Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier
3M™ Piezo Ink Jet Ink 2791 UV Magenta

Product Identification Numbers
75-3470-7342-3
7000056127

1.2. Recommended use and restrictions on use

Recommended use
UV Piezo Ink Jet Ink, 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
Serious Eye Damage/Irritation: Category 1.
Skin Corrosion/Irritation: Category 2.
Skin Sensitizer: Category 1.
Reproductive Toxicity: Category 1B.
Carcinogenicity: Category 2.
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.
Suspected of causing cancer.

May cause damage to organs through prolonged or repeated exposure:
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:
Keep cool.
Keep container tightly closed.
Store locked up in a well-ventilated place.

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.

20% of the mixture consists of ingredients of unknown acute oral toxicity.
42% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
TETRAHYDROFURFURYL ACRYLATE	2399-48-6	15 - 25 Trade Secret *
ISOBORNYL ACRYLATE	5888-33-5	10 - 20 Trade Secret *
ISOOCTYL ACRYLATE	29590-42-9	10 - 20 Trade Secret *
2-Propenoic acid, 1,6-hexanediyl ester, polymer with 2-aminoethanol	67906-98-3	5 - 15 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 - 15 Trade Secret *
1,6-HEXANEDIOL DIACRYLATE	13048-33-4	1 - 10 Trade Secret *
2,4,6-TRIMETHYLBENZOYLDIPHENYLPHOSPHINE	75980-60-8	1 - 10 Trade Secret *
ORGANIC PIGMENT	Trade Secret*	5 - 10 Trade Secret *
POLYALKYLENE IMINE TS# 800967-5312	Trade Secret*	1 - 10 Trade Secret *
BENZOPHENONE	119-61-9	1 - 7 Trade Secret *
CAMPHENE	79-92-5	< 1
TETRAHYDROFURFURYL ALCOHOL	97-99-4	< 1
Acrylic Acid	79-10-7	< 0.5
Toluene	108-88-3	< 0.2 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. Do not induce vomiting. Get immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

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

Substance	Condition
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
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 cool. Keep container tightly closed to prevent loss of stabilizing materials. Protect from sunlight. Store away from heat. 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
Toluene	108-88-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcin
Toluene	108-88-3	OSHA	TWA:200 ppm;CEIL:300 ppm	
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)	
Acrylic Acid	79-10-7	ACGIH	TWA:2 ppm	SKIN, A4: Not class. as human carcin
TETRAHYDROFURFURYL ALCOHOL	97-99-4	AIHA	TWA:2 mg/m3(0.5 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.

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.

Thermal hazards
Wear heat insulating gloves when handling hot material to prevent thermal burns.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	
Physical state	Liquid
Color	Magenta
Specific Physical Form:	Liquid
Odor	Acrylate
Odor threshold	*No Data Available*
pH	*Not Applicable*
Melting point	*Not Applicable*
Boiling Point	> 200 ºF
Flash Point	> 200 ºF [*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 ºC]
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*
Percent volatile	*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
Heat

10.5. Incompatible materials
Strong oxidizing agents

10.6. Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

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

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

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

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

May cause additional health effects (see below).

Skin Contact:
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:
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
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	Ingestion		No data available; calculated ATE2,000 - 5,000 mg/kg
TETRAHYDROFURFURYL ACRYLATE	Ingestion	Rat	LD50 882 mg/kg
ISOBORNYL ACRYLATE	Dermal	Rabbit	LD50 > 5,000 mg/kg
ISOOCTYL ACRYLATE	Dermal	Rabbit	LD50 > 2,000 mg/kg
ISOBORNYL ACRYLATE	Ingestion	Rat	LD50 4,350 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	Dermal	Rat	LD50 > 2,000 mg/kg
ORGANIC PIGMENT	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 3.055 mg/l
ORGANIC PIGMENT	Ingestion	Rat	LD50 > 5,000 mg/kg
2,4,6-TRIMETHYLBENZOYLDIPHENYLPHOSPHINE	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
2,4,6-TRIMETHYLBENZOYLDIPHENYLPHOSPHINE	Ingestion	Rat	LD50 > 5,000 mg/kg
BENZOPHENONE	Dermal	Rabbit	LD50 3,535 mg/kg
BENZOPHENONE	Ingestion	Rat	LD50 1,900 mg/kg
TETRAHYDROFURFURYL ALCOHOL	Dermal	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
TETRAHYDROFURFURYL ALCOHOL	Inhalation-Vapor (4 hours)	Rat	LC50 > 3.1 mg/l
TETRAHYDROFURFURYL ALCOHOL	Ingestion	Rat	LD50 > 2,000 mg/kg
Toluene	Dermal	Rat	LD50 12,000 mg/kg
Toluene	Inhalation-Vapor (4 hours)	Rat	LC50 30 mg/l
Toluene	Ingestion	Rat	LD50 5,550 mg/kg
Acrylic Acid	Dermal	Rabbit	LD50 > 2,000 mg/kg
Acrylic Acid	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3.8 mg/l
Acrylic Acid	Ingestion	Rat	LD50 1,250 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Overall product	Professional judgeme	Irritant

	nt	
TETRAHYDROFURFURYL ACRYLATE	Rabbit	Corrosive
ISOBORNYL ACRYLATE	Rabbit	Minimal irritation
ISOOCTYL ACRYLATE	In vitro data	No significant irritation
2-Propenoic acid, 1,6-hexanediyl ester, polymer with 2-aminoethanol	similar compounds	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	Irritant
1,6-HEXANEDIOL DIACRYLATE	Rabbit	Irritant
2,4,6-TRIMETHYLBENZOYLDIPHENYLPHOSPHINE	Rabbit	No significant irritation
BENZOPHENONE	Rabbit	No significant irritation
TETRAHYDROFURFURYL ALCOHOL	Rabbit	No significant irritation
Toluene	Rabbit	Irritant
Acrylic Acid	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
TETRAHYDROFURFURYL ACRYLATE	Rabbit	Corrosive
ISOBORNYL ACRYLATE	Rabbit	Mild irritant
ISOOCTYL ACRYLATE	similar health hazards	Mild irritant
2-Propenoic acid, 1,6-hexanediyl ester, polymer with 2-aminoethanol	similar compounds	Severe 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
2,4,6-TRIMETHYLBENZOYLDIPHENYLPHOSPHINE	Rabbit	No significant irritation
BENZOPHENONE	Rabbit	Mild irritant
CAMPHENE	Rabbit	Moderate irritant
TETRAHYDROFURFURYL ALCOHOL	Rabbit	Severe irritant
Toluene	Rabbit	Moderate irritant
Acrylic Acid	Rabbit	Corrosive

Skin Sensitization

Name	Species	Value
TETRAHYDROFURFURYL ACRYLATE	Professional judgement	Sensitizing
ISOBORNYL ACRYLATE	Mouse	Sensitizing
ISOOCTYL ACRYLATE	Mouse	Sensitizing
2-Propenoic acid, 1,6-hexanediyl ester, polymer with 2-aminoethanol	similar compounds	Sensitizing
1,6-HEXANEDIOL DIACRYLATE	Guinea pig	Sensitizing
2,4,6-TRIMETHYLBENZOYLDIPHENYLPHOSPHINE	Mouse	Sensitizing
BENZOPHENONE	Guinea pig	Not classified
TETRAHYDROFURFURYL ALCOHOL	Mouse	Not classified
Toluene	Guinea pig	Not classified
Acrylic Acid	Guinea pig	Not classified

Respiratory Sensitization

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

Germ Cell Mutagenicity

Name	Route	Value
TETRAHYDROFURFURYL ACRYLATE	In Vitro	Not mutagenic
ISOBORNYL ACRYLATE	In Vitro	Some positive data exist, but the data are not sufficient for classification
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	In Vitro	Not mutagenic
BENZOPHENONE	In Vitro	Not mutagenic
BENZOPHENONE	In vivo	Not mutagenic
TETRAHYDROFURFURYL ALCOHOL	In Vitro	Not mutagenic
Toluene	In Vitro	Not mutagenic
Toluene	In vivo	Not mutagenic
Acrylic Acid	In vivo	Not mutagenic
Acrylic Acid	In Vitro	Some positive data exist, but the data are not sufficient for classification

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
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
Acrylic Acid	Ingestion	Rat	Not carcinogenic
Acrylic Acid	Dermal	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
TETRAHYDROFURFURYL ACRYLATE	Ingestion	Toxic to female reproduction	Rat	NOAEL 50 mg/kg/day	premating 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	premating into lactation
ISOOCTYL ACRYLATE	Dermal	Not classified for female reproduction	Rat	NOAEL 57 mg/kg/day	premating & during gestation
ISOOCTYL ACRYLATE	Dermal	Not classified for male reproduction	Rat	NOAEL 57 mg/kg/day	premating & during gestation
ISOOCTYL ACRYLATE	Dermal	Not classified for development	Rat	NOAEL 57 mg/kg/day	premating & 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	Ingestion	Not classified for development	Rat	NOAEL 150 mg/kg/day	during gestation
2,4,6-TRIMETHYLBENZOYLDIPHENYLPHOSPHINE	Ingestion	Toxic to female reproduction	Rat	NOAEL 200 mg/kg/day	premating into lactation
2,4,6-TRIMETHYLBENZOYLDIPHENYLPHOSPHINE	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
TETRAHYDROFURFURYL ALCOHOL	Ingestion	Toxic to female reproduction	Rat	NOAEL 50 mg/kg/day	premating into lactation
TETRAHYDROFURFURYL ALCOHOL	Dermal	Toxic to male reproduction	Rat	NOAEL 100 mg/kg/day	13 weeks
TETRAHYDROFURFURYL ALCOHOL	Ingestion	Toxic to male reproduction	Rat	NOAEL 150 mg/kg/day	47 days
TETRAHYDROFURFURYL ALCOHOL	Inhalation	Toxic to male reproduction	Rat	NOAEL 0.6 mg/l	90 days
TETRAHYDROFURFURYL ALCOHOL	Ingestion	Toxic to development	Rat	NOAEL 50 mg/kg/day	premating 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
Acrylic Acid	Ingestion	Not classified for female reproduction	Rat	NOAEL 460 mg/kg/day	2 generation
Acrylic Acid	Ingestion	Not classified for male reproduction	Rat	NOAEL 460 mg/kg/day	2 generation
Acrylic Acid	Inhalation	Not classified for development	Rat	NOAEL 1.1 mg/l	during organogenesis
Acrylic Acid	Ingestion	Not classified for development	Rat	NOAEL 53 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
TETRAHYDROFURFURYL ACRYLATE	Inhalation	respiratory irritation	May cause respiratory irritation	Human and animal	NOAEL Not available	
ISOBORNYL ACRYLATE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	official classification	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, 1,6-	Inhalation	respiratory irritation	Some positive data exist, but the	similar	NOAEL Not	

hexanediyl ester, polymer with 2-aminoethanol			data are not sufficient for classification	health hazards	available	
2-Propenoic acid, 2-hydroxyethyl ester, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 2-oxepanone and 2,2'-oxybis[ethanol]	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
1,6-HEXANEDIOL DIACRYLATE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
TETRAHYDROFURFURYL ALCOHOL	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Toluene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Toluene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Toluene	Inhalation	immune system	Not classified	Mouse	NOAEL 0.004 mg/l	3 hours
Toluene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Acrylic Acid	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
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	premating & 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-TRIMETHYLBENZOYL DIPHENYLPHOSPHINE	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				
TETRAHYDROFURFURYL ALCOHOL	Inhalation	nervous system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.2 mg/l	90 days
TETRAHYDROFURFURYL ALCOHOL	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.6 mg/l	90 days
TETRAHYDROFURFURYL ALCOHOL	Inhalation	eyes	Not classified	Rat	NOAEL 2.1 mg/l	90 days
TETRAHYDROFURFURYL ALCOHOL	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 69 mg/kg/day	91 days
TETRAHYDROFURFURYL ALCOHOL	Ingestion	immune system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 150 mg/kg/day	28 days
TETRAHYDROFURFURYL ALCOHOL	Ingestion	endocrine system | kidney and/or bladder	Not classified	Rat	NOAEL 600 mg/kg/day	28 days
TETRAHYDROFURFURYL ALCOHOL	Ingestion	liver | eyes	Not classified	Rat	NOAEL 781 mg/kg/day	91 days
TETRAHYDROFURFURYL ALCOHOL	Ingestion	heart | nervous system	Not classified	Rat	NOAEL 600 mg/kg/day	28 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

Aspiration Hazard

Name	Value
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 completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste. 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

Not regulated per U.S. DOT, IATA or IMO.

These transportation classifications are provided as a customer service. As the shipper YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. 3M transportation classifications are based on product formulation, packaging, 3M policies and 3M understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to transportation classification and not the packaging, labeling, or marking requirements. The original 3M package is certified for U.S. ground shipment only. If you are shipping by air or ocean, the package may not meet applicable regulatory requirements.

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)

This material contains a chemical which requires export notification under TSCA Section 12[b]:

Ingredient (Category if applicable)	C.A.S. No	Regulation	Status
BENZOPHENONE	119-61-9	Toxic Substances Control Act (TSCA) 4 Test Rule Chemicals	Applicable

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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