water flea Experimental 7 days NOEC 0.4 mg/l NICKEL SALTS OF NAPHTHENIC ACIDS 61788-71-4 Fathead Minnow Estimated 96 hours LC50 2.5 mg/l NICKEL SALTS OF NAPHTHENIC ACIDS 61788-71-4 Fish Estimated 96 hours LC50 9.5 mg/l NICKEL SALTS OF NAPHTHENIC ACIDS 61788-71-4 Water flea Estimated 72 hours ErC50 0.44 mg/l NICKEL SALTS OF NAPHTHENIC ACIDS 61788-71-4 African clawed frog Estimated 101 hours EC10 0.54 mg/l NICKEL SALTS OF NAPHTHENIC ACIDS	GLYCOLIC ACID,	7397-62-8	Water flea	Experimental	24 hours	EC50	280 mg/l
Naphthenic Acid 1338-24-5 Fathead Minnow Experimental 96 hours LC50 5.62 mg/l							
Naphthenic Acid 1338-24-5 Water flea Experimental 48 hours EC50 20 mg/l Naphthenic Acid 1338-24-5 Fathead Minnow Experimental 7 days NOEC 0.4 mg/l Naphthenic Acid 1338-24-5 Water flea Experimental 7 days NOEC 1.5 mg/l NICKEL SALTS OF NAPHTHENIC ACIDS NICKEL SALTS OF 61788-71-4 Green algae Estimated 72 hours ErC10 0.031 mg/l NICKEL SALTS OF 61788-71-4 Scud Estimated 28 days EC10 522 mg/l				Compound			
Naphthenic Acid 1338-24-5 Fathead Minnow Experimental 7 days NOEC 0.4 mg/l Naphthenic Acid 1338-24-5 Water flea Experimental 7 days NOEC 1.5 mg/l NICKEL SALTS OF NAPHTHENIC ACIDS NAPHTHENIC ACI				1			
Naphthenic Acid 1338-24-5 Water flea Experimental 7 days NOEC 1.5 mg/l NICKEL SALTS OF NAPHTHENIC ACIDS NICKEL SALTS OF NI	•			1			
NICKEL SALTS OF NAPHTHENIC ACIDS 61788-71-4 Fathead Minnow Estimated 96 hours LC50 2.5 mg/l					7 days		
NAPHTHENIC ACIDS NICKEL SALTS OF NAPHTHENIC ACIDS		1338-24-5		-	,		
NAPHTHENIC ACIDS NICKEL SALTS OF NAPHTHENIC ACIDS	NAPHTHENIC ACIDS						
NAPHTHENIC ACIDS Water flea Estimated 48 hours LC50 0.083 mg/l NICKEL SALTS OF NAPHTHENIC ACIDS 61788-71-4 African clawed frog Estimated 101 hours EC10 0.54 mg/l NICKEL SALTS OF NAPHTHENIC ACIDS 61788-71-4 Green algae Estimated 72 hours ErC10 0.031 mg/l NICKEL SALTS OF NAPHTHENIC ACIDS 61788-71-4 Scud Estimated 28 days EC10 522 mg/l	NAPHTHENIC ACIDS		Fish	Estimated	96 hours		
NAPHTHENIC ACIDS NICKEL SALTS OF NAPHTHENIC ACIDS	NICKEL SALTS OF NAPHTHENIC ACIDS	61788-71-4		Estimated	72 hours		
NICKEL SALTS OF NAPHTHENIC ACIDS NICKEL SALTS OF 61788-71-4 Scud Estimated 101 hours EC10 0.54 mg/l 0.031 mg/l 28 days EC10 522 mg/l	NICKEL SALTS OF NAPHTHENIC ACIDS		Water flea	Estimated	48 hours	LC50	
NAPHTHENIC ACIDS Scud Estimated 28 days EC10 522 mg/l		61788-71-4	African clawed frog	Estimated	101 hours		
	NICKEL SALTS OF NAPHTHENIC ACIDS	61788-71-4	Green algae	Estimated	72 hours		0.031 mg/l
	NICKEL SALTS OF NAPHTHENIC ACIDS	61788-71-4	Scud	Estimated	28 days	EC10	522 mg/l

NICKEL SALTS OF	61788-71-4	Water flea	Estimated	7 days	EC10	0.007 mg/l
NAPHTHENIC ACIDS				·		
NICKEL SALTS OF	61788-71-4	Zebra Fish	Estimated	8 days	NOEC	0.25 mg/l
NAPHTHENIC ACIDS						
NICKEL SALTS OF	61788-71-4	Activated sludge	Estimated	30 minutes	EC50	210 mg/l
NAPHTHENIC ACIDS						
NICKEL SALTS OF	61788-71-4	Mallard Duck	Estimated	90 days	NOEC	1,274 ppm diet
NAPHTHENIC ACIDS					7010	
NICKEL SALTS OF	61788-71-4	Redworm	Estimated	28 days	EC10	303 mg/kg (Dry Weight)
NAPHTHENIC ACIDS		0 11 1		20.1	Total o	100 # 60 *** 10
NICKEL SALTS OF	61788-71-4	Soil microbes	Estimated	28 days	EC10	102 mg/kg (Dry Weight)
NAPHTHENIC ACIDS NICKEL SALTS OF	61788-71-4	Springtail	Estimated	28 days	NOEC	232 mg/kg (Dry Weight)
NAPHTHENIC ACIDS		Springtaii	Estimated	28 days	NOEC	232 mg/kg (Dry weight)
NICKEL SALTS OF	61788-71-4	Tomato	Estimated	21 days	NOEC	70 mg/kg (Dry Weight)
NAPHTHENIC ACIDS		Tomato	Estimated	21 days	NOEC	70 mg/kg (Dry Weight)
Toluene	108-88-3	Coho Salmon	Experimental	96 hours	LC50	5.5 mg/l
Tolucile	100-00-3	Cono Sannon	Experimental	90 Hours	LC30	3.3 mg/1
Toluene	108-88-3	Grass Shrimp	Experimental	96 hours	LC50	9.5 mg/l
Totache	100 00 5	Grass Sirring	Experimental	70 Hours	LECSO	J.3 mg/1
Toluene	108-88-3	Green algae	Experimental	72 hours	EC50	12.5 mg/l
Total	100 00 5	Green argue	2.npermientar	72 110 415	12000	12.0 mg.1
Toluene	108-88-3	Leopard frog	Experimental	9 days	LC50	0.39 mg/l
			•			
Toluene	108-88-3	Pink Salmon	Experimental	96 hours	LC50	6.41 mg/l
Toluene	108-88-3	Water flea	Experimental	48 hours	EC50	3.78 mg/l
Toluene	108-88-3	Coho Salmon	Experimental	40 days	NOEC	1.39 mg/l
Toluene	108-88-3	Diatom	Experimental	72 hours	NOEC	10 mg/l
Toluene	108-88-3	Water flea	Experimental	7 days	NOEC	0.74 mg/l
T. 1	100.00.2		77	101	1050	1000 //
Toluene	108-88-3	Activated sludge	Experimental	12 hours	IC50	292 mg/l
T. 1	100.00.2	D	F	161	NOEC	20 //
Toluene	108-88-3	Bacteria	Experimental	16 hours	NOEC	29 mg/l
Toluene	108-88-3	Bacteria	Experimental	24 hours	EC50	84 mg/l
Toluene	100-88-3	Басцепа	Experimental	24 nours	ECSU	04 mg/1
Toluene	108-88-3	Redworm	Experimental	28 days	LC50	>150 mg per kg of
Totache	100-00-3	Kedworin	Experimental	20 days	LCSU	bodyweight
Toluene	108-88-3	Soil microbes	Experimental	28 days	NOEC	<26 mg/kg (Dry Weight)
Totache	100-00-3	Son microucs	Laperinicitai	20 days	INOEC	20 mg/kg (Dry weight)
	L		L			l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
2-Propenoic acid, 2- methyl-, polymer with butyl 2-methyl-2-propenoate and methyl 2-methyl-2- propenoate	28262-63-7	Data not availbl- insufficient	N/A	N/A	N/A	N/A
Hydrocarbons, C10 aromatics, <1% naphthalene	918-811-1	Experimental Biodegradation	28 days	Biological Oxygen Demand	49.6 %BOD/C OD	OECD 301F - Manometric Respiro
Reaction mass of α , α -4-trimethyl-(1S)-3-cyclohexene-1-methanol and α , α -4-trimethyl-(1R)-3-cyclohexene-1-methanol and 1-methyl-4-(1-methylethylidene)-cyclohexanol	701-188-3	Experimental Biodegradation	28 days	evolution	80 %CO2 evolution/THC O2 evolution	OECD 310 CO2 Headspace
1-methoxy-2-propyl acetate	108-65-6	Experimental Biodegradation	28 days	Biological Oxygen Demand	87.2 %BOD/Th OD	OECD 301C - MITI (I)
1-methoxy-2-propyl acetate	108-65-6	Experimental		Dissolv. Organic	>100 %remova	similar to OECD 302B

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		Aquatic Inherent Biodegrad.		Carbon Deplet	l of DOC	
Cyclohexanone	108-94-1	Experimental Biodegradation	14 days	Biological Oxygen Demand	87 %BOD/ThO D	OECD 301C - MITI (I)
C.I. PIGMENT RED 179	5521-31-3	Experimental Biodegradation	28 days	Biological Oxygen Demand	0- 10 %BOD/ThO D	OECD 301F - Manometric Respiro
Light aromatic solvent naphtha (petroleum)	64742-95-6	Estimated Biodegradation	28 days	Biological Oxygen Demand	78 %BOD/CO D	OECD 301F - Manometric Respiro
Vinyl polymer	Trade Secret	Data not availbl- insufficient	N/A	N/A	N/A	N/A
Organic pigment	Trade Secret	Analogous Compound Biodegradation	28 days	Biological Oxygen Demand	<10 %BOD/Th OD	OECD 301F - Manometric Respiro
Xylene	1330-20-7	Analogous Compound Biodegradation	28 days	Biological Oxygen Demand	94 %BOD/ThO D	OECD 301F - Manometric Respiro
Xylene	1330-20-7	Experimental Photolysis		Photolytic half-life (in air)	1.4 days (t 1/2)	
1,2,4- TRIMETHYLBENZENE	95-63-6	Experimental Biodegradation	28 days	Biological Oxygen Demand	>60 %BOD/Th OD	OECD 301F - Manometric Respiro
1,2,4- TRIMETHYLBENZENE	95-63-6	Experimental Photolysis		Photolytic half-life (in air)	11.8 hours (t 1/2)	
3-DODECYL-1-(2,2,6,6- TETRAMETHYL-4- PIPERIDINYL) -2,5- PYRROLIDINEDIONE	79720-19-7	Experimental Biodegradation	28 days	Carbon dioxide evolution	0 %CO2 evolution/THC O2 evolution	OECD 301B - Mod. Sturm or CO2
3-DODECYL-1-(2,2,6,6- TETRAMETHYL-4- PIPERIDINYL) -2,5- PYRROLIDINEDIONE	79720-19-7	Experimental Aquatic Inherent Biodegrad.	28 days	Biological Oxygen Demand	3 %BOD/ThO D	OECD 302C - Modified MITI (II)
3-DODECYL-1-(2,2,6,6- TETRAMETHYL-4- PIPERIDINYL) -2,5- PYRROLIDINEDIONE	79720-19-7	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	>1 years (t 1/2)	OECD 111 Hydrolysis func of pH
D-LIMONENE	5989-27-5	Experimental Biodegradation	14 days	Biological Oxygen Demand	98 %BOD/ThO D	OECD 301C - MITI (I)
D-LIMONENE	5989-27-5	Experimental Biodegradation	14 days	Dissolv. Organic Carbon Deplet	>93.8 %remov al of DOC	OECD 303A - Simulated Aerobic
Naphthalene	91-20-3	Experimental Biodegradation	14 days	Carbon dioxide evolution	>99 %CO2 evolution/THC O2 evolution	
Naphthalene	91-20-3	Experimental Biodegradation	28 days	Biological Oxygen Demand	>74 %BOD/Th OD	OECD 301C - MITI (I)
Naphthalene	91-20-3	Experimental Aquatic Inherent Biodegrad.	28 days	Biological Oxygen Demand	2 %BOD/ThO D	similar to OECD 302C
Naphthalene	91-20-3	Experimental Photolysis		Photolytic half-life (in air)	1.2 days (t 1/2)	
Naphthalene	91-20-3	Experimental Soil Metabolism Aerobic	10 days	Percent degraded	90 %degraded	
N-Butyl Methacrylate	97-88-1	Experimental Biodegradation	28 days	Biological Oxygen Demand	88 %BOD/ThO	OECD 301C - MITI (I)
N-Butyl Methacrylate	97-88-1	Experimental Photolysis			5.4 hours (t 1/2)	
N-Butyl Methacrylate	97-88-1	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	>1 years (t 1/2)	OECD 111 Hydrolysis func of pH
2,3-EPOXYPROPYL NEODECANOATE	26761-45-5	Experimental Biodegradation	28 days	Biological Oxygen Demand	11.6 %BOD/Th OD	
2,3-EPOXYPROPYL NEODECANOATE	26761-45-5	Experimental Hydrolysis		Hydrolytic half-life (pH 7)		OECD 111 Hydrolysis func
Cumene	98-82-8	Experimental Biodegradation	14 days	Biological Oxygen Demand	33 %BOD/ThO	
Cumene	98-82-8	Experimental Photolysis		Photolytic half-life (in air)	4.5 days (t 1/2)	
GLYCOLIC ACID, BUTYL ESTER	7397-62-8	Experimental Biodegradation	28 days	Carbon dioxide evolution	81 %CO2 evolution/THC O2 evolution	OECD 301B - Mod. Sturm or CO2

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Naphthenic Acid	1338-24-5	Data not availbl-	N/A	N/A	N/A	N/A
		insufficient				
NICKEL SALTS OF	61788-71-4	Data not availbl-	N/A	N/A	N/A	N/A
NAPHTHENIC ACIDS		insufficient				
Toluene	108-88-3	Experimental	20 days	Biological Oxygen	80 %BOD/ThO	APHA Std Meth
		Biodegradation		Demand	D	Water/Wastewater
Toluene	108-88-3	Experimental		Photolytic half-life	5.2 days (t 1/2)	
		Photolysis		(in air)		

12.3. Bioaccumulative potential

Material	Cas No.	Test Type	Duration	Study Type	Test Result	Protocol
2-Propenoic acid, 2- methyl-, polymer with butyl 2-methyl-2- propenoate and methyl 2- methyl-2-propenoate	28262-63-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Hydrocarbons, C10 aromatics, <1% naphthalene	918-811-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Reaction mass of α,α-4- trimethyl-(1S)-3- cyclohexene-1-methanol and α,α-4-trimethyl-(1R)-3- cyclohexene-1-methanol and 1-methyl-4-(1- methylethylidene)- cyclohexanol	701-188-3	Analogous Compound Bioconcentration		Log of Octanol/H2O part. coeff	2.78	
1-methoxy-2-propyl acetate	108-65-6	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	0.36	OECD 107 log Kow shke flsk mtd
Cyclohexanone	108-94-1	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	0.86	OECD 107 log Kow shke flsk mtd
C.I. PIGMENT RED 179	5521-31-3	Modeled Bioconcentration		Bioaccumulation Factor	6.8	Catalogic™
Light aromatic solvent naphtha (petroleum)	64742-95-6	Estimated BCF - Fish	42 days	Bioaccumulation Factor	598	OECD305-Bioconcentration
Vinyl polymer	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Organic pigment	Trade Secret	Estimated Bioconcentration		Log of Octanol/H2O part. coeff	<1.3	
Xylene	1330-20-7	Experimental BCF - Fish	56 days	Bioaccumulation Factor	<=25.9	
Xylene	1330-20-7	Analogous Compound Bioconcentration		Log of Octanol/H2O part. coeff	3.2	
1,2,4- TRIMETHYLBENZENE	95-63-6	Experimental BCF - Fish	56 days	Bioaccumulation Factor	≤275	OECD305-Bioconcentration
1,2,4- TRIMETHYLBENZENE	95-63-6	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	3.63	
3-DODECYL-1-(2,2,6,6- TETRAMETHYL-4- PIPERIDINYL) -2,5- PYRROLIDINEDIONE	79720-19-7	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	≥5.7	EC A.8 Partition Coefficient
D-LIMONENE	5989-27-5	Modeled Bioconcentration		Bioaccumulation Factor	2100	Catalogic™
D-LIMONENE	5989-27-5	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	4.57	
Naphthalene	91-20-3	Experimental BCF - Fish	56 days	Bioaccumulation Factor	≤168	OECD305-Bioconcentration
Naphthalene	91-20-3	Experimental Bioconcentration		Log of Octanol/H2O part.	3.7	OECD 117 log Kow HPLC method

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				coeff		
N-Butyl Methacrylate	97-88-1	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	3.03	OECD 107 log Kow shke flsk mtd
2,3-EPOXYPROPYL NEODECANOATE	26761-45-5	Modeled Bioconcentration		Bioaccumulation Factor	28	Catalogic™
Cumene	98-82-8	Modeled Bioconcentration		Bioaccumulation Factor	140	Catalogic TM
Cumene	98-82-8	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	3.55	OECD 107 log Kow shke flsk mtd
GLYCOLIC ACID, BUTYL ESTER	7397-62-8	Modeled Bioconcentration		Bioaccumulation Factor	2.8	Catalogic TM
Naphthenic Acid	1338-24-5	Experimental BCF - Fish	10 days	Bioaccumulation Factor	4	
NICKEL SALTS OF NAPHTHENIC ACIDS	61788-71-4	Analogous Compound Bioconcentration	180 days	Bioaccumulation Factor	4	
Toluene	108-88-3	Experimental BCF - Other	72 hours	Bioaccumulation Factor	90	
Toluene	108-88-3	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	2.73	

12.4. Mobility in soil

Material	Cas No.	Test Type	Study Type	Test Result	Protocol
Reaction mass of α,α-4- trimethyl-(1S)-3- cyclohexene-1-methanol and α,α-4-trimethyl-(1R)-3- cyclohexene-1-methanol and 1-methyl-4-(1- methylethylidene)- cyclohexanol		Modeled Mobility in Soil	Кос	213 l/kg	Episuite TM
1-methoxy-2-propyl acetate	108-65-6	Experimental Mobility in Soil	Koc	4 l/kg	Episuite TM
Cyclohexanone	108-94-1	Modeled Mobility in Soil	Koc	39 l/kg	Episuite TM
Organic pigment	Trade Secret	Modeled Mobility in Soil	Koc	93,500 l/kg	Episuite TM
Xylene	1330-20-7	Analogous Compound Mobility in Soil	Koc	537 l/kg	
1,2,4- TRIMETHYLBENZENE	95-63-6	Modeled Mobility in Soil	Koc	1,400 l/kg	Episuite TM
3-DODECYL-1-(2,2,6,6- TETRAMETHYL-4- PIPERIDINYL) -2,5- PYRROLIDINEDIONE	79720-19-7	Modeled Mobility in Soil	Koc	>430000 l/kg	OECD 121 Estim. of Koc by HPLC
D-LIMONENE	5989-27-5	Modeled Mobility in Soil	Koc	9,245 l/kg	Episuite TM
Naphthalene	91-20-3	Experimental Mobility in Soil	Koc	378 l/kg	
N-Butyl Methacrylate	97-88-1	Analogous Compound Mobility in Soil	Koc	1,480 l/kg	OECD 106 Adsp-Desb Batch Equil
2,3-EPOXYPROPYL NEODECANOATE	26761-45-5	Experimental Mobility in Soil	Koc	143 l/kg	OECD 121 Estim. of Koc by HPLC
Cumene	98-82-8	Modeled Mobility in Soil	Koc	700	Episuite TM
Naphthenic Acid	1338-24-5	Experimental Mobility in Soil	Koc	660 l/kg	
Toluene	108-88-3	Experimental Mobility in Soil	Koc	37-160 l/kg	

12.5. Results of the PBT and vPvB assessment

This material does not contain any substances that are assessed to be a PBT or vPvB

12.6. Endocrine disrupting properties

This material does not contain any substances that are assessed to be an endocrine disruptor for environmental effects

12.7. Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

Dispose of waste product in a permitted industrial waste 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.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/CE and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor

EU waste code (product as sold)

080111* Waste paint and varnish containing organic solvents or other dangerous substances

200127* Paint, inks, adhesives and resins containing dangerous substances

SECTION 14: Transportation information

	Ground Transport (ADR)	Air Transport (IATA)	Marine Transport (IMDG)
14.1 UN number or ID number	UN1210	UN1210	UN1210
name	PRINTING INK(HEAVY AROMATIC SOLVENT NAPHTHA (PETROLEUM))	PRINTING INK(HEAVY AROMATIC SOLVENT NAPHTHA (PETROLEUM))	PRINTING INK(HEAVY AROMATIC SOLVENT NAPHTHA (PETROLEUM))
14.3 Transport hazard class(es)	3	3	3
14.4 Packing group	III	III	III
14.5 Environmental hazards	Environmentally Hazardous	Not applicable	Marine Pollutant

14.6 Special precautions for Please refer to the other		Please refer to the other	Please refer to the other
user	sections of the SDS for	sections of the SDS for further	sections of the SDS for
	further information.	information.	further information.
14.7 Marine Transport in	No Data Available	No Data Available	No Data Available
bulk according to IMO			
instruments			
Control Temperature	No Data Available	No Data Available	No Data Available
	N. D. (A. 7111	N. D. (A. 7111	N. D. (A. 111
Emergency Temperature	No Data Available	No Data Available	No Data Available
ADD Classiff and an Call	F1	NI-4 A1:1.1-	NI-A A1:1.1-
ADR Classification Code	F1	Not Applicable	Not Applicable
IMDC Segmention Code	Not Applicable	Not Applicable	NONE
IMDG Segregation Code	Not Applicable	Not Applicable	NONE
		1	

Please contact the address or phone number listed on the first page of the SDS for additional information on the transport/shipment of the material by rail (RID) or inland waterways (ADN).

SECTION 15: Regulatory information

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

Carcinogenicity

Ingredient	C.A.S. No.	Classification	Regulation
Cumene	98-82-8	Carc. 1B	Regulation (EC) No.
	00.02.0	C 4D D 11.1	1272/2008, Table 3.1
Cumene	98-82-8	1	International Agency for Research on Cancer
0 11	100.04.1	carc.	
Cyclohexanone	108-94-1	Gr. 3: Not classifiable	International Agency
			for Research on Cancer
D-LIMONENE	5989-27-5	Gr. 3: Not classifiable	International Agency
			for Research on Cancer
Naphthalene	91-20-3	Carc. 2	Regulation (EC) No.
			1272/2008, Table 3.1
Naphthalene	91-20-3	Grp. 2B: Possible human	International Agency
•		carc.	for Research on Cancer
N-Butyl Methacrylate	97-88-1	Grp. 2B: Possible human	International Agency
		carc.	for Research on Cancer
Toluene	108-88-3	Gr. 3: Not classifiable	International Agency
			for Research on Cancer
Xylene	1330-20-7	Gr. 3: Not classifiable	International Agency
,	1000 20 7		for Research on Cancer
			ioi itabani on cuncu

Restrictions on the manufacture, placing on the market and use:

The following substance(s) contained in this product is/are subject through Annex XVII of REACH regulation to restrictions on the manufacture, placing on the market and use when present in certain dangerous substances, mixtures and articles. Users of this product are required to comply with the restrictions placed upon it by the aforementioned provision.

<u>Ingredient</u>	<u>C.A.S. No.</u>
Toluene	108-88-3
Xylene	1330-20-7

Restriction status: listed in REACH Annex XVII

Restricted uses: See Annex XVII to Regulation (EC) No 1907/2006 for Conditions of Restriction

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.

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Seveso hazard categories, Annex 1, Part 1

Hazard Categories	Qualifying quantity (tonnes) for the application of	
	Lower-tier requirements	Upper-tier requirements
E2 Hazardous to the Aquatic	200	500
environment		
P5c FLAMMABLE LIQUIDS*	5000	50000

^{*}If maintained at a temperature above its boiling point or if particular processing conditions, such as high pressure or high temperature, may create major-accident hazards, P5a or P5b FLAMMABLE LIQUIDS may apply

Seveso named dangerous substances, Annex 1, Part 2 None

Regulation (EU) No 649/2012

No chemicals listed

SECTION 16: Other information

List of relevant H statements

EUH066	Repeated exposure may cause skin dryness or cracking.
H225	Highly flammable liquid and vapor.
H226	Flammable liquid and vapor.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H350i	May cause cancer by inhalation.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.

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H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Revision information:

- Section 02: CLP Ingredient table information was modified.
- Section 03: Composition/Information of ingredients table information was modified.
- Section 11: Acute Toxicity table information was modified.
- Section 11: Germ Cell Mutagenicity Table information was modified.
- Section 11: Reproductive Toxicity Table information was modified.
- Section 11: Serious Eye Damage/Irritation Table information was modified.
- Section 11: Skin Corrosion/Irritation Table information was modified.
- Section 11: Skin Consisting Intention Table information was modified.
- Section 11. Skin Sensitization Table information was mounted.
- Section 11: Target Organs Repeated Table information was modified.
- Section 12: Component ecotoxicity information information was modified.
- Section 12: Mobility in soil information information was modified.
- Section 12: Persistence and Degradability information information was modified.
- Section 12:Bioccumulative potential information information was modified.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

3M Israel SDSs are available at www.3M.com/il