



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M™ Piezo Inkjet Ink 8922UV Red

Product Identification Numbers

| ID Number | UPC | ID Number | UPC |
|----------------|-----|-----------|-----|
| 75-0302-7014-6 | | | |
| 7100133912 | | | |

1.2. Recommended use and restrictions on use

Recommended use

Ink

1.3. Supplier's details

| | |
|----------------------|-----------------------------------------|
| MANUFACTURER: | 3M |
| DIVISION: | Transportation Safety 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

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

2.2. Label elements

Signal word

Danger

Symbols

Corrosion | Exclamation mark | Health Hazard |

Pictograms**Hazard Statements**

Causes serious eye damage.

Causes skin irritation.

May cause an allergic skin reaction.

May cause respiratory irritation.

May damage fertility or the unborn child.

May cause cancer.

May cause damage to organs through prolonged or repeated exposure:

gastrointestinal tract |

immune system |

kidney/urinary tract |

skin |

Precautionary Statements**Prevention:**

Obtain special instructions before use.

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

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

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

Continue rinsing.

IF ON SKIN: Wash with plenty of soap and water.

Immediately call a POISON CENTER or doctor/physician.

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

Take off contaminated clothing and wash it before reuse.

Storage:

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Disposal:

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

2.3. Hazards not otherwise classified

May cause chemical gastrointestinal burns.

12% of the mixture consists of ingredients of unknown acute oral toxicity.

32% of the mixture consists of ingredients of unknown acute dermal toxicity.
91% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------|
| Isobornyl acrylate | 5888-33-5 | 10 - 30 Trade Secret * |
| Isooctyl acrylate | 29590-42-9 | 10 - 30 Trade Secret * |
| Tetrahydrofurfuryl acrylate | 2399-48-6 | 10 - 30 Trade Secret * |
| 2-Propenoic acid, 2-hydroxyethyl ester, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 2-oxepanone and 2,2'-oxybis[ethanol] | 72162-39-1 | 5 - 10 Trade Secret * |
| 1,6-Hexanediol diacrylate | 13048-33-4 | 3 - 7 Trade Secret * |
| Organic pigment (NJTS Registry # 04499600-5232P) | Trade Secret* | 3 - 7 Trade Secret * |
| 2,4,6-Trimethylbenzoyldiphenylphosphine oxide | 75980-60-8 | 1 - 5 Trade Secret * |
| Benzophenone | 119-61-9 | 1 - 5 Trade Secret * |
| N',N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine, polymers w/morpholine-2,4,6-trichloro-1,3,5-triazine rctn prod, methylated | 193098-40-7 | 1 - 5 Trade Secret * |
| Proprietary ingredient | Trade Secret* | 1 - 5 Trade Secret * |
| Naphthenic acid | 1338-24-5 | 0.5 - 2 Trade Secret * |
| Camphene | 79-92-5 | < 0.3 Trade Secret * |
| Nickel salts of naphthenic acids | 61788-71-4 | < 0.04 Trade Secret * |

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

*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. Do not induce vomiting. Get immediate medical attention.

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

Irritating to the respiratory tract (coughing, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain). 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). 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 ordinary combustible material such as water or foam 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> |
|------------------|-------------------|
| Carbon monoxide | During Combustion |
| Carbon dioxide | 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. 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. 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. 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. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial/occupational use only. Not for consumer sale or use. Do not handle until all safety precautions have been read and understood. 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.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. 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 |
|-----------------------------|------------|-------------------------|--------------------------------------------------|---------------------|
| Benzophenone | 119-61-9 | AIHA | TWA:0.5 mg/m3 | |
| 1,6-Hexanediol diacrylate | 13048-33-4 | AIHA | TWA:1 mg/m3(0.11 ppm) | Dermal Sensitizer |
| Tetrahydrofurfuryl acrylate | 2399-48-6 | Manufacturer determined | TWA:0.1 ppm(0.64 mg/m3);STEL:0.3 ppm(1.91 mg/m3) | Dermal Sensitizer |
| Isooctyl acrylate | 29590-42-9 | AIHA | TWA:37.5 mg/m3(5 ppm) | |
| NICKEL, SOLUBLE COMPOUNDS | 61788-71-4 | OSHA | TWA(as Ni):1 mg/m3 | |

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.

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, including oily mists

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

Acrylate

Odor threshold

No Data Available

pH

Not Applicable

Melting point

Not Applicable

Boiling Point

> 200 °F

Flash Point

>=200 °F [*Test Method: Closed Cup*]

Evaporation rate

No Data Available

Flammability (solid, gas)

Not Applicable

Flammable Limits(LEL)

No Data Available

Flammable Limits(UEL)

No Data Available

Vapor Pressure

< 10 mmHg [*@ 20 °C*]

Vapor Density

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

Density

1.04 g/ml

Specific Gravity

1.04 [*Ref Std: WATER=1*]

Solubility in Water

Negligible

Solubility- non-water

No Data Available

Partition coefficient: n-octanol/ water

No Data Available

Autoignition temperature

No Data Available

Decomposition temperature

No Data Available

Viscosity

No Data Available

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization may occur. (Upon depletion of inhibitor or exposure to heat)

10.4. Conditions to avoid

Light

10.5. Incompatible materials

Strong oxidizing 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 labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation:

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

May cause additional health effects (see below).

Skin Contact:

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 Corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain; nausea; vomiting; and diarrhea; blood in the feces and/or vomitus may also be seen.

May cause additional health effects (see below).

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:

Immunological Effects: Signs/symptoms may include alterations in the number of circulating immune cells, allergic skin and/or respiratory reaction, and changes in immune function.

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

Kidney/Bladder Effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

Dermal Effects: Signs/symptoms may include redness, itching, acne, or bumps on the skin.

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 |
| Benzophenone | 119-61-9 | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |

Toxicological Data

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

Acute Toxicity

| Name | Route | Species | Value |
|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-----------------------|---------------------------------------------------------|
| Overall product | Dermal | | No data available; calculated ATE >5,000 mg/kg |
| Overall product | Inhalation-Dust/Mist(4 hr) | | No data available; calculated ATE >5 - =12.5 mg/l |
| Overall product | Ingestion | | No data available; calculated ATE >2,000 - =5,000 mg/kg |
| Isobornyl acrylate | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| Isobornyl acrylate | Ingestion | Rat | LD50 4,350 mg/kg |
| Tetrahydrofurfuryl acrylate | Ingestion | Rat | LD50 882 mg/kg |
| Isooctyl acrylate | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| Isooctyl acrylate | Ingestion | Rat | LD50 > 5,000 mg/kg |
| 1,6-Hexanediol diacrylate | Dermal | Rabbit | LD50 3,636 mg/kg |
| 1,6-Hexanediol diacrylate | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Organic pigment (NJTS Registry # 04499600-5232P) | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Organic pigment (NJTS Registry # 04499600-5232P) | Inhalation-Dust/Mist | | LC50 estimated to be > 12.5 mg/l |
| Organic pigment (NJTS Registry # 04499600-5232P) | Ingestion | | LD50 estimated to be > 5,000 mg/kg |
| 2,4,6-Trimethylbenzoyldiphenylphosphine oxide | Dermal | Professional judgment | LD50 estimated to be > 5,000 mg/kg |
| 2,4,6-Trimethylbenzoyldiphenylphosphine oxide | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Benzophenone | Dermal | Rabbit | LD50 3,535 mg/kg |
| Benzophenone | Ingestion | Rat | LD50 1,900 mg/kg |
| N',N'-Bis(2,2,6,6-tetramethyl-4-piperidiny)-1-6-hexanediamine, polymers w/morpholine-2,4,6-trichloro-1,3,5-triazine rctn prod, methylated | Dermal | Rat | LD50 > 2,000 mg/kg |
| N',N'-Bis(2,2,6,6-tetramethyl-4-piperidiny)-1-6-hexanediamine, polymers w/morpholine-2,4,6-trichloro-1,3,5-triazine rctn prod, methylated | Ingestion | Rat | LD50 >500, <2,000 mg/kg |
| N',N'-Bis(2,2,6,6-tetramethyl-4-piperidiny)-1-6-hexanediamine, polymers w/morpholine-2,4,6-trichloro-1,3,5-triazine rctn prod, methylated | Inhalation-Dust/Mist (4 hours) | similar compounds | LC50 2.8 mg/l |
| Naphthenic acid | Dermal | Rabbit | LD50 > 20,000 mg/kg |
| Naphthenic acid | Ingestion | Rat | LD50 5,880 mg/kg |
| Camphene | Dermal | Rabbit | LD50 > 2,500 mg/kg |
| Camphene | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Nickel salts of naphthenic acids | Ingestion | Rat | LD50 419 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|-----------------------------|-----------------------|--------------------|
| Overall product | Professional judgment | Irritant |
| Isobornyl acrylate | Rabbit | Minimal irritation |
| Tetrahydrofurfuryl acrylate | Rabbit | Corrosive |

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------|
| Isooctyl acrylate | In vitro data | No significant irritation |
| 2-Propenoic acid, 2-hydroxyethyl ester, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 2-oxepanone and 2,2'-oxybis[ethanol] | similar compounds | Irritant |
| 1,6-Hexanediol diacrylate | Rabbit | Irritant |
| Organic pigment (NJTS Registry # 04499600-5232P) | Professional judgment | No significant irritation |
| 2,4,6-Trimethylbenzoyldiphenylphosphine oxide | Rabbit | No significant irritation |
| Benzophenone | Rabbit | No significant irritation |
| N',N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1-6-hexanediamine, polymers w/morpholine-2,4,6-trichloro-1,3,5-triazine rctn prod, methylated | Rabbit | No significant irritation |
| Naphthenic acid | Rabbit | Mild irritant |
| Camphene | Rabbit | No significant irritation |
| Nickel salts of naphthenic acids | Professional judgment | Minimal irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------------------|
| Isobornyl acrylate | Rabbit | Mild irritant |
| Tetrahydrofurfuryl acrylate | Rabbit | Corrosive |
| Isooctyl acrylate | similar health hazards | Mild irritant |
| 2-Propenoic acid, 2-hydroxyethyl ester, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 2-oxepanone and 2,2'-oxybis[ethanol] | similar compounds | Severe irritant |
| 1,6-Hexanediol diacrylate | Rabbit | Moderate irritant |
| Organic pigment (NJTS Registry # 04499600-5232P) | Professional judgment | No significant irritation |
| 2,4,6-Trimethylbenzoyldiphenylphosphine oxide | Rabbit | No significant irritation |
| Benzophenone | Rabbit | Mild irritant |
| N',N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1-6-hexanediamine, polymers w/morpholine-2,4,6-trichloro-1,3,5-triazine rctn prod, methylated | Rabbit | Severe irritant |
| Naphthenic acid | Rabbit | Moderate irritant |
| Camphene | Rabbit | Moderate irritant |
| Nickel salts of naphthenic acids | Professional judgment | Mild irritant |

Skin Sensitization

| Name | Species | Value |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------|
| Isobornyl acrylate | Human and animal | Sensitizing |
| Tetrahydrofurfuryl acrylate | Professional judgment | Sensitizing |
| Isooctyl acrylate | Mouse | Sensitizing |
| 1,6-Hexanediol diacrylate | Guinea pig | Sensitizing |
| 2,4,6-Trimethylbenzoyldiphenylphosphine oxide | Mouse | Sensitizing |
| Benzophenone | Guinea pig | Not classified |
| N',N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1-6-hexanediamine, polymers w/morpholine-2,4,6-trichloro-1,3,5-triazine rctn prod, methylated | Guinea pig | Not classified |

| | | |
|----------------------------------|-------------------|-------------|
| Naphthenic acid | Guinea pig | Sensitizing |
| Nickel salts of naphthenic acids | similar compounds | Sensitizing |

Respiratory Sensitization

| Name | Species | Value |
|----------------------------------|------------------------|-------------|
| Nickel salts of naphthenic acids | Professional judgement | Sensitizing |

Germ Cell Mutagenicity

| Name | Route | Value |
|-------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------------------------------------------------------------------|
| Isobornyl acrylate | In Vitro | Not mutagenic |
| Tetrahydrofurfuryl acrylate | In Vitro | Not mutagenic |
| Isooctyl acrylate | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| 1,6-Hexanediol diacrylate | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| 2,4,6-Trimethylbenzoyldiphenylphosphine oxide | In Vitro | Not mutagenic |
| Benzophenone | In Vitro | Not mutagenic |
| Benzophenone | In vivo | Not mutagenic |
| N,N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1-6-hexanediamine, polymers w/morpholine-2,4,6-trichloro-1,3,5-triazine rctn prod, methylated | In Vitro | Not mutagenic |
| Naphthenic acid | In vivo | Not mutagenic |
| Naphthenic acid | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Camphene | In Vitro | Not mutagenic |
| Camphene | In vivo | Not mutagenic |
| Nickel salts of naphthenic acids | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Nickel salts of naphthenic acids | In vivo | Mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|----------------------------------|------------|-------------------------|------------------|
| Isooctyl acrylate | Dermal | Mouse | Not carcinogenic |
| 1,6-Hexanediol diacrylate | Dermal | Mouse | Not carcinogenic |
| Benzophenone | Dermal | Multiple animal species | Not carcinogenic |
| Benzophenone | Ingestion | Multiple animal species | Carcinogenic |
| Nickel salts of naphthenic acids | Inhalation | similar compounds | Carcinogenic |

Reproductive Toxicity

Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|-----------------------------|-----------|----------------------------------------|---------|---------------------|--------------------------|
| Isobornyl acrylate | Ingestion | Not classified for male reproduction | Rat | NOAEL 500 mg/kg/day | 31 days |
| Isobornyl acrylate | Ingestion | Not classified for female reproduction | Rat | NOAEL 100 mg/kg/day | premating into lactation |
| Isobornyl acrylate | Ingestion | Not classified for development | Rat | NOAEL 100 mg/kg/day | premating into lactation |
| Tetrahydrofurfuryl acrylate | Ingestion | Toxic to female reproduction | Rat | NOAEL 50 | premating |

| | | | | mg/kg/day | into lactation |
|-----------------------------------------------|---------------|----------------------------------------|-------------------|-----------------------|--------------------------------|
| Tetrahydrofurfuryl acrylate | Dermal | Toxic to male reproduction | Rat | NOAEL 100 mg/kg/day | 90 days |
| Tetrahydrofurfuryl acrylate | Ingestion | Toxic to male reproduction | Rat | NOAEL 35 mg/kg/day | 90 days |
| Tetrahydrofurfuryl acrylate | Inhalation | Toxic to male reproduction | Rat | NOAEL 0.6 mg/l | 90 days |
| Tetrahydrofurfuryl acrylate | Ingestion | Toxic to development | Rat | NOAEL 50 mg/kg/day | prematuring into lactation |
| Isooctyl acrylate | Dermal | Not classified for female reproduction | Rat | NOAEL 57 mg/kg/day | prematuring & during gestation |
| Isooctyl acrylate | Dermal | Not classified for male reproduction | Rat | NOAEL 57 mg/kg/day | prematuring & during gestation |
| Isooctyl acrylate | Dermal | Not classified for development | Rat | NOAEL 57 mg/kg/day | prematuring & during gestation |
| Isooctyl acrylate | Ingestion | Not classified for development | Rat | NOAEL 1,000 mg/kg/day | during organogenesis |
| 1,6-Hexanediol diacrylate | Not Specified | Not classified for development | Rat | NOAEL 750 mg/kg/day | during organogenesis |
| 2,4,6-Trimethylbenzoyldiphenylphosphine oxide | Ingestion | Not classified for development | Rat | NOAEL 150 mg/kg/day | during gestation |
| 2,4,6-Trimethylbenzoyldiphenylphosphine oxide | Ingestion | Toxic to female reproduction | Rat | NOAEL 200 mg/kg/day | prematuring into lactation |
| 2,4,6-Trimethylbenzoyldiphenylphosphine oxide | Ingestion | Toxic to male reproduction | Rat | NOAEL 60 mg/kg/day | 85 days |
| Benzophenone | Ingestion | Not classified for female reproduction | Rat | NOAEL 100 mg/kg/day | 2 generation |
| Benzophenone | Ingestion | Not classified for male reproduction | Rat | NOAEL 80 mg/kg/day | 2 generation |
| Benzophenone | Ingestion | Not classified for development | Rabbit | NOAEL 25 mg/kg/day | during gestation |
| Naphthenic acid | Ingestion | Not classified for female reproduction | Rat | NOAEL 900 mg/kg/day | prematuring 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 | prematuring into lactation |
| Camphene | Ingestion | Not classified for development | Rat | NOAEL 1,000 mg/kg/day | during organogenesis |
| Nickel salts of naphthenic acids | Ingestion | Toxic to development | similar compounds | NOAEL not available | 2 generation |

Target Organ(s)

Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|-----------------------------------------------------------------------------------------------|------------|-----------------------------------|------------------------------------------------------------------------------|------------------------|---------------------|-----------------------|
| Tetrahydrofurfuryl acrylate | Inhalation | respiratory irritation | May cause respiratory irritation | Human and animal | NOAEL Not available | |
| Isooctyl acrylate | Inhalation | respiratory irritation | Not classified | Human | NOAEL Not available | occupational exposure |
| Isooctyl acrylate | Ingestion | central nervous system depression | Not classified | Rat | NOAEL 5,000 mg/kg | |
| 2-Propenoic acid, 2-hydroxyethyl ester, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3- | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |

| | | | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------|------------------------------------------------------------------------------|------------------------|---------------------|--|
| trimethylcyclohexane, 2-oxepanone and 2,2'-oxybis[ethanol] | | | | | | |
| 1,6-Hexanediol diacrylate | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| N,N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1-6-hexanediamine, polymers w/morpholine-2,4,6-trichloro-1,3,5-triazine rxtn prod, methylated | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |
| Naphthenic acid | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |
| Camphene | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|------------------------------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|---------|-----------------------|--------------------------------|
| Isobornyl acrylate | Ingestion | gastrointestinal tract immune system kidney and/or bladder heart endocrine system hematopoietic system liver nervous system respiratory system | Not classified | Rat | NOAEL 500 mg/kg/day | 31 days |
| Isooctyl acrylate | Dermal | heart endocrine system hematopoietic system liver immune system nervous system kidney and/or bladder respiratory system | Not classified | Rat | NOAEL 57 mg/kg/day | prematuring & during gestation |
| Isooctyl acrylate | Ingestion | endocrine system liver kidney and/or bladder heart bone, teeth, nails, and/or hair hematopoietic system immune system muscles nervous system eyes respiratory system vascular system | Not classified | Rat | NOAEL 600 mg/kg/day | 90 days |
| 1,6-Hexanediol diacrylate | Dermal | skin | May cause damage to organs though prolonged or repeated exposure | Mouse | LOAEL 70 mg/kg/day | 80 weeks |
| 2,4,6-Trimethylbenzoyldiphenyl phosphine oxide | Ingestion | skin blood liver kidney and/or bladder nervous system | Not classified | Rat | NOAEL 1,000 mg/kg/day | 90 days |
| Benzophenone | Ingestion | kidney and/or bladder | May cause damage to organs though prolonged or repeated exposure | Rat | LOAEL 75 mg/kg/day | 14 weeks |
| Benzophenone | Ingestion | heart hematopoietic system liver immune system endocrine system | Not classified | Rat | NOAEL 850 mg/kg/day | 14 weeks |

| | | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|-------------------|-----------------------|----------|
| | | bone, teeth, nails, and/or hair nervous system eyes respiratory system | | | | |
| N',N'-Bis(2,2,6,6-tetramethyl-4-piperidinyl)-1-6-hexanediamine, polymers w/morpholine-2,4,6-trichloro-1,3,5-triazine rctn prod, methylated | Ingestion | gastrointestinal tract immune system | May cause damage to organs though prolonged or repeated exposure | Rat | NOAEL 15 mg/kg/day | 28 days |
| Naphthenic acid | Ingestion | endocrine system liver heart skin gastrointestinal tract bone, teeth, nails, and/or hair hematopoietic system immune system muscles nervous system eyes kidney and/or bladder respiratory system vascular system | Not classified | Rat | NOAEL 881 mg/kg/day | 90 days |
| Camphene | Ingestion | liver kidney and/or bladder hematopoietic system | Not classified | Rat | NOAEL 1,000 mg/kg/day | 28 days |
| Nickel salts of naphthenic acids | Inhalation | respiratory system | Causes damage to organs through prolonged or repeated exposure | similar compounds | NOAEL not available | 13 weeks |

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

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. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

SECTION 14: Transport Information

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

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

Contact 3M for more information.

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

Not applicable

Health Hazards

Carcinogenicity

Hazard Not Otherwise Classified (HNOC)

Reproductive toxicity

Respiratory or Skin Sensitization

Serious eye damage or eye irritation

Skin Corrosion or Irritation

Specific target organ toxicity (single or repeated exposure)

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:** 1 **Instability:** 1 **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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