



O-(METHACRYLOXYETHYL)-N-(TRIETHOXSILYLPROPYL)CARBAMATE, 90%

Safety Data Sheet SIM6480.8

Issue date: 01/07/2015

Revision date: 08/08/2023

Version: 1.3

SECTION 1: Identification

1.1. Identification

Product name	: O-(METHACRYLOXYETHYL)-N-(TRIETHOXSILYLPROPYL)CARBAMATE, 90%
Product code	: SIM6480.8
Product form	: Substance
Physical state	: Liquid
Formula	: C ₁₆ H ₃₁ NO ₇ Si
Synonyms	: O-(METHACRYLOXYETHYL)-N-(TRIETHOXSILYLPROPYL)CARBAMATE
Chemical family	: ORGANOETHOXSILANE

1.2. Recommended use and restrictions on use

Recommended use	: Chemical intermediate
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1.3. Supplier

GELEST, INC.

11 East Steel Road
Morrisville, PA 19067

USA

T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST

info@gelest.com - www.gelest.com

1.4. Emergency telephone number

Emergency number	: CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)
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SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Serious eye damage/eye irritation Category 2A H319 Causes serious eye irritation

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US)



Signal word (GHS US)

: Warning

Hazard statements (GHS US)

: H319 - Causes serious eye irritation

Precautionary statements (GHS US)

: P264 - Wash hands thoroughly after handling.

P280 - Wear protective gloves, protective clothing, eye protection.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337+P313 - If eye irritation persists: Get medical advice/attention.

2.3. Hazards not otherwise classified (HNOC)

Other hazards which do not result in classification	: This compound liberates ethanol on contact with moisture.
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2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Multi-constituent
Name : O-(METHACRYLOXYETHYL)-N-(TRIETHOXSILYLPROPYL)CARBAMATE, 90%
CAS-No. : 115396-93-5

Name	Product identifier	%	GHS US classification
O-(Methacryloxyethyl)-N-(triethoxysilylpropyl)carbamate	CAS-No.: 115396-93-5	> 90	Eye Irrit. 2A, H319
Hydroquinone monomethyl ether	CAS-No.: 150-76-5	< 0.05	Acute Tox. 4 (Oral), H302 Eye Irrit. 2B, H320 Skin Sens. 1, H317

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Wash with plenty of soap and water. Get medical advice/attention.

First-aid measures after eye contact : Remove contact lenses, if present and easy to do. Continue rinsing. Immediately flush eyes thoroughly with water for at least 15 minutes. Get medical advice/attention.

First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Get medical advice/attention.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : May cause irritation to the respiratory tract. Overexposure may cause: Coughing. Headache. Nausea.

Symptoms/effects after skin contact : May cause skin irritation.

Symptoms/effects after eye contact : Causes serious eye irritation.

Symptoms/effects after ingestion : No information available.

Chronic symptoms : On contact with water this compound liberates ethanol which is known to have a chronic effect on the central nervous system.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Foam. Carbon dioxide. Dry chemical.

Unsuitable extinguishing media : Do not use straight streams.

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5.2. Specific hazards arising from the chemical

Fire hazard : Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Exercise caution when fighting any chemical fire. Use water spray to cool exposed surfaces.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapor and mist.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Wear protective equipment as described in Section 8.
Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up : Clean up any spills as soon as possible, using an absorbent material to collect it.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Use only in well ventilated areas. Avoid all eye and skin contact and do not breathe vapor and mist.
Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed. Store cold.
Incompatible materials : Moisture. Water.
Storage area : Store in a well-ventilated place. Store away from heat.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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Hydroquinone monomethyl ether (150-76-5)

USA - ACGIH - Occupational Exposure Limits

ACGIH OEL TWA	5 mg/m ³
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USA - NIOSH - Occupational Exposure Limits

NIOSH REL (TWA)	5 mg/m ³
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8.2. Appropriate engineering controls

Appropriate engineering controls : Provide local exhaust or general room ventilation.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Hand protection:

Neoprene or nitrile rubber gloves

Eye protection:

Chemical goggles. Contact lenses should not be worn

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified combination organic vapor - amine gas (brown cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear liquid.
Molecular mass	: 377.51 g/mol
Color	: Straw.
Odor	: Mild.
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: < 0 °C
Boiling point	: > 130 °C @ 4 mm Hg
Flash point	: > 110 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: < 0.1 mm Hg @ 25°C
Relative vapor density at 20°C	: No data available
Relative density	: 1.051
Solubility	: Reacts with water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: No data available

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9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable in sealed containers stored in the dark at 0-5°C. Polymerization can occur when stored at elevated temperature.

10.3. Possibility of hazardous reactions

Reacts with water and moisture in air, liberating ethanol.

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Moisture. Water.

10.6. Hazardous decomposition products

Ethanol. Organic acid vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Hydroquinone monomethyl ether (150-76-5)

LD50 oral rat	1600 mg/kg
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified. None of the components in this product at concentrations >0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: May cause irritation to the respiratory tract. Overexposure may cause: Coughing. Headache. Nausea.
Symptoms/effects after skin contact	: May cause skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: No information available.
Chronic symptoms	: On contact with water this compound liberates ethanol which is known to have a chronic effect on the central nervous system.
Reason for classification	: Expert judgment

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SECTION 12: Ecological information

12.1. Toxicity

Hydroquinone monomethyl ether (150-76-5)

LC50 - Fish [1]	84.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 - Fish [2]	28.5 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Hydroquinone monomethyl ether (150-76-5)

Partition coefficient n-octanol/water (Log Pow)	1.34
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12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other adverse effects	: This substance may be hazardous to the environment.
Effect on the ozone layer	: No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Sewage disposal recommendations	: Do not dispose of waste into sewer.
Product/Packaging disposal recommendations	: May be incinerated. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility..
Ecology - waste materials	: Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
Not regulated for transport			
14.2. Proper Shipping Name			
Not applicable	Not applicable	Not applicable	Not applicable
Transport document description			
Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable

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DOT	TDG	IMDG	IATA
14.5. Environmental hazards			
Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No
No supplementary information available			

14.6. Special precautions for user

DOT
No data available

TDG
No data available

IMDG
No data available

IATA
No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

O-(METHACRYLOXYETHYL)-N-(TRIETHOXYSILYLPROPYL)CARBAMATE, 90% (115396-93-5)	
TSCA Exemption/Exclusion	Low Volume Exemption in accordance with 40 CFR 723.50(c)(1). Use of this substance is restricted to use in inorganic surface for surface modification - primarily for chromatographic application. Anyone who intends to use this chemical substance for commercial purposes must comply with specific use restrictions and controls specified herein. This LVE limits site of manufacture of this substance to Gelest, Inc. unless otherwise approved by U.S. EPA

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
Hydroquinone monomethyl ether	150-76-5	Present	Active	T
O-(Methacryloxyethyl)-N-(triethoxysilylpropyl)carbamate	115396-93-5	Not present	-	

15.2. International regulations

CANADA

Hydroquinone monomethyl ether (150-76-5)
Listed on the Canadian DSL (Domestic Substances List)

O-(Methacryloxyethyl)-N-(triethoxysilylpropyl)carbamate (115396-93-5)
Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

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EU-Regulations

Hydroquinone monomethyl ether (150-76-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Hydroquinone monomethyl ether (150-76-5)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing New Chemical Substances) inventory
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Hydroquinone monomethyl ether (150-76-5)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Full text of H-phrases::

H302	Harmful if swallowed
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H320	Causes eye irritation

Abbreviations and acronyms

: Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor.

Hazard Rating
Health

: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability

: 2 Moderate Hazard - Materials which must be moderately heated or exposed to high ambient temperatures before ignition will occur. Includes liquids having a flash point at or above 100 F but below 200 F. (Classes II IIIA)

Physical

: 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

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Prepared by safety and environmental affairs.

Issue date: 01/07/2015

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Version: 1.3

SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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**NOTICE OF TSCA USE RESTRICTIONS AND REQUIRED CONTROLS FOR
SIM6480.8
O-(METHACRYLOXYETHYL)-N-(TRI- ETHOXYSILYLPROPYL)CARBAMATE, 90%**

Dear Customer:

The chemical product purchased, SIM6480.8 has been granted a Low Volume Exemption by the U.S. Environmental Protection Agency (EPA) under the Toxic Substances Control Act (TSCA) regulations (40 CFR 723.50). Any manufacturer or processor who intends to use this chemical substance for commercial purposes must comply with the specific use restrictions and controls specified as follows:

USE OF THIS CHEMICAL SUBSTANCE IS RESTRICTED TO: Inorganic surface for surface modification - primarily for chromatographic application

CONTROLS: Workers must use personal protection equipment to limit dermal and inhalation exposures as described in Section 8: Exposure Controls/Personal Protection of the Safety Data Sheet (SDS). These exposure controls include:

Hand protection: Impervious gloves (neoprene or nitrile rubber gloves)

Eye Protection: Chemical goggles. Contact lenses should not be worn.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: Air-purifying respirator with organic vapor-amine gas cartridge.

WASTE DISPOSAL: Customer must rinse containers with solvent prior to disposal. Residues and wash solvents must be containerized for off-site disposal by incineration at licensed waste disposal facility. Do not release to publicly owned treatment works (POTW) via sewer or to surface waters.

If you have questions or need more information related to allowable use of this substance, contact Gelest Regulatory Affairs at 215-547-1015.

Best Regards,

Gelest, Inc.
Regulatory Affairs Department