



Safety Data Sheet

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Document Group:	18-0995-3	Version Number:	7.00
Issue Date:	09/23/21	Supersedes Date:	05/21/18

SECTION 1: Identification

1.1. Product identifier

3M™ Flow Additive 892

Product Identification Numbers

75-0301-0620-9

7000055556

1.2. Recommended use and restrictions on use

Recommended use

FLOW ADDITIVE FOR SCREEN PRINTING INKS USED ON REFLECTIVE SHEETINGS

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

Reproductive Toxicity: Category 2.

2.2. Label elements

Signal word

Warning

Symbols

Health Hazard |

Pictograms

**Hazard Statements**

Suspected of damaging fertility or the unborn child.

Precautionary Statements**Prevention:**

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves.

Response:

IF exposed or concerned: Get medical advice/attention.

Storage:

Store locked up.

Disposal:

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

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Siloxanes and silicone, di-me, hydroxy-terminated	70131-67-8	60 - 80 Trade Secret *
Siloxanes and silicones, di-me	63148-62-9	15 - 40 Trade Secret *
Siloxanes and silicones, di-me, reaction products with silica	67762-90-7	1 - 5 Trade Secret *
Dodecamethylcyclohexasiloxane	540-97-6	< 0.3 Trade Secret *
Decamethylcyclopentasiloxane	541-02-6	< 0.2 Trade Secret *
Octamethylcyclotetrasiloxane	556-67-2	< 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 are concerned, get medical advice.

Skin Contact:

Wash with soap and water. If you are concerned, get medical advice.

Eye Contact:

No need for first aid is anticipated.

If Swallowed:

Rinse mouth. If you are concerned, get medical advice.

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

No critical symptoms or effects. 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

None inherent in this product.

Hazardous Decomposition or By-Products**Substance**

Formaldehyde
Carbon dioxide

Condition

During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

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. Avoid breathing 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. Avoid release to the environment. 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 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
Octamethylcyclotetrasiloxane		AIHA	TWA:10 ppm	
SILICA, AMORPHOUS		OSHA	TWA:20 millions of particles/cu. ft.;TWA concentration:0.8 mg/m3	
Decamethylcyclopentasiloxane	541-02-6	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

None required.

Skin/hand protection

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

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

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

Respiratory protection

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

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

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	
Physical state	Liquid
Color	Milky White
Specific Physical Form:	liquid
Odor	Sweet Solvent
Odor threshold	<i>No Data Available</i>
pH	<i>Not Applicable</i>
Melting point	<i>Not Applicable</i>
Boiling Point	>=95 °F
Flash Point	>=214 °F [<i>Test Method: Closed Cup</i>]
Evaporation rate	<i>No Data Available</i>
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	<i>No Data Available</i>
Flammable Limits(UEL)	<i>No Data Available</i>
Vapor Pressure	<i>No Data Available</i>
Vapor Density	<i>No Data Available</i>
Density	0.984 g/ml
Specific Gravity	0.984 [<i>@ 25 °C</i>]
Solubility in Water	<i>No Data Available</i>
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	1,000 centipoise
Molecular weight	<i>No Data Available</i>

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Sparks and/or flames

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 cause additional health effects (see below).

Skin Contact:

Contact with the skin during product use is not expected to result in significant irritation.

Eye Contact:

Contact with the eyes during product use is not expected to result in significant irritation.

Ingestion:

May cause additional health effects (see below).

Additional Health Effects:

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	Ingestion		No data available; calculated ATE >5,000 mg/kg
Siloxanes and silicone, di-me, hydroxy-terminated	Dermal	Rabbit	LD50 > 16,000 mg/kg
Siloxanes and silicone, di-me, hydroxy-terminated	Ingestion	Rat	LD50 > 64,000 mg/kg
Siloxanes and silicones, di-me	Dermal	Rabbit	LD50 > 19,400 mg/kg
Siloxanes and silicones, di-me	Ingestion	Rat	LD50 > 17,000 mg/kg
Siloxanes and silicones, di-me, reaction products with silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Siloxanes and silicones, di-me, reaction products with silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Siloxanes and silicones, di-me, reaction products with silica	Ingestion	Rat	LD50 > 5,110 mg/kg
Dodecamethylcyclohexasiloxane	Dermal	Rat	LD50 > 2,000 mg/kg
Dodecamethylcyclohexasiloxane	Ingestion	Rat	LD50 > 50,000 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
Decamethylcyclopentasiloxane	Dermal	Rabbit	LD50 > 15,000 mg/kg
Decamethylcyclopentasiloxane	Inhalation-Dust/Mist (4 hours)	Rat	LC50 8.7 mg/l
Decamethylcyclopentasiloxane	Ingestion	Rat	LD50 > 24,134 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
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Siloxanes and silicones, di-me	Rabbit	No significant irritation
Siloxanes and silicones, di-me, reaction products with silica	Rabbit	No significant irritation
Dodecamethylcyclohexasiloxane	Rabbit	No significant irritation
Octamethylcyclotetrasiloxane	Rabbit	Minimal irritation
Decamethylcyclopentasiloxane	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Siloxanes and silicones, di-me	Rabbit	No significant irritation
Siloxanes and silicones, di-me, reaction products with silica	Rabbit	No significant irritation
Dodecamethylcyclohexasiloxane	Rabbit	No significant irritation
Octamethylcyclotetrasiloxane	Rabbit	No significant irritation
Decamethylcyclopentasiloxane	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value
Siloxanes and silicones, di-me, reaction products with silica	Human and animal	Not classified
Octamethylcyclotetrasiloxane	Human and animal	Not classified
Decamethylcyclopentasiloxane	Mouse	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
Siloxanes and silicone, di-me, hydroxy-terminated	In Vitro	Not mutagenic
Siloxanes and silicones, di-me, reaction products with silica	In Vitro	Not mutagenic
Octamethylcyclotetrasiloxane	In Vitro	Some positive data exist, but the data are not sufficient for classification
Decamethylcyclopentasiloxane	In Vitro	Not mutagenic
Decamethylcyclopentasiloxane	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Siloxanes and silicones, di-me, reaction products with silica	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
Decamethylcyclopentasiloxane	Inhalation	Rat	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
Siloxanes and silicones, di-me, reaction products with silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Siloxanes and silicones, di-me, reaction products with silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Siloxanes and silicones, di-me, reaction products with silica	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
Dodecamethylcyclohexasiloxane	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	prematings & during gestation
Dodecamethylcyclohexasiloxane	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000	28 days

				mg/kg/day	
Dodecamethylcyclohexasiloxane	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	prematuring & during gestation
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
Decamethylcyclopentasiloxane	Inhalation	Not classified for female reproduction	Rat	NOAEL 2.43 mg/l	2 generation
Decamethylcyclopentasiloxane	Inhalation	Not classified for male reproduction	Rat	NOAEL 2.43 mg/l	2 generation
Decamethylcyclopentasiloxane	Inhalation	Not classified for development	Rat	NOAEL 2.43 mg/l	2 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

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

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Siloxanes and silicones, dime, reaction products with silica	Inhalation	respiratory system silicosis	Not classified	Human	NOAEL Not available	occupational exposure
Dodecamethylcyclohexasiloxane	Ingestion	endocrine system liver respiratory system nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Octamethylcyclotetrasiloxane	Dermal	hematopoietic system	Not classified	Rabbit	NOAEL 960 mg/kg/day	3 weeks
Octamethylcyclotetrasiloxane	Inhalation	liver	Not classified	Rat	NOAEL 8.5 mg/l	13 weeks
Octamethylcyclotetrasiloxane	Inhalation	endocrine system immune system kidney and/or bladder	Not classified	Rat	NOAEL 8.5 mg/l	2 generation
Octamethylcyclotetrasiloxane	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 8.5 mg/l	13 weeks
Octamethylcyclotetrasiloxane	Ingestion	liver	Not classified	Rat	NOAEL 1,600 mg/kg/day	2 weeks
Decamethylcyclopentasiloxane	Dermal	hematopoietic system eyes	Not classified	Rat	NOAEL 1,600 mg/kg/day	28 days
Decamethylcyclopentasiloxane	Inhalation	hematopoietic system respiratory system liver eyes kidney and/or bladder	Not classified	Rat	NOAEL 2.42 mg/l	2 years
Decamethylcyclopentasiloxane	Ingestion	liver immune system respiratory system heart hematopoietic system kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	90 days

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. 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

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***** Missing Data *****	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: 0 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

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

Document Group:	18-0995-3	Version Number:	7.00
Issue Date:	09/23/21	Supersedes Date:	05/21/18

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