



## Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the South African National Standard SANS 10234:2008.

### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Process Color 882N Traffic Sign Red

#### 1.2. Recommended use and restrictions on use

##### Recommended use

Ink

#### 1.3. Supplier's details

<b>Address:</b>	3M South Africa (Pty) Ltd, Private Bag X926, Rivonia 2128
<b>Telephone:</b>	011 806 2000
<b>E Mail:</b>	Not available.
<b>Website:</b>	www.3m.co.za

#### 1.4. Emergency telephone number

011 806 2000

### SECTION 2: Hazard identification

#### 2.1. Classification of the substance or mixture

Flammable liquid: Category 3.  
Acute Toxicity (oral): Category 5.  
Acute Toxicity (inhalation): Category 5.  
Skin Corrosion/Irritation: Category 2.  
Serious Eye Damage/Irritation: Category 1.  
Respiratory Sensitizer: Category 1.  
Skin Sensitizer: Category 1A.  
Carcinogenicity: Category 1A.  
Reproductive Toxicity: Category 1B.  
Specific Target Organ Toxicity (repeated exposure): Category 2.  
Specific Target Organ Toxicity (single exposure): Category 3.  
Acute Aquatic Toxicity: Category 2.  
Chronic Aquatic Toxicity: Category 2.

#### 2.2. Label elements

##### Signal word

Danger

### Symbols

Flame |Corrosion |Exclamation mark |Health Hazard |Environment |

### Pictograms



### HAZARD STATEMENTS:

H226	Flammable liquid and vapour.
H303 + H333	May be harmful if swallowed or if inhaled.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H350	May cause cancer.
H360	May damage fertility or the unborn child.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure: respiratory system.
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.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280F	Wear respiratory protection.
P280I	Wear protective gloves, eye protection, face protection, and respiratory protection.

#### Response:

P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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/physician.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P370 + P378	In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.
P391	Collect spillage.

### 2.3. Other hazards

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

## SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Heavy aromatic solvent naphtha (petroleum)	64742-94-5	15 - 40
2-Propenoic acid, 2-methyl-, polymer with butyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate	28262-63-7	10 - 30
Acrylic polymers	Trade Secret	10 - 30
Pine oil	8002-09-3	7 - 13
	108-65-6	5 - 10
Cyclohexanone	108-94-1	5 - 10
Solvent naphtha (petroleum), light aromatic	64742-95-6	3 - 7
Organic pigment (NJ TSR # 04499600-5245P)	Trade Secret	1 - 5
Vinyl acetate-vinyl alcohol-vinyl chloride polymer	Trade Secret	1 - 5
1,2,4-Trimethylbenzene	95-63-6	1 - 5
Organic pigment	Trade Secret	0.1 - 2
3-Dodecyl-1-(2,2,6,6-tetramethyl-4-piperidiny) -2,5-pyrrolidinedione	79720-19-7	< 0.7
(R)-p-mentha-1,8-diene	5989-27-5	< 0.5
Ethylbenzene	100-41-4	< 0.3
Naphthalene	91-20-3	< 0.3
Toluene	108-88-3	< 0.3
n-Butyl methacrylate	97-88-1	< 0.3
Naphthenic acids, nickel salts	61788-71-4	< 0.2
Naphthenic Acid	1338-24-5	< 0.2
Glycolic acid, butyl ester	7397-62-8	< 0.2
Cumene	98-82-8	< 0.2
2,3-epoxypropyl neodecanoate	26761-45-5	< 0.2

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### Inhalation

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

#### Skin contact

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

#### Eye contact

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

#### If swallowed

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

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

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

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

Not applicable.

## SECTION 5: Fire-fighting measures

**5.1. Suitable extinguishing media**

In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

**5.2. Special hazards arising from the substance or mixture**

Closed containers exposed to heat from fire may build pressure and explode. Exposure to extreme heat can give rise to thermal decomposition.

**Hazardous Decomposition or By-Products****Substance**

Hydrocarbons.

Carbon monoxide.

Carbon dioxide.

Hydrogen Chloride

**Condition**

During combustion.

During combustion.

During combustion.

During combustion.

**5.3. Special protective actions for fire-fighters**

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. 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**

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. 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.

**6.2. Environmental precautions**

Avoid release to the environment. For larger spills, cover drains and build dykes 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 authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Avoid inhalation of 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/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Wear low static or properly grounded shoes. Use personal protective equipment (eg. gloves, respirators...) 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 oxidising agents.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

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

<b>Ingredient</b>	<b>CAS Nbr</b>	<b>Agency</b>	<b>Limit type</b>	<b>Additional comments</b>
Ethylbenzene	100-41-4	ACGIH	TWA:20 ppm	A3: Confirmed animal carcin., Ototoxicant
Ethylbenzene	100-41-4	South Africa RELs	TWA(8 hours):40 ppm	SKIN
	108-65-6	AIHA	TWA:50 ppm	
Toluene	108-88-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcin, Ototoxicant
Toluene	108-88-3	South Africa RELs	TWA(8 hours):40 ppm	SKIN
Cyclohexanone	108-94-1	ACGIH	TWA:20 ppm;STEL:50 ppm	A3: Confirmed animal carcin., Danger of cutaneous absorption
Cyclohexanone	108-94-1	South Africa RELs	TWA(8 hours):40 ppm;STEL(15 minutes):100 ppm	SKIN
(R)-p-mentha-1,8-diene	5989-27-5	AIHA	TWA:165.5 mg/m <sup>3</sup> (30 ppm)	
Naphthalene	91-20-3	ACGIH	TWA:10 ppm	A3: Confirmed animal carcin., Danger of cutaneous absorption
Naphthalene	91-20-3	South Africa RELs	TWA(8 hours):20 ppm	SKIN
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.
Cumene	98-82-8	South Africa RELs	TWA(8 hours):100 ppm	SKIN

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

South Africa CLs : South Africa. Control Limits. Regulations for Hazardous Chemical Substances, Table 1

South Africa RELs : South Africa. Recommended Exposure Limits (RELs) Regulations for Hazardous Chemical Substances, Table 2

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/vapours/spray. If ventilation is not adequate, use respiratory protection equipment. Use explosion-proof ventilation equipment.

### **8.2.2. Personal protective equipment (PPE)**

#### **Eye/face protection**

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

Full face shield.

Indirect vented goggles.

#### **Skin/hand protection**

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

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

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

#### **Respiratory protection**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

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 vapours 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**

<b>Physical state</b>	Liquid.
<b>Colour</b>	Red
<b>Odor</b>	Moderate Solvent
<b>Odour threshold</b>	<i>No data available.</i>

<b>pH</b>	<i>Not applicable.</i>
<b>Melting point/Freezing point</b>	<i>Not applicable.</i>
<b>Boiling point/Initial boiling point/Boiling range</b>	$\geq 140$ °C
<b>Flash point</b>	52,2 °C [Test Method: Closed Cup]
<b>Evaporation rate</b>	$\leq 0,05$ [Ref Std: BUOAC=1]
<b>Flammability</b>	Flammable liquid: Category 3.
<b>Flammable Limits(LEL)</b>	<i>No data available.</i>
<b>Flammable Limits(UEL)</b>	<i>No data available.</i>
<b>Vapour pressure</b>	$\leq 493,3$ Pa [@ 20 °C]
<b>Relative Vapor Density</b>	<i>No data available.</i>
<b>Density</b>	0,99 g/ml
<b>Relative density</b>	0,99 [Ref Std: WATER=1]
<b>Water solubility</b>	<i>No data available.</i>
<b>Solubility- non-water</b>	<i>No data available.</i>
<b>Partition coefficient: n-octanol/water</b>	<i>No data available.</i>
<b>Autoignition temperature</b>	<i>No data available.</i>
<b>Decomposition temperature</b>	<i>No data available.</i>
<b>Kinematic Viscosity</b>	1 196 mm <sup>2</sup> /sec
<b>Volatile organic compounds (VOC)</b>	500 - 700 g/l [Details: As Packaged.]
<b>Percent volatile</b>	50 - 65 % weight
<b>VOC less H<sub>2</sub>O &amp; exempt solvents</b>	<i>No data available.</i>
<b>Molecular weight</b>	<i>Not applicable.</i>

<b>Particle Characteristics</b>	<i>Not applicable.</i>
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## 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 polymerisation will not occur.

### 10.4 Conditions to avoid

Sparks and/or flames.

### 10.5 Incompatible materials

Strong oxidising agents.

### 10.6 Hazardous decomposition products

#### Substance

None known.

#### Condition

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be

reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labelling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

## 11.1 Information on Toxicological effects

### Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

#### Inhalation

May be harmful if inhaled. 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 diarrhoea. 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 coloured skin (cyanosis), sputum production, changes in lung function tests, and 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
Heavy aromatic solvent naphtha (petroleum)	Inhalation-Vapor	Professional	LC50 estimated to be 20 - 50 mg/l



		judgeme nt	
Heavy aromatic solvent naphtha (petroleum)	Dermal	Rabbit	LD50 > 2 000 mg/kg
Heavy aromatic solvent naphtha (petroleum)	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
Pine oil	Dermal	Rat	LD50 > 2 000 mg/kg
Pine oil	Inhalation- Dust/Mist (4 hours)	Rat	LC50 > 4,76 mg/l
Pine oil	Ingestion	Rat	LD50 > 2 000 mg/kg
	Dermal	Rabbit	LD50 > 5 000 mg/kg
	Inhalation- Vapor (4 hours)	Rat	LC50 > 28,8 mg/l
	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
Solvent naphtha (petroleum), light aromatic	Dermal	Rabbit	LD50 > 2 000 mg/kg
Solvent naphtha (petroleum), light aromatic	Inhalation- Vapor (4 hours)	Rat	LC50 > 5,2 mg/l
Solvent naphtha (petroleum), light aromatic	Ingestion	Rat	LD50 > 5 000 mg/kg
Vinyl acetate-vinyl alcohol-vinyl chloride polymer	Dermal	Rabbit	LD50 > 8 000 mg/kg
Vinyl acetate-vinyl alcohol-vinyl chloride polymer	Ingestion	Rat	LD50 > 8 000 mg/kg
Organic pigment (NJ TSR # 04499600-5245P)	Dermal	Rat	LD50 > 2 500 mg/kg
Organic pigment (NJ TSR # 04499600-5245P)	Ingestion	Rat	LD50 > 5 000 mg/kg
Organic pigment (NJ TSR # 04499600-5245P)	Inhalation- Dust/Mist (4 hours)	similar compoun ds	LC50 > 5,2 mg/l
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
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 (4 hours)	Rat	LC50 > 5 mg/l
3-Dodecyl-1-(2,2,6,6-tetramethyl-4-piperidinyl)-2,5-pyrrolidinedione	Ingestion	Rat	LD50 > 2 000 mg/kg
(R)-p-mentha-1,8-diene	Inhalation- Vapor (4 hours)	Mouse	LC50 > 3,14 mg/l
(R)-p-mentha-1,8-diene	Dermal	Rabbit	LD50 > 5 000 mg/kg
(R)-p-mentha-1,8-diene	Ingestion	Rat	LD50 4 400 mg/kg
Ethylbenzene	Dermal	Rabbit	LD50 15 433 mg/kg
Ethylbenzene	Inhalation- Vapor (4 hours)	Rat	LC50 17,4 mg/l
Ethylbenzene	Ingestion	Rat	LD50 4 769 mg/kg
n-Butyl methacrylate	Dermal	Rabbit	LD50 > 2 000 mg/kg
n-Butyl methacrylate	Inhalation- Dust/Mist (4 hours)	Rat	LC50 > 27 mg/l
n-Butyl methacrylate	Ingestion	Rat	LD50 > 2 000 mg/kg

Naphthalene	Dermal	Human	LD50 estimated to be 2 000 - 5 000 mg/kg
Naphthalene	Inhalation-Vapor	Human	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	Ingestion	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
Cumene	Ingestion	Rat	LD50 2 260 mg/kg
Naphthenic acids, nickel salts	Ingestion	Rat	LD50 419 mg/kg
Toluene	Dermal	Rat	LD50 12 000 mg/kg
Toluene	Inhalation-Vapor (4 hours)	Rat	LC50 30 mg/l
Toluene	Ingestion	Rat	LD50 5 550 mg/kg
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	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
2,3-epoxypropyl neodecanoate	Ingestion	Rat	LD50 > 2 000 mg/kg

ATE = acute toxicity estimate

#### Skin Corrosion/Irritation

Name	Species	Value
Heavy aromatic solvent naphtha (petroleum)	Rabbit	Minimal irritation
Pine oil	Rabbit	Irritant
	Rabbit	No significant irritation
Cyclohexanone	Rabbit	Irritant
Solvent naphtha (petroleum), light aromatic	Rabbit	Irritant
Vinyl acetate-vinyl alcohol-vinyl chloride polymer	Professional judgement	No significant irritation
Organic pigment (NJ TSR # 04499600-5245P)	Rabbit	No significant irritation
1,2,4-Trimethylbenzene	Rabbit	Irritant
Organic pigment	Professional judgement	No significant irritation
3-Dodecyl-1-(2,2,6,6-tetramethyl-4-piperidiny)-2,5-pyrrolidinedione	Rabbit	Corrosive
(R)-p-mentha-1,8-diene	Rabbit	Irritant
Ethylbenzene	Rabbit	Mild irritant
n-Butyl methacrylate	Rabbit	Irritant
Naphthalene	Rabbit	Minimal irritation
Naphthenic Acid	Rabbit	Mild irritant
Cumene	Rabbit	Minimal irritation
Naphthenic acids, nickel salts	Professional judgement	Minimal irritation
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
Heavy aromatic solvent naphtha (petroleum)	Rabbit	Mild irritant
Pine oil	Rabbit	Moderate irritant

	Rabbit	Mild irritant
Cyclohexanone	In vitro data	Corrosive
Solvent naphtha (petroleum), light aromatic	Rabbit	Mild irritant
Vinyl acetate-vinyl alcohol-vinyl chloride polymer	Professional judgement	No significant irritation
Organic pigment (NJ TSR # 04499600-5245P)	Rabbit	No significant irritation
1,2,4-Trimethylbenzene	Rabbit	Mild irritant
Organic pigment	Professional judgement	No significant irritation
3-Dodecyl-1-(2,2,6,6-tetramethyl-4-piperidiny)l -2,5-pyrrolidinedione	Rabbit	Corrosive
(R)-p-mentha-1,8-diene	Rabbit	Mild irritant
Ethylbenzene	Rabbit	Moderate irritant
n-Butyl methacrylate	Rabbit	Mild irritant
Naphthalene	Rabbit	No significant irritation
Naphthenic Acid	Rabbit	Moderate irritant
Cumene	Rabbit	Mild irritant
Naphthenic acids, nickel salts	Professional judgement	Mild irritant
Toluene	Rabbit	Moderate irritant
Glycolic acid, butyl ester	Rabbit	Corrosive
2,3-epoxypropyl neodecanoate	Rabbit	No significant irritation

**Sensitization:**
**Skin Sensitisation**

Name	Species	Value
Heavy aromatic solvent naphtha (petroleum)	Guinea pig	Not classified
Pine oil	Human and animal	Not classified
	Guinea pig	Not classified
Cyclohexanone	Guinea pig	Not classified
Solvent naphtha (petroleum), light aromatic	Guinea pig	Not classified
Organic pigment (NJ TSR # 04499600-5245P)	Mouse	Not classified
1,2,4-Trimethylbenzene	Guinea pig	Not classified
(R)-p-mentha-1,8-diene	Mouse	Sensitising
Ethylbenzene	Human	Not classified
n-Butyl methacrylate	Guinea pig	Sensitising
Naphthenic Acid	Guinea pig	Sensitising
Cumene	Guinea pig	Not classified
Naphthenic acids, nickel salts	similar compounds	Sensitising
Toluene	Guinea pig	Not classified
Glycolic acid, butyl ester	Guinea pig	Not classified
2,3-epoxypropyl neodecanoate	Guinea pig	Sensitising

**Respiratory Sensitisation**

Name	Species	Value
Naphthenic acids, nickel salts	Professional judgement	Sensitising

**Germ Cell Mutagenicity**

Name	Route	Value
Heavy aromatic solvent naphtha (petroleum)	In Vitro	Not mutagenic
Heavy aromatic solvent naphtha (petroleum)	In vivo	Not mutagenic
Pine oil	In Vitro	Not mutagenic
	In Vitro	Not mutagenic
Cyclohexanone	In Vitro	Not mutagenic
Cyclohexanone	In vivo	Not mutagenic
Organic pigment (NJ TSR # 04499600-5245P)	In Vitro	Not mutagenic
1,2,4-Trimethylbenzene	In Vitro	Not mutagenic
3-Dodecyl-1-(2,2,6,6-tetramethyl-4-piperidiny) -2,5-pyrrolidinedione	In Vitro	Not mutagenic
(R)-p-mentha-1,8-diene	In Vitro	Not mutagenic
(R)-p-mentha-1,8-diene	In vivo	Not mutagenic
Ethylbenzene	In vivo	Not mutagenic
Ethylbenzene	In Vitro	Some positive data exist, but the data are not sufficient for classification
n-Butyl methacrylate	In Vitro	Not mutagenic
n-Butyl methacrylate	In vivo	Not mutagenic
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
Naphthenic acids, nickel salts	In Vitro	Some positive data exist, but the data are not sufficient for classification
Naphthenic acids, nickel salts	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
Solvent naphtha (petroleum), light aromatic	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
(R)-p-mentha-1,8-diene	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
Ethylbenzene	Inhalation	Multiple animal species	Carcinogenic.
n-Butyl methacrylate	Inhalation	Multiple animal species	Carcinogenic.
Naphthalene	Inhalation	Multiple animal species	Carcinogenic.
Cumene	Inhalation	Multiple animal species	Carcinogenic.
Naphthenic acids, nickel salts	Inhalation	similar	Carcinogenic.

		compound	
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
Heavy aromatic solvent naphtha (petroleum)	Not specified.	Not classified for female reproduction	Rat	NOAEL Not available	2 generation
Heavy aromatic solvent naphtha (petroleum)	Not specified.	Not classified for male reproduction	Rat	NOAEL Not available	2 generation
Heavy aromatic solvent naphtha (petroleum)	Not specified.	Not classified for development	Rat	NOAEL Not available	2 generation
Pine oil	Ingestion	Not classified for development	Rat	NOAEL 600 mg/kg/day	during gestation
Pine oil	Ingestion	Not classified for female reproduction	Rat	NOAEL 250 mg/kg/day	premating into lactation
Pine oil	Ingestion	Toxic to male reproduction	Rat	NOAEL 250 mg/kg/day	5 weeks
	Ingestion	Not classified for female reproduction	Rat	NOAEL 1 000 mg/kg/day	premating & during gestation
	Ingestion	Not classified for male reproduction	Rat	NOAEL 1 000 mg/kg/day	premating & during gestation
	Ingestion	Not classified for development	Rat	NOAEL 1 000 mg/kg/day	premating & during gestation
	Inhalation	Not classified for development	Rat	NOAEL 21,6 mg/l	during organogenesis
Cyclohexanone	Inhalation	Not classified for female reproduction	Rat	NOAEL 4 mg/l	2 generation
Cyclohexanone	Ingestion	Not classified for development	Rabbit	NOAEL 500 mg/kg/day	during gestation
Cyclohexanone	Inhalation	Not classified for male reproduction	Rat	NOAEL 2 mg/l	2 generation
Cyclohexanone	Inhalation	Not classified for development	Rat	NOAEL 2,6 mg/l	during gestation
Solvent naphtha (petroleum), light aromatic	Inhalation	Not classified for female reproduction	Rat	NOAEL 1 500 ppm	2 generation
Solvent naphtha (petroleum), light aromatic	Inhalation	Not classified for male reproduction	Rat	NOAEL 1 500 ppm	2 generation
Solvent naphtha (petroleum), light aromatic	Inhalation	Not classified for development	Rat	NOAEL 500 ppm	2 generation
Organic pigment (NJ TSR # 04499600-5245P)	Ingestion	Not classified for female reproduction	Rat	NOAEL 1 000 mg/kg/day	premating into lactation
Organic pigment (NJ TSR # 04499600-5245P)	Ingestion	Not classified for male reproduction	Rat	NOAEL 1 000 mg/kg/day	30 days
Organic pigment (NJ TSR # 04499600-5245P)	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

(R)-p-mentha-1,8-diene	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	premating & during gestation
(R)-p-mentha-1,8-diene	Ingestion	Not classified for development	Multiple animal species	NOAEL 591 mg/kg/day	during organogenesis
Ethylbenzene	Inhalation	Not classified for development	Rat	NOAEL 4,3 mg/l	premating & during gestation
n-Butyl methacrylate	Ingestion	Not classified for male reproduction	Rat	NOAEL 1 000 mg/kg/day	44 days
n-Butyl methacrylate	Ingestion	Not classified for female reproduction	Rat	NOAEL 300 mg/kg/day	premating & during gestation
n-Butyl methacrylate	Ingestion	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during gestation
n-Butyl methacrylate	Inhalation	Not classified for development	Rat	NOAEL 1,8 mg/l	during gestation
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
Naphthenic acids, nickel salts	Ingestion	Toxic to development	similar compounds	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 mg/kg/day	during gestation
Toluene	Inhalation	Toxic to development	Human	NOAEL Not available	poisoning and/or abuse
Glycolic acid, butyl ester	Ingestion	Toxic to development	Rat	NOAEL 250 mg/kg/day	during organogenesis
2,3-epoxypropyl neodecanoate	Ingestion	Not classified for female reproduction	Rat	NOAEL 300 mg/kg/day	2 generation
2,3-epoxypropyl neodecanoate	Ingestion	Not classified for male reproduction	Rat	NOAEL 300 mg/kg/day	2 generation
2,3-epoxypropyl neodecanoate	Ingestion	Toxic to development	Rat	NOAEL 50 mg/kg/day	2 generation

## Target Organ(s)

### Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Heavy aromatic solvent naphtha (petroleum)	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Pine oil	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	
	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
	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	Professional judgement	NOAEL Not available	
Solvent naphtha (petroleum), light aromatic	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Solvent naphtha (petroleum), light aromatic	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Professional judgement	NOAEL Not available	
Solvent naphtha (petroleum), light aromatic	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	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 classification	NOAEL Not available	
1,2,4-Trimethylbenzene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
3-Dodecyl-1-(2,2,6,6-tetramethyl-4-piperidiny) - 2,5-pyrrolidinedione	Inhalation	respiratory irritation	May cause respiratory irritation	similar health hazards	NOAEL Not available	
(R)-p-mentha-1,8-diene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
(R)-p-mentha-1,8-diene	Ingestion	nervous system	Not classified		NOAEL Not available	
Ethylbenzene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Ethylbenzene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
n-Butyl methacrylate	Inhalation	respiratory irritation	May cause respiratory irritation		NOAEL Not available	
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	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Toluene	Inhalation	immune system	Not classified	Mouse	NOAEL 0,004 mg/l	3 hours
Toluene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
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 Duration
Pine oil	Inhalation	hematopoietic system   eyes   respiratory system	Not classified	Rat	NOAEL 2,23 mg/l	13 weeks
Pine oil	Ingestion	liver   kidney and/or bladder   heart   skin   endocrine system   gastrointestinal tract   bone, teeth, nails, and/or hair   hematopoietic system   immune system   muscles   nervous system   respiratory system	Not classified	Rat	NOAEL 750 mg/kg/day	5 weeks
	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 16,2 mg/l	9 days
	Inhalation	olfactory system	Not classified	Mouse	LOAEL 1,62 mg/l	9 days
	Inhalation	blood	Not classified	Multiple animal species	NOAEL 16,2 mg/l	9 days
	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
Organic pigment (NJ TSR # 04499600-5245P)	Inhalation	respiratory system	May cause damage to organs though prolonged or repeated exposure	similar compounds	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
(R)-p-mentha-1,8-diene	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 75 mg/kg/day	103 weeks



(R)-p-mentha-1,8-diene	Ingestion	liver	Not classified	Mouse	NOAEL 1 000 mg/kg/day	103 weeks
(R)-p-mentha-1,8-diene	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
Ethylbenzene	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,1 mg/l	2 years
Ethylbenzene	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 1,1 mg/l	103 weeks
Ethylbenzene	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 3,4 mg/l	28 days
Ethylbenzene	Inhalation	auditory system	Not classified	Rat	NOAEL 2,4 mg/l	5 days
Ethylbenzene	Inhalation	endocrine system	Not classified	Mouse	NOAEL 3,3 mg/l	103 weeks
Ethylbenzene	Inhalation	gastrointestinal tract	Not classified	Rat	NOAEL 3,3 mg/l	2 years
Ethylbenzene	Inhalation	bone, teeth, nails, and/or hair   muscles	Not classified	Multiple animal species	NOAEL 4,2 mg/l	90 days
Ethylbenzene	Inhalation	heart   immune system   respiratory system	Not classified	Multiple animal species	NOAEL 3,3 mg/l	2 years
Ethylbenzene	Ingestion	liver   kidney and/or bladder	Not classified	Rat	NOAEL 680 mg/kg/day	6 months
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 prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Naphthalene	Ingestion	eyes	May cause damage to organs though prolonged or repeated exposure	Rabbit	LOAEL 500 mg/kg/day	15 days
Naphthenic Acid	Ingestion	endocrine system	Not classified	Rat	NOAEL 881	90 days

		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			mg/kg/day	
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
Naphthenic acids, nickel salts	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	similar compounds	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	Some positive data exist, but the	Rat	NOAEL 100	90 days

		and/or bladder	data are not sufficient for classification		mg/kg/day	
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

Name	Value
Heavy aromatic solvent naphtha (petroleum)	Aspiration hazard
Solvent naphtha (petroleum), light aromatic	Aspiration hazard
1,2,4-Trimethylbenzene	Aspiration hazard
(R)-p-mentha-1,8-diene	Aspiration hazard
Ethylbenzene	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.

## SECTION 12: Ecological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

### 12.1. Toxicity

#### Acute aquatic hazard:

GHS Acute 2: Toxic to aquatic life.

#### Chronic aquatic hazard:

GHS Chronic 2: Toxic to aquatic life with long lasting effects.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Heavy aromatic solvent naphtha (petroleum)	64742-94-5	Green algae	Estimated	72 hours	EL50	1 mg/l
Heavy aromatic solvent naphtha (petroleum)	64742-94-5	Rainbow trout	Estimated	96 hours	LL50	2 mg/l
Heavy aromatic solvent naphtha (petroleum)	64742-94-5	Water flea	Estimated	48 hours	EL50	3 mg/l
Heavy aromatic solvent naphtha (petroleum)	64742-94-5	Green algae	Estimated	72 hours	NOEL	1 mg/l

2-Propenoic acid, 2-methyl-, polymer with butyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate	28262-63-7	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Pine oil	8002-09-3	Green algae	Experimental	72 hours	EC50	68 mg/l
Pine oil	8002-09-3	Water flea	Experimental	48 hours	EC50	73 mg/l
Pine oil	8002-09-3	Zebra Fish	Experimental	96 hours	LC50	62-80 mg/l
Pine oil	8002-09-3	Green algae	Experimental	72 hours	NOEC	3,9 mg/l
Pine oil	8002-09-3	N/A	Experimental	14 days	LC50	499-799 mg/kg (Dry Weight)
	108-65-6	Activated sludge	Experimental	30 minutes	EC10	>1 000 mg/l
	108-65-6	Green algae	Experimental	72 hours	ErC50	>1 000 mg/l
	108-65-6	Rainbow trout	Experimental	96 hours	LC50	134 mg/l
	108-65-6	Water flea	Experimental	48 hours	EC50	370 mg/l
	108-65-6	Green algae	Experimental	72 hours	NOEC	1 000 mg/l
	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
Cyclohexanone	108-94-1	Water flea	Experimental	24 hours	EC50	800 mg/l
Cyclohexanone	108-94-1	Algae or other aquatic plants	Experimental	72 hours	ErC10	3,56 mg/l
Solvent naphtha (petroleum), light aromatic	64742-95-6	Fathead minnow	Estimated	96 hours	LL50	8,2 mg/l
Solvent naphtha (petroleum), light aromatic	64742-95-6	Green algae	Estimated	72 hours	EL50	7,9 mg/l
Solvent naphtha (petroleum), light aromatic	64742-95-6	Water flea	Estimated	48 hours	EL50	3,2 mg/l
Solvent naphtha (petroleum), light aromatic	64742-95-6	Green algae	Estimated	72 hours	NOEL	0,22 mg/l
Solvent naphtha (petroleum), light aromatic	64742-95-6	Water flea	Experimental	21 days	NOEL	2,6 mg/l
1,2,4-Trimethylbenzene	95-63-6	Fathead minnow	Experimental	96 hours	LC50	7,72 mg/l
1,2,4-Trimethylbenzene	95-63-6	Mysid Shrimp	Experimental	96 hours	LC50	2 mg/l
1,2,4-Trimethylbenzene	95-63-6	Water flea	Experimental	48 hours	LC50	3,6 mg/l
1,2,4-Trimethylbenzene	95-63-6	Water flea	Analogous Compound	21 days	NOEC	0,4 mg/l
Organic pigment (NJ TSR # 04499600-5245P)	Trade Secret	Activated sludge	Experimental	30 minutes	EC50	>1 000 mg/l
Organic pigment (NJ TSR # 04499600-5245P)	Trade Secret	Golden Orfe	Experimental	96 hours	LC50	>10 000 mg/l
Organic pigment (NJ TSR # 04499600-5245P)	Trade Secret	Green algae	Experimental	72 hours	ErC50	>100 mg/l
Organic pigment (NJ TSR # 04499600-5245P)	Trade Secret	Water flea	Experimental	48 hours	EC50	>100 mg/l
Organic pigment (NJ TSR # 04499600-5245P)	Trade Secret	Green algae	Experimental	72 hours	EC50	100 mg/l
Vinyl acetate-vinyl alcohol-vinyl chloride 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
3-Dodecyl-1-(2,2,6,6-tetramethyl-4-piperidinyl)-2,5-pyrrolidinedione	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-pyrrolidinedione	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-pyrrolidinedione	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-pyrrolidinedione	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-pyrrolidinedione	79720-19-7	Activated sludge	Experimental	3 hours	EC50	58,9 mg/l
(R)-p-mentha-1,8-diene	5989-27-5	Fathead minnow	Experimental	96 hours	LC50	0,702 mg/l
(R)-p-mentha-1,8-diene	5989-27-5	Green algae	Experimental	72 hours	ErC50	0,32 mg/l
(R)-p-mentha-1,8-diene	5989-27-5	Water flea	Experimental	48 hours	EC50	0,307 mg/l
(R)-p-mentha-1,8-diene	5989-27-5	Fathead minnow	Experimental	8 days	EC10	0,32 mg/l
(R)-p-mentha-1,8-diene	5989-27-5	Green algae	Experimental	72 hours	ErC10	0,174 mg/l
(R)-p-mentha-1,8-diene	5989-27-5	Water flea	Experimental	21 days	NOEC	0,153 mg/l
Ethylbenzene	100-41-4	Green algae	Estimated	73 hours	EC50	4,36 mg/l
Ethylbenzene	100-41-4	Rainbow trout	Estimated	96 hours	LC50	2,6 mg/l
Ethylbenzene	100-41-4	Water flea	Estimated	48 hours	EC50	3,82 mg/l
Ethylbenzene	100-41-4	Activated sludge	Experimental	49 hours	EC50	130 mg/l
Ethylbenzene	100-41-4	Green algae	Estimated	73 hours	NOEC	0,44 mg/l
Ethylbenzene	100-41-4	Rainbow trout	Estimated	56 days	NOEC	>1,3 mg/l
Ethylbenzene	100-41-4	Water flea	Estimated	7 days	NOEC	0,96 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	Green algae	Experimental	72 hours	ErC50	23 mg/l
n-Butyl methacrylate	97-88-1	Medaka	Experimental	96 hours	LC50	5,57 mg/l
n-Butyl methacrylate	97-88-1	Water flea	Experimental	48 hours	EC50	25,4 mg/l
n-Butyl methacrylate	97-88-1	Diatom	Experimental	96 hours	NOEC	530 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	21 days	NOEC	1,1 mg/l
n-Butyl methacrylate	97-88-1	Activated sludge	Experimental	3 hours	EC50	204 mg/l
Toluene	108-88-3	Coho Salmon	Experimental	96 hours	LC50	5,5 mg/l
Toluene	108-88-3	Grass Shrimp	Experimental	96 hours	LC50	9,5 mg/l
Toluene	108-88-3	Green algae	Experimental	72 hours	EC50	12,5 mg/l
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
Toluene	108-88-3	Activated sludge	Experimental	12 hours	IC50	292 mg/l
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	108-88-3	Redworm	Experimental	28 days	LC50	>150 mg per kg of bodyweight
Toluene	108-88-3	Soil microbes	Experimental	28 days	NOEC	<26 mg/kg (Dry Weight)
2,3-epoxypropyl neodecanoate	26761-45-5	Activated sludge	Experimental	3 hours	NOEC	500 mg/l
2,3-epoxypropyl neodecanoate	26761-45-5	Green algae	Experimental	72 hours	ErC50	2,9 mg/l
2,3-epoxypropyl neodecanoate	26761-45-5	Rainbow trout	Experimental	96 hours	LC50	5 mg/l
2,3-epoxypropyl neodecanoate	26761-45-5	Water flea	Experimental	48 hours	EC50	4,8 mg/l
2,3-epoxypropyl neodecanoate	26761-45-5	Green algae	Experimental	96 hours	NOEC	1 mg/l
Cumene	98-82-8	Activated sludge	Experimental	3 hours	EC10	>2 000 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	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	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	1,5 mg/l
Naphthenic acids, nickel salts	61788-71-4	Fathead minnow	Estimated	96 hours	LC50	2,5 mg/l
Naphthenic acids, nickel salts	61788-71-4	Fish	Estimated	96 hours	LC50	9,5 mg/l
Naphthenic acids, nickel salts	61788-71-4	Green algae	Estimated	72 hours	ErC50	0,44 mg/l
Naphthenic acids, nickel salts	61788-71-4	Water flea	Estimated	48 hours	LC50	0,083 mg/l
Naphthenic acids, nickel salts	61788-71-4	African clawed frog	Estimated	101 hours	EC10	0,54 mg/l

Naphthenic acids, nickel salts	61788-71-4	Green algae	Estimated	72 hours	ErC10	0,031 mg/l
Naphthenic acids, nickel salts	61788-71-4	Scud	Estimated	28 days	EC10	522 mg/l
Naphthenic acids, nickel salts	61788-71-4	Water flea	Estimated	7 days	EC10	0,007 mg/l
Naphthenic acids, nickel salts	61788-71-4	Zebra Fish	Estimated	8 days	NOEC	0,25 mg/l
Naphthenic acids, nickel salts	61788-71-4	Activated sludge	Estimated	30 minutes	EC50	210 mg/l
Naphthenic acids, nickel salts	61788-71-4	Mallard Duck	Estimated	90 days	NOEC	1 274 ppm diet
Naphthenic acids, nickel salts	61788-71-4	Redworm	Estimated	28 days	EC10	303 mg/kg (Dry Weight)
Naphthenic acids, nickel salts	61788-71-4	Soil microbes	Estimated	28 days	EC10	102 mg/kg (Dry Weight)
Naphthenic acids, nickel salts	61788-71-4	Springtail	Estimated	28 days	NOEC	232 mg/kg (Dry Weight)
Naphthenic acids, nickel salts	61788-71-4	Tomato	Estimated	21 days	NOEC	70 mg/kg (Dry Weight)

## 12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Heavy aromatic solvent naphtha (petroleum)	64742-94-5	Experimental Biodegradation	28 days	BOD	49.6 %BOD/ThOD	OECD 301F - Manometric respirometry
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
Pine oil	8002-09-3	Experimental Biodegradation	28 days	CO2 evolution	80 %CO2 evolution/THCO2 evolution	OECD 310 CO2 Headspace
	108-65-6	Experimental Biodegradation	28 days	BOD	87.2 %BOD/ThOD	OECD 301C - MITI test (I)
	108-65-6	Experimental Aquatic Inherent Biodegrad.		Dissolv. Organic Carbon Deplet	>100 %removal of DOC	similar to OECD 302B
Cyclohexanone	108-94-1	Experimental Biodegradation	14 days	BOD	87 %BOD/ThOD	OECD 301C - MITI test (I)
Solvent naphtha (petroleum), light aromatic	64742-95-6	Estimated Biodegradation	28 days	BOD	78 %BOD/COD	OECD 301F - Manometric respirometry
1,2,4-Trimethylbenzene	95-63-6	Experimental Biodegradation	28 days	BOD	>60 %BOD/ThOD	OECD 301F - Manometric respirometry
1,2,4-Trimethylbenzene	95-63-6	Experimental Photolysis		Photolytic half-life (in air)	11.8 hours (t 1/2)	
Organic pigment (NJ TSR # 04499600-5245P)	Trade Secret	Experimental Biodegradation	28 days	BOD	0-10 %BOD/ThOD	OECD 301F - Manometric respirometry
Vinyl acetate-vinyl alcohol-vinyl chloride polymer	Trade Secret	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Organic pigment	Trade Secret	Analogous Compound Biodegradation	28 days	BOD	<10 %BOD/ThOD	OECD 301F - Manometric respirometry
3-Dodecyl-1-(2,2,6,6-tetramethyl-4-	79720-19-7	Experimental Biodegradation	28 days	CO2 evolution	0 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2

piperidiny) -2,5-pyrrolidinedione						
3-Dodecyl-1-(2,2,6,6-tetramethyl-4-piperidiny) -2,5-pyrrolidinedione	79720-19-7	Experimental Aquatic Inherent Biodegrad.	28 days	BOD	3 %BOD/ThOD	OECD 302C - Modified MITI (II)
3-Dodecyl-1-(2,2,6,6-tetramethyl-4-piperidiny) -2,5-pyrrolidinedione	79720-19-7	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	>1 years (t 1/2)	OECD 111 Hydrolysis func of pH
(R)-p-mentha-1,8-diene	5989-27-5	Experimental Biodegradation	14 days	BOD	98 %BOD/ThOD	OECD 301C - MITI test (I)
(R)-p-mentha-1,8-diene	5989-27-5	Experimental Biodegradation	14 days	Dissolv. Organic Carbon Deplet	>93.8 %removal of DOC	OECD 303A - Simulated Aerobic
Ethylbenzene	100-41-4	Experimental Biodegradation	28 days	BOD	90-98 %BOD/ThOD	OECD 301F - Manometric respirometry
Naphthalene	91-20-3	Experimental Biodegradation	14 days	CO2 evolution	>99 %CO2 evolution/THCO2 evolution	
Naphthalene	91-20-3	Experimental Biodegradation	28 days	BOD	>74 %BOD/ThOD	OECD 301C - MITI test (I)
Naphthalene	91-20-3	Experimental Aquatic Inherent Biodegrad.	28 days	BOD	2 %BOD/ThOD	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	BOD	88 %BOD/ThOD	OECD 301C - MITI test (I)
n-Butyl methacrylate	97-88-1	Experimental Photolysis		Photolytic half-life (in air)	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
Toluene	108-88-3	Experimental Biodegradation	20 days	BOD	80 %BOD/ThOD	APHA Std Meth Water/Wastewater
Toluene	108-88-3	Experimental Photolysis		Photolytic half-life (in air)	5.2 days (t 1/2)	
2,3-epoxypropyl neodecanoate	26761-45-5	Experimental Biodegradation	28 days	BOD	11.6 %BOD/ThOD	OECD 301F - Manometric respirometry
2,3-epoxypropyl neodecanoate	26761-45-5	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	9.9 days (t 1/2)	OECD 111 Hydrolysis func of pH
Cumene	98-82-8	Experimental Biodegradation	14 days	BOD	33 %BOD/ThOD	OECD 301C - MITI test (I)
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	CO2 evolution	81 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
Naphthenic Acid	1338-24-5	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Naphthenic acids, nickel salts	61788-71-4	Data not availbl-insufficient	N/A	N/A	N/A	N/A

### 12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Heavy aromatic solvent naphtha (petroleum)	64742-94-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-Propenoic acid, 2-methyl-, polymer with butyl 2-methyl-2-	28262-63-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A



propenoate and methyl 2-methyl-2-propenoate						
Pine oil	8002-09-3	Analogous Compound Bioconcentration		Log Kow	2.78	
	108-65-6	Experimental Bioconcentration		Log Kow	0.36	OECD 107 log Kow shke flask mtd
Cyclohexanone	108-94-1	Experimental Bioconcentration		Log Kow	0.86	OECD 107 log Kow shke flask mtd
Solvent naphtha (petroleum), light aromatic	64742-95-6	Estimated BCF - Fish	42 days	Bioaccumulation factor	598	OECD305-Bioconcentration
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 Kow	3.63	
Organic pigment (NJ TSR # 04499600-5245P)	Trade Secret	Modeled Bioconcentration		Bioaccumulation factor	6.8	Catalogic™
Vinyl acetate-vinyl alcohol-vinyl chloride 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 Kow	<1.3	
3-Dodecyl-1-(2,2,6,6-tetramethyl-4-piperidiny) -2,5-pyrrolidinedione	79720-19-7	Experimental Bioconcentration		Log Kow	≥5.7	EC A.8 Partition Coefficient
(R)-p-mentha-1,8-diene	5989-27-5	Modeled Bioconcentration		Bioaccumulation factor	2100	Catalogic™
(R)-p-mentha-1,8-diene	5989-27-5	Experimental Bioconcentration		Log Kow	4.57	
Ethylbenzene	100-41-4	Experimental BCF - Fish	56 days	Bioaccumulation factor	25.9	
Naphthalene	91-20-3	Experimental BCF - Fish	56 days	Bioaccumulation factor	≤168	OECD305-Bioconcentration
Naphthalene	91-20-3	Experimental Bioconcentration		Log Kow	3.7	OECD 117 log Kow HPLC method
n-Butyl methacrylate	97-88-1	Experimental Bioconcentration		Log Kow	3.03	OECD 107 log Kow shke flask mtd
Toluene	108-88-3	Experimental BCF - Other	72 hours	Bioaccumulation factor	90	
Toluene	108-88-3	Experimental Bioconcentration		Log Kow	2.73	
2,3-epoxypropyl neodecanoate	26761-45-5	Modeled Bioconcentration		Bioaccumulation factor	28	Catalogic™
Cumene	98-82-8	Modeled Bioconcentration		Bioaccumulation factor	140	Catalogic™
Cumene	98-82-8	Experimental Bioconcentration		Log Kow	3.55	OECD 107 log Kow shke flask mtd
Glycolic acid, butyl ester	7397-62-8	Modeled Bioconcentration		Bioaccumulation factor	2.8	Catalogic™
Naphthenic Acid	1338-24-5	Experimental BCF - Fish	10 days	Bioaccumulation factor	4	
Naphthenic acids, nickel salts	61788-71-4	Analogous Compound Bioconcentration	180 days	Bioaccumulation factor	4	

#### 12.4. Mobility in soil

Please contact manufacturer for more details

#### 12.5 Other adverse effects

No information available.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Product must only be disposed of by an authorized/permitted waste disposal contractor or incinerated in an industrial or commercial facility in the presence of a combustible material.

## SECTION 14: Transport Information

Compliance is required to South African Transport Information Road Traffic Act & Regulations and Railroad regulations, IATA Standards for airfreight and Maritime standards for ocean freight.

## SECTION 15: Regulatory information

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

#### Global inventory status

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

## SECTION 16: Other information

#### Revision information:

Label: GHS Precautionary - Prevention information was modified.  
Section 6: Accidental release personal information information was modified.  
Section 7: Conditions safe storage information was modified.  
Section 11: Germ Cell Mutagenicity Table information was modified.  
Section 11: Health Effects - Inhalation information information was modified.  
Section 11: Reproductive Toxicity Table information was modified.  
Section 11: Target Organs - Repeated Table information was modified.  
Section 11: Target Organs - Single Table 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 South Africa SDSs are available at [www.3m.co.za](http://www.3m.co.za)