



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M™ Screen Printing UV Ink 9843 Medium Yellow

Product Identification Numbers

75-3470-6907-4
7000056114

1.2. Recommended use and restrictions on use

Recommended use

Screen Printing 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 2A.
Skin Sensitizer: Category 1A.
Reproductive Toxicity: Category 1B.
Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements

Signal word

Danger

Symbols

Exclamation mark | Health Hazard |

Pictograms**Hazard Statements**

Causes serious eye irritation.

May cause an allergic skin reaction.

May damage fertility or the unborn child.

Causes damage to organs through prolonged or repeated exposure:
respiratory system |

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.

Wear eye/face protection.

Wear protective gloves.

Do not eat, drink or smoke when using this product.

Wash thoroughly after handling.

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

Response:

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

If eye irritation persists: Get medical advice/attention.

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

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

Wash contaminated clothing before reuse.

IF exposed or concerned: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

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.

11% of the mixture consists of ingredients of unknown acute oral toxicity.

27% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
PHENOXY ETHYL ACRYLATE	48145-04-6	30 - 40 Trade Secret *
BISMUTH VANADATE	14059-33-7	10 - 20 Trade Secret *
VINYLCAPROLACTAM	2235-00-9	10 - 20 Trade Secret *
METHACRYLATE POLYMER	Trade Secret*	10 - 20 Trade Secret *

ALIPHATIC URETHANE ACRYLATE	Trade Secret*	7 - 13 Trade Secret *
1-BUTANONE, 2-(DIMETHYLAMINO)-1-[4-(4-MORPHOLINYL)PHENYL]-2-(PHENYLMETHYL)-	119313-12-1	1 - 5 Trade Secret *
1-PROPANONE, 2-METHYL-1-[4-(METHYLTHIO)PHENYL]-2-(4-MORPHOLINYL)-	71868-10-5	1 - 5 Trade Secret *
BENZOIC ACID, 2,3,4,5-TETRACHLORO-6-CYANO-, METHYL ESTER, REACTION PRODUCTS WITH P-PHENYLENEDIAMINE AND SODIUM METHOXIDE	106276-80-6	1 - 5 Trade Secret *
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	112945-52-5	1 - 5 Trade Secret *
Aluminum Salt	Trade Secret*	1 - 5 Trade Secret *
Zinc Salt	Trade Secret*	1 - 5 Trade Secret *
.ALPHA.,.ALPHA.',.ALPHA."-1,2,3-PROPANETRIYLTRIS[POLYPROPYLENE GLYCOL ACRYLATE]	52408-84-1	0.1 - 1.0 Trade Secret *
DIETHYLENE GLYCOL ETHYL ETHER ACRYLATE	7328-17-8	0.1 - 1.0 Trade Secret *
OCTAMETHYLCYCLOTETRASILOXANE	556-67-2	0.1 - 1.0 Trade Secret *
TMPEOTA	28961-43-5	< 1 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. Remove contact lenses if easy to do. Continue rinsing. 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

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

<u>Substance</u>	<u>Condition</u>
Formaldehyde	During Combustion
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

Keep cool. 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
SILICA, AMORPHOUS	112945-52-5	OSHA	TWA concentration:0.8 mg/m3;TWA:20 millions of particles/cu. ft.	
VINYLCAPROLACTAM	2235-00-9	Manufacturer determined	TWA:0.1 ppm(0.57 mg/m3)	
OCTAMETHYLCYCLOTETRA SILOXANE	556-67-2	AIHA	TWA:10 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:
 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

General Physical Form: Liquid
 Specific Physical Form: Liquid

Odor, Color, Grade:	Yellow color, acrylate odor
Odor threshold	<i>No Data Available</i>
pH	<i>Not Applicable</i>
Melting point	<i>Not Applicable</i>
Boiling Point	> 300 °F
Flash Point	> 200 °F [Test Method:Pensky-Martens Closed Cup]
Evaporation rate	< 1 [Ref Std:BUOAC=1]
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	<i>No Data Available</i>
Flammable Limits(UEL)	<i>No Data Available</i>
Vapor Pressure	< 1.2 mmHg [@ 20 °C]
Vapor Density	<i>No Data Available</i>
Density	Approximately 1.3 g/ml
Specific Gravity	Approximately 1.3 [Ref Std:WATER=1]
Solubility in Water	Negligible
Solubility- non-water	<i>No Data Available</i>
Partition coefficient: n-octanol/ water	<i>No Data Available</i>
Autoignition temperature	<i>No Data Available</i>
Decomposition temperature	<i>No Data Available</i>
Viscosity	<i>No Data Available</i>
Volatile Organic Compounds	6 g/l
Percent volatile	1 - 5 % weight
VOC Less H2O & Exempt Solvents	6 g/l

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 loss of initiator or with exposure to heat.

10.4. Conditions to avoid

Sparks and/or flames
Heat

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:

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:

Contact with the skin during product use is not expected to result in significant irritation. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired 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:

Prolonged or repeated exposure may cause target organ effects:

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

Reproductive/Developmental Toxicity:

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

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 ATE 2,000 - 5,000 mg/kg
PHENOXY ETHYL ACRYLATE	Dermal	Rat	LD50 > 2,000 mg/kg
PHENOXY ETHYL ACRYLATE	Ingestion	Rat	LD50 > 5,000 mg/kg
METHACRYLATE POLYMER	Dermal		LD50 estimated to be > 5,000 mg/kg
METHACRYLATE POLYMER	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
VINYLCAPROLACTAM	Dermal	Rabbit	LD50 1,700 mg/kg
VINYLCAPROLACTAM	Ingestion	Rat	LD50 1,049 mg/kg
BISMUTH VANADATE	Dermal		LD50 estimated to be > 5,000 mg/kg
BISMUTH VANADATE	Inhalation-Dust/Mist	Rat	LC50 > 5.2 mg/l

	(4 hours)		
BISMUTH VANADATE	Ingestion	Rat	LD50 > 5,000 mg/kg
BENZOIC ACID, 2,3,4,5-TETRACHLORO-6-CYANO-, METHYL ESTER, REACTION PRODUCTS WITH P-PHENYLENEDIAMINE AND SODIUM METHOXIDE	Dermal		LD50 estimated to be > 5,000 mg/kg
BENZOIC ACID, 2,3,4,5-TETRACHLORO-6-CYANO-, METHYL ESTER, REACTION PRODUCTS WITH P-PHENYLENEDIAMINE AND SODIUM METHOXIDE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1 mg/l
BENZOIC ACID, 2,3,4,5-TETRACHLORO-6-CYANO-, METHYL ESTER, REACTION PRODUCTS WITH P-PHENYLENEDIAMINE AND SODIUM METHOXIDE	Ingestion	Rat	LD50 > 5,000 mg/kg
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Dermal	Rabbit	LD50 > 5,000 mg/kg
1-BUTANONE, 2-(DIMETHYLAMINO)-1-[4-(4-MORPHOLINYL)PHENYL]-2-(PHENYLMETHYL)-	Dermal	Rat	LD50 > 2,000 mg/kg
1-BUTANONE, 2-(DIMETHYLAMINO)-1-[4-(4-MORPHOLINYL)PHENYL]-2-(PHENYLMETHYL)-	Ingestion	Rat	LD50 > 5,000 mg/kg
1-PROPANONE, 2-METHYL-1-[4-(METHYLTHIO)PHENYL]-2-(4-MORPHOLINYL)-	Dermal	Rat	LD50 > 2,000 mg/kg
1-PROPANONE, 2-METHYL-1-[4-(METHYLTHIO)PHENYL]-2-(4-MORPHOLINYL)-	Ingestion	Rat	LD50 967 mg/kg
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Ingestion	Rat	LD50 > 5,110 mg/kg
DIETHYLENE GLYCOL ETHYL ETHER ACRYLATE	Dermal		LD50 estimated to be 1,000 - 2,000 mg/kg
DIETHYLENE GLYCOL ETHYL ETHER ACRYLATE	Ingestion	Rat	LD50 1,860 mg/kg
.ALPHA.,.ALPHA.',.ALPHA."-1,2,3-PROPANETRIYLTRIS[POLYPROPYLENE GLYCOL ACRYLATE]	Dermal	Rabbit	LD50 > 2,000 mg/kg
.ALPHA.,.ALPHA.',.ALPHA."-1,2,3-PROPANETRIYLTRIS[POLYPROPYLENE GLYCOL ACRYLATE]	Ingestion	Rat	LD50 > 2,000 mg/kg
TMPEOTA	Dermal	Rabbit	LD50 > 13,000 mg/kg
TMPEOTA	Ingestion	Rat	LD50 > 2,000 mg/kg
OCTAMETHYLCYCLOTETRASILOXANE	Dermal	Rat	LD50 > 2,400 mg/kg
OCTAMETHYLCYCLOTETRASILOXANE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 36 mg/l
OCTAMETHYLCYCLOTETRASILOXANE	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
PHENOXY ETHYL ACRYLATE	Rabbit	No significant irritation
VINYLCAPROLACTAM	Rabbit	Minimal irritation
BISMUTH VANADATE	Rabbit	No significant irritation
BENZOIC ACID, 2,3,4,5-TETRACHLORO-6-CYANO-, METHYL ESTER, REACTION PRODUCTS WITH P-PHENYLENEDIAMINE AND SODIUM METHOXIDE	Rabbit	No significant irritation
1-BUTANONE, 2-(DIMETHYLAMINO)-1-[4-(4-MORPHOLINYL)PHENYL]-2-(PHENYLMETHYL)-	Rabbit	No significant irritation
1-PROPANONE, 2-METHYL-1-[4-(METHYLTHIO)PHENYL]-2-(4-MORPHOLINYL)-	Rabbit	No significant irritation
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Rabbit	No significant irritation
DIETHYLENE GLYCOL ETHYL ETHER ACRYLATE	Rabbit	Irritant
.ALPHA.,.ALPHA.',.ALPHA."-1,2,3-PROPANETRIYLTRIS[POLYPROPYLENE GLYCOL ACRYLATE]	Rabbit	Minimal irritation
TMPEOTA	Rabbit	Minimal irritation
OCTAMETHYLCYCLOTETRASILOXANE	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value

PHENOXY ETHYL ACRYLATE	Rabbit	No significant irritation
VINYLCAPROLACTAM	Rabbit	Severe irritant
BISMUTH VANADATE	Rabbit	No significant irritation
BENZOIC ACID, 2,3,4,5-TETRACHLORO-6-CYANO-, METHYL ESTER, REACTION PRODUCTS WITH P-PHENYLENEDIAMINE AND SODIUM METHOXIDE	Rabbit	No significant irritation
1-BUTANONE, 2-(DIMETHYLAMINO)-1-[4-(4-MORPHOLINYL)PHENYL]-2-(PHENYLMETHYL)-	Rabbit	No significant irritation
1-PROPANONE, 2-METHYL-1-[4-(METHYLTHIO)PHENYL]-2-(4-MORPHOLINYL)-	Rabbit	No significant irritation
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Rabbit	No significant irritation
DIETHYLENE GLYCOL ETHYL ETHER ACRYLATE	Rabbit	Severe irritant
.ALPHA.,.ALPHA.',.ALPHA."-1,2,3-PROPANETRIYLTRIS[POLYPROPYLENE GLYCOL ACRYLATE]	Rabbit	Severe irritant
TMPEOTA	Rabbit	Severe irritant
OCTAMETHYLCYCLOTETRASILOXANE	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value
PHENOXY ETHYL ACRYLATE	Guinea pig	Sensitizing
VINYLCAPROLACTAM	Mouse	Sensitizing
BENZOIC ACID, 2,3,4,5-TETRACHLORO-6-CYANO-, METHYL ESTER, REACTION PRODUCTS WITH P-PHENYLENEDIAMINE AND SODIUM METHOXIDE	Human	Not classified
1-BUTANONE, 2-(DIMETHYLAMINO)-1-[4-(4-MORPHOLINYL)PHENYL]-2-(PHENYLMETHYL)-	Guinea pig	Not classified
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Human and animal	Not classified
DIETHYLENE GLYCOL ETHYL ETHER ACRYLATE	Guinea pig	Sensitizing
.ALPHA.,.ALPHA.',.ALPHA."-1,2,3-PROPANETRIYLTRIS[POLYPROPYLENE GLYCOL ACRYLATE]	Mouse	Sensitizing
TMPEOTA	Guinea pig	Sensitizing
OCTAMETHYLCYCLOTETRASILOXANE	Human and animal	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
VINYLCAPROLACTAM	In Vitro	Not mutagenic
BENZOIC ACID, 2,3,4,5-TETRACHLORO-6-CYANO-, METHYL ESTER, REACTION PRODUCTS WITH P-PHENYLENEDIAMINE AND SODIUM METHOXIDE	In Vitro	Not mutagenic
1-BUTANONE, 2-(DIMETHYLAMINO)-1-[4-(4-MORPHOLINYL)PHENYL]-2-(PHENYLMETHYL)-	In Vitro	Not mutagenic
1-BUTANONE, 2-(DIMETHYLAMINO)-1-[4-(4-MORPHOLINYL)PHENYL]-2-(PHENYLMETHYL)-	In vivo	Not mutagenic
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	In Vitro	Not mutagenic
OCTAMETHYLCYCLOTETRASILOXANE	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Not Specified	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
PHENOXY ETHYL ACRYLATE	Ingestion	Not classified for male reproduction	Rat	NOAEL 800 mg/kg/day	43 days
PHENOXY ETHYL ACRYLATE	Ingestion	Toxic to female reproduction	Rat	NOAEL 300 mg/kg/day	prematuring into lactation
PHENOXY ETHYL ACRYLATE	Ingestion	Toxic to development	Rat	NOAEL 300 mg/kg/day	prematuring into lactation
1-BUTANONE, 2-(DIMETHYLAMINO)-1-[4-(4-MORPHOLINYL)PHENYL]-2-(PHENYLMETHYL)-	Ingestion	Not classified for female reproduction	Rat	NOAEL 300 mg/kg/day	1 generation
1-BUTANONE, 2-(DIMETHYLAMINO)-1-[4-(4-MORPHOLINYL)PHENYL]-2-(PHENYLMETHYL)-	Ingestion	Not classified for male reproduction	Rat	NOAEL 300 mg/kg/day	1 generation
1-BUTANONE, 2-(DIMETHYLAMINO)-1-[4-(4-MORPHOLINYL)PHENYL]-2-(PHENYLMETHYL)-	Ingestion	Toxic to development	Rat	NOAEL 30 mg/kg/day	1 generation
1-PROPANONE, 2-METHYL-1-[4-(METHYLTHIO)PHENYL]-2-(4-MORPHOLINYL)-	Ingestion	Toxic to female reproduction	Rat	LOAEL 40 mg/kg/day	1 generation
1-PROPANONE, 2-METHYL-1-[4-(METHYLTHIO)PHENYL]-2-(4-MORPHOLINYL)-	Ingestion	Toxic to development	Rat	LOAEL 40 mg/kg/day	1 generation
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
OCTAMETHYLCYCLOTETRASILOXANE	Inhalation	Not classified for male reproduction	Rat	NOAEL 8.5 mg/l	2 generation
OCTAMETHYLCYCLOTETRASILOXANE	Ingestion	Toxic to female reproduction	Rabbit	NOAEL 50 mg/kg/day	during organogenesis
OCTAMETHYLCYCLOTETRASILOXANE	Inhalation	Toxic to female reproduction	Rat	NOAEL 3.6 mg/l	2 generation

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
VINYLCAPROLACTAM	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
VINYLCAPROLACTAM	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 0.001 mg/l	28 days
VINYLCAPROLACTAM	Inhalation	blood liver kidney and/or bladder eyes	Not classified	Rat	NOAEL 0.18 mg/l	90 days
VINYLCAPROLACTAM	Ingestion	liver	Not classified	Rat	NOAEL 260 mg/kg/day	3 months
BISMUTH VANADATE	Inhalation	respiratory system	May cause damage to organs through prolonged or repeated exposure	Rat	NOAEL 0.02 mg/l	28 days
1-BUTANONE, 2-(DIMETHYLAMINO)-1-	Ingestion	endocrine system hematopoietic	Not classified	Rat	NOAEL 500 mg/kg/day	28 days

[4-(4-MORPHOLINYL)PHENYL]-2-(PHENYLMETHYL)-		system liver kidney and/or bladder				
1-PROPANONE, 2-METHYL-1-[4-(METHYLTHIO)PHENYL]-2-(4-MORPHOLINYL)-	Ingestion	peripheral nervous system eyes	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 75 mg/kg/day	90 days
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Inhalation	respiratory system silicosis	Not classified	Human	NOAEL Not available	occupational exposure
OCTAMETHYLCYCLOTRASILOXANE	Dermal	hematopoietic system	Not classified	Rabbit	NOAEL 960 mg/kg/day	3 weeks
OCTAMETHYLCYCLOTRASILOXANE	Inhalation	liver	Not classified	Rat	NOAEL 8.5 mg/l	13 weeks
OCTAMETHYLCYCLOTRASILOXANE	Inhalation	endocrine system immune system kidney and/or bladder	Not classified	Rat	NOAEL 8.5 mg/l	2 generation
OCTAMETHYLCYCLOTRASILOXANE	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 8.5 mg/l	13 weeks
OCTAMETHYLCYCLOTRASILOXANE	Ingestion	liver	Not classified	Rat	NOAEL 1,600 mg/kg/day	2 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.

EPA Hazardous Waste Number (RCRA): Not regulated

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

Reproductive toxicity

Respiratory or Skin Sensitization

Serious eye damage or eye 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):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
BISMUTH VANADATE (VANADIUM COMPOUNDS)	14059-33-7	10 - 20

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

<u>Ingredient (Category if applicable)</u>	<u>C.A.S. No</u>	<u>Regulation</u>	<u>Status</u>
OCTAMETHYLCYCLOTETRASILOXANE	556-67-2	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: 2 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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