



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M™ Scotchlite™ Transparent Screen Printing Ink 2912 Red

Product Identification Numbers

75-0300-8793-8, 75-0300-8813-4
7000055524, 7000129343

1.2. Recommended use and restrictions on use

Recommended use

Screen Printing Ink

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Commercial Solutions Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Flammable Liquid: Category 3.
Serious Eye Damage/Irritation: Category 1.
Skin Corrosion/Irritation: Category 2.
Respiratory Sensitizer: Category 1.
Skin Sensitizer: Category 1A.
Reproductive Toxicity: Category 1B.
Carcinogenicity: Category 1A.
Specific Target Organ Toxicity (single exposure): Category 3.

2.2. Label elements

Signal word

Danger

Symbols

Flame | Corrosion | Exclamation mark | Health Hazard |

Pictograms



Hazard Statements

Flammable liquid and vapor.

Causes serious eye damage.

Causes skin irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

May cause drowsiness or dizziness.

May damage fertility or the unborn child.

May cause cancer.

Precautionary Statements

Prevention:

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Keep container tightly closed.

Use explosion-proof electrical/ventilating/lighting equipment.

Avoid breathing dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

In case of inadequate ventilation wear respiratory protection.

Wear protective gloves and eye/face protection.

Wash thoroughly after handling.

Contaminated work clothing must not be allowed out of the workplace.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

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

Storage:

Keep container tightly closed.

Keep cool.

Store locked up in a well-ventilated place.

Disposal:

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

15% of the mixture consists of ingredients of unknown acute oral toxicity.

15% of the mixture consists of ingredients of unknown acute dermal toxicity.

15% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Cyclohexanone	108-94-1	20 - 30 Trade Secret *
1-methoxy-2-propyl acetate	108-65-6	10 - 20 Trade Secret *
Polymer	Trade Secret*	10 - 20 Trade Secret *
Et 3-Ethoxypropionat	763-69-9	10 - 15 Trade Secret *
ACRYLIC POLYMER	Trade Secret*	1 - 10 Trade Secret *
POLYMERIC PLASTICIZER	Trade Secret*	1 - 10 Trade Secret *
Synthetic amorphous silica, fumed, crystalline-free (nanomaterial)	112945-52-5	< 5 Trade Secret *
Red Pigment	Trade Secret*	1 - 5 Trade Secret *
Epoxy Soybean Oil	8013-07-8	1 - 3 Trade Secret *
PNUC - CAS 104810-47-1 (EC 400-830-7)	104810-47-1	< 2 Trade Secret *
PNUC - CAS 104810-48-2 (EC 400-830-7)	104810-48-2	< 2 Trade Secret *
NICKEL SALTS OF NAPHTHENIC ACIDS	61788-71-4	< 1 Trade Secret *
2,3-EPOXYPROPYL NEODECANOATE	26761-45-5	< 0.5 Trade Secret *
PNUC - CAS 64742-94-5 (EC 919-284-0)	64742-94-5	< 0.5 Trade Secret *
ISODECYL DIPHENYL PHOSPHITE	26544-23-0	< 0.3 Trade Secret *
Methyl Methacrylate	80-62-6	< 0.3 Trade Secret *
PNUC - CAS 41556-26-7 (EC 915-687-0)	41556-26-7	< 0.3 Trade Secret *
Toluene	108-88-3	< 0.3 Trade Secret *
Zn (2-Et-Hexanoate) ₂	136-53-8	< 0.3 Trade Secret *

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

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

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

Skin Contact:

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

Eye Contact:

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

If Swallowed:

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

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

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).

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

Not applicable.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

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

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

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

5.3. Special protective actions for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

Contain spill. 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 detergent and water. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial/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 container tightly closed. Keep cool. Protect from sunlight. Store away from heat. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

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

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
1-methoxy-2-propyl acetate	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	OSHA	TWA:200 ppm;CEIL:300 ppm	
Cyclohexanone	108-94-1	ACGIH	TWA:20 ppm;STEL:50 ppm	A3: Confirmed animal carcin., Danger of cutaneous absorption
Cyclohexanone	108-94-1	OSHA	TWA:200 mg/m3(50 ppm)	
SILICA, AMORPHOUS	112945-52-5	OSHA	TWA:20 millions of particles/cu. ft.;TWA concentration:0.8 mg/m3	
NICKEL, SOLUBLE COMPOUNDS	61788-71-4	OSHA	TWA(as Ni):1 mg/m3	
Methyl Methacrylate	80-62-6	ACGIH	TWA:50 ppm;STEL:100 ppm	A4: Not class. as human carcin, Dermal Sensitizer
Methyl Methacrylate	80-62-6	OSHA	TWA:410 mg/m3(100 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Use explosion-proof ventilation equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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

Full Face Shield
Indirect Vented Goggles

Skin/hand protection

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

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

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

Respiratory protection

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

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

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties****Appearance**

Physical state
Color

Liquid
Red

Specific Physical Form:

Liquid

Odor

Solvent

Odor threshold

No Data Available

pH

Not Applicable

Melting point

Not Applicable

Boiling Point

>=284 °F

Flash Point

113 °F [*Test Method: Closed Cup*]

Evaporation rate

No Data Available

Flammability (solid, gas)

Not Applicable

Flammable Limits(LEL)

1 %

Flammable Limits(UEL)

8.7 %

Vapor Pressure

<=3.7 mmHg [*@ 20 °C*]

Vapor Density

> 1 [*Ref Std: AIR=1*]

Density

1.07 g/ml

Specific Gravity

1.07 [*Ref Std: WATER=1*]

Solubility in Water

Moderate

Solubility- non-water

No Data Available

Partition coefficient: n-octanol/ water

No Data Available

Autoignition temperature

> 670 °F

Decomposition temperature

No Data Available

Viscosity	No Data Available
Volatile Organic Compounds	710 g/l [Details: As manufactured]
Volatile Organic Compounds	793 g/l [Details: After maximum thinning]
Percent volatile	55 - 65 %
VOC Less H2O & Exempt Solvents	710 g/l [Details: As manufactured]
VOC Less H2O & Exempt Solvents	793 g/l [Details: After maximum thinning]

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

Heat

Sparks and/or flames

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
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None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation:

May be harmful if inhaled.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

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

May cause additional health effects (see below).

Skin Contact:

May be harmful in contact with skin.

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

Eye Contact:

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

Ingestion:

May be harmful if swallowed.

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

May cause additional health effects (see below).

Additional Health Effects:**Single exposure may cause target organ effects:**

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

Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

Ingredient	CAS No.	Class Description	Regulation
Nickel Compounds (except alloys)	61788-71-4	Known To Be Human Carcinogen.	National Toxicology Program Carcinogens
Nickel compounds	61788-71-4	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer

Toxicological Data

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >2,000 - ≤5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE >20 - ≤50 mg/l
Overall product	Ingestion		No data available; calculated ATE >2,000 - ≤5,000 mg/kg
Cyclohexanone	Dermal	Rabbit	LD50 >794, <3160 mg/kg
Cyclohexanone	Inhalation-Vapor (4 hours)	Rat	LC50 > 6.2 mg/l
Cyclohexanone	Ingestion	Rat	LD50 1,296 mg/kg
Polymer	Dermal	Rabbit	LD50 > 8,000 mg/kg
Polymer	Ingestion	Rat	LD50 > 8,000 mg/kg
Et 3-Ethoxypropionat	Dermal	Rabbit	LD50 4,080 mg/kg
Et 3-Ethoxypropionat	Inhalation-Vapor (4 hours)	Rat	LC50 > 14.4 mg/l
Et 3-Ethoxypropionat	Ingestion	Rat	LD50 3,200 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

Red Pigment	Dermal		LD50 estimated to be > 5,000 mg/kg
Red Pigment	Inhalation-Dust/Mist		LC50 estimated to be > 12.5 mg/l
Red Pigment	Ingestion		LD50 estimated to be > 5,000 mg/kg
Epoxy Soybean Oil	Dermal	Rabbit	LD50 > 20,000 mg/kg
Epoxy Soybean Oil	Ingestion	Rat	LD50 > 5,000 mg/kg
PNUC - CAS 104810-47-1 (EC 400-830-7)	Dermal	Rat	LD50 > 2,000 mg/kg
PNUC - CAS 104810-47-1 (EC 400-830-7)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.8 mg/l
PNUC - CAS 104810-47-1 (EC 400-830-7)	Ingestion	Rat	LD50 > 5,000 mg/kg
PNUC - CAS 104810-48-2 (EC 400-830-7)	Dermal	Rat	LD50 > 2,000 mg/kg
PNUC - CAS 104810-48-2 (EC 400-830-7)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.8 mg/l
PNUC - CAS 104810-48-2 (EC 400-830-7)	Ingestion	Rat	LD50 > 5,000 mg/kg
Synthetic amorphous silica, fumed, crystalline-free (nanomaterial)	Dermal	Rabbit	LD50 > 5,000 mg/kg
Synthetic amorphous silica, fumed, crystalline-free (nanomaterial)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Synthetic amorphous silica, fumed, crystalline-free (nanomaterial)	Ingestion	Rat	LD50 > 5,110 mg/kg
NICKEL SALTS OF NAPHTHENIC ACIDS	Ingestion	Rat	LD50 419 mg/kg
2,3-EPOXYPROPYL NEODECANOATE	Dermal	Rat	LD50 > 2,000 mg/kg
2,3-EPOXYPROPYL NEODECANOATE	Ingestion	Rat	LD50 > 2,000 mg/kg
PNUC - CAS 64742-94-5 (EC 919-284-0)	Inhalation-Vapor		LC50 estimated to be 20 - 50 mg/l
PNUC - CAS 64742-94-5 (EC 919-284-0)	Dermal	Rabbit	LD50 > 2,000 mg/kg
PNUC - CAS 64742-94-5 (EC 919-284-0)	Ingestion	Rat	LD50 > 5,000 mg/kg
ISODECYL DIPHENYL PHOSPHITE	Dermal	Rabbit	LD50 > 5,000 mg/kg
ISODECYL DIPHENYL PHOSPHITE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.1 mg/l
ISODECYL DIPHENYL PHOSPHITE	Ingestion	Rat	LD50 3,840 mg/kg
PNUC - CAS 41556-26-7 (EC 915-687-0)	Dermal	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
PNUC - CAS 41556-26-7 (EC 915-687-0)	Ingestion	Rat	LD50 3,125 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
Zn (2-Et-Hexanoate)2	Dermal		LD50 estimated to be > 5,000 mg/kg
Zn (2-Et-Hexanoate)2	Ingestion	Rat	LD50 > 5,000 mg/kg
Methyl Methacrylate	Dermal	Rabbit	LD50 > 5,000 mg/kg
Methyl Methacrylate	Inhalation-Vapor (4 hours)	Rat	LC50 29 mg/l
Methyl Methacrylate	Ingestion	Rat	LD50 7,900 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Cyclohexanone	Rabbit	Irritant
Polymer	Professional judgement	No significant irritation
Et 3-Ethoxypropionat	Rabbit	No significant irritation
1-methoxy-2-propyl acetate	Rabbit	No significant irritation

Red Pigment	Professional judgement	No significant irritation
Epoxy Soybean Oil	Rabbit	No significant irritation
PNUC - CAS 104810-47-1 (EC 400-830-7)	Rabbit	No significant irritation
PNUC - CAS 104810-48-2 (EC 400-830-7)	Rabbit	No significant irritation
Synthetic amorphous silica, fumed, crystalline-free (nanomaterial)	Rabbit	No significant irritation
NICKEL SALTS OF NAPHTHENIC ACIDS	Professional judgement	Minimal irritation
2,3-EPOXYPROPYL NEODECANOATE	Rabbit	No significant irritation
PNUC - CAS 64742-94-5 (EC 919-284-0)	Rabbit	Minimal irritation
ISODECYL DIPHENYL PHOSPHITE	Rabbit	No significant irritation
PNUC - CAS 41556-26-7 (EC 915-687-0)	Rabbit	Minimal irritation
Toluene	Rabbit	Irritant
Zn (2-Et-Hexanoate) ₂	Rabbit	Mild irritant
Methyl Methacrylate	Human and animal	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
Cyclohexanone	In vitro data	Corrosive
Polymer	Professional judgement	No significant irritation
Et 3-Ethoxypropionat	Rabbit	Mild irritant
1-methoxy-2-propyl acetate	Rabbit	Mild irritant
Red Pigment	Professional judgement	No significant irritation
Epoxy Soybean Oil	Rabbit	No significant irritation
PNUC - CAS 104810-47-1 (EC 400-830-7)	Rabbit	No significant irritation
PNUC - CAS 104810-48-2 (EC 400-830-7)	Rabbit	No significant irritation
Synthetic amorphous silica, fumed, crystalline-free (nanomaterial)	Rabbit	No significant irritation
NICKEL SALTS OF NAPHTHENIC ACIDS	Professional judgement	Mild irritant
2,3-EPOXYPROPYL NEODECANOATE	Rabbit	No significant irritation
PNUC - CAS 64742-94-5 (EC 919-284-0)	Rabbit	Mild irritant
ISODECYL DIPHENYL PHOSPHITE	Rabbit	No significant irritation
PNUC - CAS 41556-26-7 (EC 915-687-0)	Rabbit	Mild irritant
Toluene	Rabbit	Moderate irritant
Zn (2-Et-Hexanoate) ₂	Rabbit	Severe irritant
Methyl Methacrylate	Rabbit	Moderate irritant

Skin Sensitization

Name	Species	Value
Cyclohexanone	Guinea pig	Not classified
Et 3-Ethoxypropionat	Guinea pig	Not classified
1-methoxy-2-propyl acetate	Guinea pig	Not classified
Epoxy Soybean Oil	Guinea pig	Not classified
PNUC - CAS 104810-47-1 (EC 400-830-7)	Guinea pig	Sensitizing

PNUC - CAS 104810-48-2 (EC 400-830-7)	Guinea pig	Sensitizing
Synthetic amorphous silica, fumed, crystalline-free (nanomaterial)	Human and animal	Not classified
NICKEL SALTS OF NAPHTHENIC ACIDS	similar compounds	Sensitizing
2,3-EPOXYPROPYL NEODECANOATE	Guinea pig	Sensitizing
PNUC - CAS 64742-94-5 (EC 919-284-0)	Guinea pig	Not classified
ISODECYL DIPHENYL PHOSPHITE	Mouse	Sensitizing
PNUC - CAS 41556-26-7 (EC 915-687-0)	Guinea pig	Sensitizing
Toluene	Guinea pig	Not classified
Methyl Methacrylate	Human and animal	Sensitizing

Respiratory Sensitization

Name	Species	Value
NICKEL SALTS OF NAPHTHENIC ACIDS	Professional judgement	Sensitizing
Methyl Methacrylate	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
Cyclohexanone	In vivo	Not mutagenic
Cyclohexanone	In Vitro	Some positive data exist, but the data are not sufficient for classification
Et 3-Ethoxypropionat	In Vitro	Not mutagenic
1-methoxy-2-propyl acetate	In Vitro	Not mutagenic
Epoxy Soybean Oil	In Vitro	Not mutagenic
PNUC - CAS 104810-47-1 (EC 400-830-7)	In Vitro	Not mutagenic
PNUC - CAS 104810-47-1 (EC 400-830-7)	In vivo	Not mutagenic
PNUC - CAS 104810-48-2 (EC 400-830-7)	In Vitro	Not mutagenic
PNUC - CAS 104810-48-2 (EC 400-830-7)	In vivo	Not mutagenic
Synthetic amorphous silica, fumed, crystalline-free (nanomaterial)	In Vitro	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
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
PNUC - CAS 64742-94-5 (EC 919-284-0)	In Vitro	Not mutagenic
PNUC - CAS 64742-94-5 (EC 919-284-0)	In vivo	Not mutagenic
ISODECYL DIPHENYL PHOSPHITE	In Vitro	Not mutagenic
ISODECYL DIPHENYL PHOSPHITE	In vivo	Not mutagenic
PNUC - CAS 41556-26-7 (EC 915-687-0)	In vivo	Not mutagenic
PNUC - CAS 41556-26-7 (EC 915-687-0)	In Vitro	Some positive data exist, but the data are not sufficient for classification
Toluene	In Vitro	Not mutagenic
Toluene	In vivo	Not mutagenic
Methyl Methacrylate	In vivo	Not mutagenic
Methyl Methacrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Cyclohexanone	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Epoxy Soybean Oil	Ingestion	Rat	Not carcinogenic
Synthetic amorphous silica, fumed, crystalline-free (nanomaterial)	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
NICKEL SALTS OF NAPHTHENIC ACIDS	Inhalation	similar compounds	Carcinogenic
PNUC - CAS 64742-94-5 (EC 919-284-0)	Not Specified	Not applicable	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
Methyl Methacrylate	Ingestion	Rat	Not carcinogenic
Methyl Methacrylate	Inhalation	Human and animal	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Cyclohexanone	Inhalation	Not classified for female reproduction	Rat	NOAEL 4 mg/l	2 generation
Cyclohexanone	Inhalation	Not classified for male reproduction	Rat	NOAEL 2 mg/l	2 generation
Cyclohexanone	Ingestion	Not classified for development	Mouse	LOAEL 1,100 mg/kg/day	during organogenesis
Cyclohexanone	Inhalation	Not classified for development	Rat	NOAEL 2 mg/l	2 generation
1-methoxy-2-propyl acetate	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	prematuring & during gestation
1-methoxy-2-propyl acetate	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	prematuring & during gestation
1-methoxy-2-propyl acetate	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	prematuring & during gestation
1-methoxy-2-propyl acetate	Inhalation	Not classified for development	Rat	NOAEL 21.6 mg/l	during organogenesis
Epoxy Soybean Oil	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
Epoxy Soybean Oil	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
Epoxy Soybean Oil	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	1 generation
PNUC - CAS 104810-47-1 (EC 400-830-7)	Ingestion	Not classified for female reproduction	Rat	NOAEL 100 mg/kg/day	prematuring into lactation
PNUC - CAS 104810-47-1 (EC 400-830-7)	Ingestion	Not classified for male reproduction	Rat	NOAEL 100 mg/kg/day	115 days
PNUC - CAS 104810-47-1 (EC 400-830-7)	Ingestion	Not classified for development	Rat	NOAEL 2 mg/kg/day	prematuring into lactation
PNUC - CAS 104810-48-2 (EC 400-830-7)	Ingestion	Not classified for female reproduction	Rat	NOAEL 100 mg/kg/day	prematuring into lactation
PNUC - CAS 104810-48-2 (EC 400-830-7)	Ingestion	Not classified for male reproduction	Rat	NOAEL 100 mg/kg/day	115 days

PNUC - CAS 104810-48-2 (EC 400-830-7)	Ingestion	Not classified for development	Rat	NOAEL 2 mg/kg/day	prematuring into lactation
Synthetic amorphous silica, fumed, crystalline-free (nanomaterial)	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Synthetic amorphous silica, fumed, crystalline-free (nanomaterial)	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Synthetic amorphous silica, fumed, crystalline-free (nanomaterial)	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
NICKEL SALTS OF NAPHTHENIC ACIDS	Ingestion	Toxic to development	similar compounds	NOAEL not available	2 generation
PNUC - CAS 64742-94-5 (EC 919-284-0)	Not Specified	Not classified for female reproduction	Rat	NOAEL Not available	2 generation
PNUC - CAS 64742-94-5 (EC 919-284-0)	Not Specified	Not classified for male reproduction	Rat	NOAEL Not available	2 generation
PNUC - CAS 64742-94-5 (EC 919-284-0)	Not Specified	Not classified for development	Rat	NOAEL Not available	2 generation
PNUC - CAS 41556-26-7 (EC 915-687-0)	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,493 mg/kg/day	29 days
PNUC - CAS 41556-26-7 (EC 915-687-0)	Ingestion	Not classified for development	Rat	NOAEL 209 mg/kg/day	prematuring into lactation
PNUC - CAS 41556-26-7 (EC 915-687-0)	Ingestion	Toxic to female reproduction	Rat	NOAEL 804 mg/kg/day	prematuring into lactation
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
Zn (2-Et-Hexanoate)2	Ingestion	Not classified for female reproduction	similar compounds	NOAEL 800 mg/kg/day	2 generation
Zn (2-Et-Hexanoate)2	Ingestion	Not classified for male reproduction	similar compounds	NOAEL 800 mg/kg/day	2 generation
Zn (2-Et-Hexanoate)2	Ingestion	Toxic to development	similar compounds	NOAEL 100 mg/kg/day	during gestation
Methyl Methacrylate	Inhalation	Not classified for male reproduction	Mouse	NOAEL 36.9 mg/l	
Methyl Methacrylate	Inhalation	Not classified for development	Rat	NOAEL 8.3 mg/l	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Cyclohexanone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Guinea pig	LOAEL 16.1 mg/l	6 hours
Cyclohexanone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Cyclohexanone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
1-methoxy-2-propyl acetate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
PNUC - CAS 64742-94-5 (EC 919-284-0)	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and	NOAEL Not available	

				animal		
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
Zn (2-Et-Hexanoate)2	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	
Methyl Methacrylate	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not available	occupational exposure

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Cyclohexanone	Inhalation	liver kidney and/or bladder	Not classified	Rabbit	NOAEL 0.76 mg/l	50 days
Cyclohexanone	Ingestion	liver	Not classified	Mouse	NOAEL 4,800 mg/kg/day	90 days
Et 3-Ethoxypropionat	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 6 mg/l	90 days
Et 3-Ethoxypropionat	Inhalation	nervous system heart liver immune system kidney and/or bladder	Not classified	Rat	NOAEL 6 mg/l	17 days
Et 3-Ethoxypropionat	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	17 days
Et 3-Ethoxypropionat	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Et 3-Ethoxypropionat	Ingestion	kidney and/or bladder respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	17 days
1-methoxy-2-propyl acetate	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 16.2 mg/l	9 days
1-methoxy-2-propyl acetate	Inhalation	olfactory system	Not classified	Mouse	LOAEL 1.62 mg/l	9 days
1-methoxy-2-propyl acetate	Inhalation	blood	Not classified	Multiple animal species	NOAEL 16.2 mg/l	9 days
1-methoxy-2-propyl acetate	Ingestion	endocrine system	Not classified	Rat	NOAEL 1,000 mg/kg/day	44 days
Epoxy Soybean Oil	Ingestion	liver kidney and/or bladder	Not classified	Rat	NOAEL 1,250 mg/kg/day	2 years
PNUC - CAS 104810-47-1 (EC 400-830-7)	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL not available	28 days
PNUC - CAS 104810-47-1 (EC 400-830-7)	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 50 mg/kg/day	90 days
PNUC - CAS 104810-47-1 (EC 400-830-7)	Ingestion	liver	Not classified	Rat	NOAEL 10 mg/kg/day	28 days
PNUC - CAS 104810-47-1 (EC 400-830-7)	Ingestion	eyes	Not classified	Rat	NOAEL 50 mg/kg/day	90 days
PNUC - CAS 104810-48-2 (EC 400-830-7)	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL not available	28 days
PNUC - CAS 104810-48-2 (EC 400-830-7)	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 50 mg/kg/day	90 days
PNUC - CAS 104810-48-2 (EC 400-830-7)	Ingestion	liver	Not classified	Rat	NOAEL 10 mg/kg/day	28 days

PNUC - CAS 104810-48-2 (EC 400-830-7)	Ingestion	eyes	Not classified	Rat	NOAEL 50 mg/kg/day	90 days
Synthetic amorphous silica, fumed, crystalline-free (nanomaterial)	Inhalation	respiratory system silicosis	Not classified	Human	NOAEL Not available	occupational exposure
NICKEL SALTS OF NAPHTHENIC ACIDS	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	similar compounds	NOAEL not available	13 weeks
2,3-EPOXYPROPYL NEODECANOATE	Ingestion	hematopoietic system liver	Not classified	Rat	NOAEL 400 mg/kg/day	5 weeks
2,3-EPOXYPROPYL NEODECANOATE	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 40 mg/kg/day	5 weeks
ISODECYL DIPHENYL PHOSPHITE	Ingestion	nervous system	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 15 mg/kg/day	28 days
PNUC - CAS 41556-26-7 (EC 915-687-0)	Ingestion	eyes	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 300 mg/kg/day	28 days
PNUC - CAS 41556-26-7 (EC 915-687-0)	Ingestion	gastrointestinal tract liver immune system heart endocrine system hematopoietic system nervous system kidney and/or bladder	Not classified	Rat	NOAEL 1,493 mg/kg/day	29 days
Toluene	Inhalation	auditory system eyes olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Toluene	Inhalation	nervous system	May cause damage to organs though 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
Methyl Methacrylate	Dermal	peripheral nervous system	Not classified	Human	NOAEL Not available	occupational exposure
Methyl Methacrylate	Inhalation	olfactory system	Causes damage to organs through	Human	NOAEL Not	occupational

			prolonged or repeated exposure		available	exposure
Methyl Methacrylate	Inhalation	kidney and/or bladder	Not classified	Multiple animal species	NOAEL Not available	14 weeks
Methyl Methacrylate	Inhalation	liver	Not classified	Mouse	NOAEL 12.3 mg/l	14 weeks
Methyl Methacrylate	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure

Aspiration Hazard

Name	Value
PNUC - CAS 64742-94-5 (EC 919-284-0)	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**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations**13.1. Disposal methods**

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

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.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable), D005 (Barium), D006 (Cadmium), D007 (Chromium), D008 (Lead), D009 (Mercury), D043 (Vinyl chloride)

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information**15.1. US Federal Regulations**

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:**Physical Hazards**

Flammable (gases, aerosols, liquids, or solids)

Health Hazards
Carcinogenicity
Reproductive toxicity
Respiratory or Skin Sensitization
Serious eye damage or eye irritation
Skin Corrosion or Irritation
Specific target organ toxicity (single or repeated exposure)

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

Ingredient	C.A.S. No	% by Wt
NICKEL SALTS OF NAPHTHENIC ACIDS (NICKEL COMPOUNDS)	61788-71-4	Trade Secret < 1

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 3 Flammability: 2 Instability: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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