



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name	QM 107
Issue date	6-29-11
Version #	00
CAS #	Mixture
Product use	Silicone Moldmaking Elastomer
Manufacturer/Supplier	Quantum Silicones 8021 Reycan Road Richmond, VA 23237 philmcdermott@quantumsilicones.com 804-271-9010 Contact Person: Phillip McDermott
Emergency	Chemtrec 800-424-9300

2. Hazards Identification

Physical state	Viscous Liquid
OSHA regulatory status	This product is not considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Contact
Eyes	Contact with eyes may cause mild irritation.
Skin	Repeated or prolonged exposure may cause mild irritation.
Inhalation	None.
Ingestion	Low in normal use.
Target organs	Eyes. Skin.
Chronic effects	None.
Signs and symptoms	Mild irritation
Potential environmental	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

3. Composition / Information on Ingredients

Mixture does not contain ingredients that are considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

4. First Aid Measures

First aid procedures	
Eye Contact	Immediately flush with water for up to 10 minutes.
Skin Contact	No first aid needed.

Inhalation	No first aid needed.
Ingestion	No first aid needed.
Notes to physician	Treat symptomatically.
General advice	In case of mild irritation flush affected area with water.

5. Fire Fighting Measure

Flammable properties	None.
Extinguishing media Suitable extinguishing media	Extinguish with foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	None.
Protection of firefighters Specific hazards arising from the chemical	None.
Protective equipment and precautions for firefighters	Use standard firefighting procedures and consider the hazards of other involved materials.
Firefighting equipment/instructions	Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials. Containers close to fire should be removed or cooled with water.
Hazardous decomposition	High heat conditions only. Nitrogen oxides, metal oxides, formaldehyde, silicon dioxide, carbon oxides and traces of incompletely burned carbon compounds.

6. Accidental Release Measures

Personal Precautions	Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate the area. Avoid inhalation of vapors/spray and contact with skin and eyes. Wear suitable protective clothing. See Section 8 of the MSDS for Personal Protective Equipment.
Environmental precautions	Avoid Discharge into drains, water courses or onto the ground unless authorized by permit.
Methods for containment	Dike the spilled material, where this is possible.
Methods for cleaning up	For waste disposal see section 13 of the MSDS. Remove sources of ignition. Absorb spillage with non-combustible, absorbent material.
Other information	Clean up in accordance with all applicable federal, state and local regulations.

7. Handling and Storage

Handling	Observe good industrial hygiene practices. Avoid skin and eye contact. Wear protective gloves and appropriate clothing to prevent skin contact. Wear approved safety goggles.
Storage	Do not store near heat sources, sources of ignition, oxidizers or incompatible materials. Store in closed original container in a dry place.

8. Exposure Controls/Personal Protection

These precautions are for room temperature handling. Use at elevated temperatures or aerosol/spray applications may require additional precautions.

Occupational exposure There are no components with workplace exposure limits.

Exposure guidelines Follow standard monitoring procedures.

Engineering controls Ensure adequate ventilation.

Personal protective equipment

Eye/Face protection Do not get in eyes. Eye wash fountain is recommended.

Skin protection Wear appropriate chemical resistant clothing. Suitable gloves can be recommended by the gloves supplier. Safety shower recommended.

Respiratory protection None required.

General hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance	Not available
Color	Beige
Odor	Odorless
Odor threshold	Not available
Physical state	Liquid
Form	Viscous liquid
pH	Not available
Melting point	Not available
Freezing point	Not available
Boiling point	> 260 C (> 500 F)
Flash point	> 212 F (> 100 C)
Evaporation rate	Not available

Flammability limits in air, upper, % by volume Not available

Flammability limits in air, lower, % by volume Not available

Vapor pressure	Not available
Vapor density	Not available
Specific gravity	1.22
Solubility (water)	Negligible
Partition coefficient (N-octanol/water)	No data available
Auto-ignition temperature	Not available
Decomposition Temperature	Not available

10. Chemical Stability & Reactivity Information

Chemical stability Stable under normal temperature conditions.

Conditions to avoid None.

Incompatible materials Strong oxidizers may cause a reaction.

Hazardous decomposition Carbon monoxide, carbon dioxide, silicone dioxide and formaldehyde.

Possibility of hazardous reactions Will not occur.

11. Toxicological Information

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP or OSHA.

12. Ecological Information

Environmental effects Not classified as an environmental hazard.

Persistence and degradability No data available.

Bioaccumulation/ Accumulation No data available

Partition coefficient (n-octanol/water) No data available.

Mobility in environmental media Reacts with water.

13. Disposal Considerations

Disposal instructions Material as received is non-hazardous.

Waste from residues/ Unused products Dispose in accordance with applicable federal, state and local regulations.

14. Transport Information

DOT
Not subject to DOT regulations.

IATA
Not regulated as dangerous goods.

IMDG
Not subject to IMDG code.

TDG
Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CERCLA/SARA Hazardous Substances - Not applicable.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated

CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.40)
None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely No
Hazardous substance
(40 CFR 355, Appendix
A)

Section 311/312 (40 CFR No
370)

Drug Enforcement Administration (DEA) (21 CFR 1308.11-150) Not controlled.

Canadian regulations The MSDS contains all the information required by the CPR.

WHMIS status Not controlled

Mexico regulations This safety data sheet was prepared in accordance with the official Mexican Standard (NOM-018-STPS-2000).

16. Other Information

Further information HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings Health: 0
Flammability: 1
Physical hazard: 0

NFPA ratings Health: 0
Flammability: 1
Instability: 0

Disclaimer These data are offered in good faith as typical values and not as product specifications. NO warranty, either expressed or implied is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name QM Cat Purple
Revision date 05-18-2011
Version # 01
CAS # Mixture
Product use Moldmaking Catalyst
Manufacturer/Supplier Quantum Silicones
8021 Reycan Road
Richmond, VA 23237
philmcdermott@quantumsilicones.com
804-271-9010
Contact Person: Philip McDermott
Emergency Chemtrec 800-424-9300

2. Hazards Identification

Physical state Liquid.
Emergency overview WARNING

Combustible liquid and vapor. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Will be easily ignited by heat, spark or flames. Causes skin, eye and respiratory tract irritation. Prolonged exposure may cause chronic effects.

OSHA regulatory status This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects

Routes of exposure Inhalation. Ingestion.

Eyes Contact with eyes may cause irritation.

Skin Causes skin irritation.

Inhalation Harmful by inhalation. In high concentrations, vapors may be irritating to the respiratory system. In high concentrations, vapors are narcotic and may cause headache, fatigue, dizziness and nausea.

Ingestion May cause discomfort if swallowed. High concentrations may cause severe lung damage.

Target organs Blood. Eyes. Kidneys. Liver. Respiratory system. Skin.

Chronic effects Liver injury may occur. Kidney injury may occur. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Signs and symptoms Edema. Liver enlargement. Conjunctivitis. Defatting of the skin. Skin irritation.

Potential environmental effects The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Tetrapropoxy silane	682-01-9	5-15
Ethyl silicate	78-10-4	5-10
Dibutyl Tin bisneodecanoate	68928-76-7	3-7

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First Aid Measures

First aid procedures

Eye contact Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart.

Skin contact Remove contaminated clothes and rinse skin thoroughly with water.

Inhalation	Move injured person into fresh air and keep person calm under observation. Get medical attention immediately.
Ingestion	Rinse mouth thoroughly with water and give large amounts of milk or water, if person is conscious.
Notes to physician	In case of shortness of breath, give oxygen. Treat symptomatically.
General advice	In case of shortness of breath, give oxygen. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. First aid personnel must be aware of own risk during rescue.

5. Fire Fighting Measures

Flammable properties	Heat may cause the containers to explode. The product is combustible, and heating may generate vapors which may form explosive vapor/air mixtures.
Extinguishing media	
Suitable extinguishing media	Extinguish with foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	None.
Protection of firefighters	
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed. Solvent vapors may form explosive mixtures with air.
Protective equipment and precautions for firefighters	Use standard firefighting procedures and consider the hazards of other involved materials. Containers close to fire should be removed or cooled with water.
Fire fighting equipment/instructions	Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials. Containers close to fire should be removed or cooled with water.
Hazardous combustion products	Carbon monoxide and carbon dioxide.

6. Accidental Release Measures

Personal precautions	Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate the area. Avoid inhalation of vapors/spray and contact with skin and eyes. Wear suitable protective clothing. See Section 8 of the MSDS for Personal Protective Equipment.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground unless authorized by permit.
Methods for containment	Dike the spilled material, where this is possible. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.
Methods for cleaning up	For waste disposal, see section 13 of the MSDS. Remove sources of ignition. Absorb spillage with non-combustible, absorbent material.
Other information	Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling	Local exhaust is recommended. Avoid inhalation of vapors and spray mist and contact with skin and eyes. Vapors are heavier than air and may travel along the floor and in the bottom of containers. Vapors may be ignited by a spark, a hot surface or an ember. Ground container and transfer equipment to eliminate static electric sparks. Observe good industrial hygiene practices. Wear protective gloves and appropriate clothing to prevent skin contact. Wear approved safety goggles.
Storage	Follow rules for flammable liquids. Do not store near heat sources or expose to high temperatures. Store in closed original container in a dry place. Protect against direct sunlight. Store away from incompatible materials.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
Dibutyl Tin bisneodecanoate (68928-76-7)	STEL	0.2 mg/m3
	TWA	0.1 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Ethyl silicate (78-10-4)	TWA	10 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Dibutyl Tin bisneodecanoate (68928-76-7)	PEL	0.1 mg/m ³
Ethyl silicate (78-10-4)	PEL	85 mg/m ³ 100 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Dibutyl Tin bisneodecanoate (68928-76-7)	STEL	0.2 mg/m ³
Ethyl silicate (78-10-4)	TWA	0.1 mg/m ³
	TWA	85 mg/m ³ 10 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
Dibutyl Tin bisneodecanoate (68928-76-7)	STEL	0.2 mg/m ³
Ethyl silicate (78-10-4)	TWA	0.1 mg/m ³
	TWA	10 ppm

Canada. Ontario OELs. (Ministry of Labor - Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
Dibutyl Tin bisneodecanoate (68928-76-7)	TWA	0.1 mg/m ³
Ethyl silicate (78-10-4)	TWA	85 mg/m ³ 10 ppm

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
Dibutyl Tin bisneodecanoate (68928-76-7)	STEL	0.2 mg/m ³
Ethyl silicate (78-10-4)	TWA	0.1 mg/m ³
	TWA	85 mg/m ³ 10 ppm

Mexico. Occupational Exposure Limit Values

Components	Type	Value
Dibutyl Tin bisneodecanoate (68928-76-7)	STEL	0.2 mg/m ³
Ethyl silicate (78-10-4)	TWA	0.1 mg/m ³
	STEL	255 mg/m ³ 30 ppm
	TWA	85 mg/m ³ 10 ppm

Exposure guidelines

Follow standard monitoring procedures.

Engineering controls

Ensure adequate ventilation, especially in confined areas. Provide adequate general and local exhaust ventilation.

Personal protective equipment**Eye / face protection**

Do not get in eyes. Eye wash fountain is recommended.

Skin protection

Wear appropriate chemical resistant clothing. Suitable gloves can be recommended by the glove supplier.

Respiratory protection

Respiratory protection must be used if air contamination exceeds acceptable level. Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4.

General hygiene considerations

Do not get in eyes. Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance	Not available.
Color	Purple
Odor	Slightly.
Odor threshold	Not available.
Physical state	Liquid.
Form	Viscous liquid.
pH	Not available.
Melting point	Not available.
Freezing point	Not available.
Boiling point	Not available.
Flash point	> 143.6 °F (> 62 °C)
Evaporation rate	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Specific gravity	1.03
Solubility (water)	Not determined. Reacts
Partition coefficient (n-octanol/water)	No data available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.

10. Chemical Stability & Reactivity Information

Chemical stability	Material reacts with water. Stable under normal temperature conditions. Contact with water liberates ethanol.
Conditions to avoid	Moisture. Heat, sparks, flames. Protect against direct sunlight.
Incompatible materials	Acids. Alkalies. Oxidizing agents. Water.
Hazardous decomposition products	Carbon dioxide. Carbon monoxide. Silicon dioxide. Formaldehyde.
Possibility of hazardous reactions	Will not occur.

11. Toxicological Information

Toxicological data

Components

Test Results

Ethyl silicate (78-10-4)

Acute Dermal LD50 Rabbit: 5878 mg/kg
Acute Dermal LD50 Rat: > 2000 mg/kg
Acute Inhalation LC50 Rat: > 880 ppm 4 h
Acute Oral LD50 Rat: 6270 mg/kg

Local effects

Components of the product may be absorbed into the body through the skin. Blood disorder may occur after ingestion. Liver toxicity. Contact may irritate or burn eyes.

US ACGIH Threshold Limit Values: Skin designation

Dibutyl Tin bisneodecanoate (CAS 68928-76-7)

Can be absorbed through the skin.

Sensitization

Not classified.

Chronic effects

Prolonged inhalation may be harmful. Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Prolonged exposure may cause chronic effects.

Subchronic effects

Blood disorders may occur after prolonged inhalation, prolonged skin contact and/or ingestion. Kidney injury may occur.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

ACGIH Carcinogens

Dibutyl Tin bisneodecanoate (CAS 68928-76-7) A4 Not classifiable as a human carcinogen.

Epidemiology No data available.

Mutagenicity No data available.

Reproductive effects No data available.

Further information Symptoms may be delayed.

12. Ecological Information

Ecotoxicological data

Components

Test Results

Ethyl silicate (78-10-4)

EC50 Daphnia: 4 mg/l 15 days

IC50 Green algae (*Dunaliella bioculata*): 1 - 5 mg/l 30 days

Ecotoxicity The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Environmental effects Not classified as an environmental hazard.

Persistence and degradability No data available.

Bioaccumulation / Accumulation No data available.

Partition coefficient (n-octanol/water) No data available.

Mobility in environmental media The product contains organic solvents which will evaporate easily from all surfaces. The product is slightly soluble in water.

13. Disposal Considerations

Disposal instructions Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

Waste from residues / unused products Dispose in accordance with applicable federal, state, and local regulations.

14. Transport Information

This material is not regulated under 49 CFR if in a container of 119 gallon capacity or less.

DOT

Basic shipping requirements:

UN number NA1993

Proper shipping name Combustible liquid, n.o.s. (Ethyl silicate)

Hazard class Comb liq

Subsidiary hazard class None

Packing group III

Environmental hazards

Marine pollutant Yes

Special precautions This material is not regulated under 49 CFR if in a container of 119 gallon capacity or less.

Labels required None

Additional information:

Special provisions IB3, T1, T4, TP1

Packaging exceptions 150

Packaging non bulk 203

Packaging bulk 241

IATA

Not regulated as dangerous goods.

IMDG**Basic shipping requirements:**

UN number 3082
 Proper shipping name Environmentally Hazardous Substance, Liquid, n.o.s. (Dibutyl Tin bisneodecanoate)
 Hazard class 9
 Packing group III
 Environmental hazards
 Marine pollutant Yes
 EmS No. F-A, S-F

TDG

Not regulated as dangerous goods.

15. Regulatory Information**US federal regulations**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
 All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

TSCA Section 12(b) Export Notification(40 CFR 707, Subpt. D)

Not regulated.

CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
 Immediate Hazard - Yes
 Delayed Hazard - Yes
 Fire Hazard - Yes
 Pressure Hazard - No
 Reactivity Hazard - No

Section 302 extremely hazardous substance (40 CFR 355, Appendix A)
 No

Section 311/312 (40 CFR 370)
 No

Drug Enforcement Administration (DEA) (21 CFR 1308.11-15)
 Not controlled

Canadian regulations

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS status

Controlled

WHMIS classification

B3 - Flammable/Combustible
 D2B - Other Toxic Effects-TOXIC

WHMIS labeling**Inventory status**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US - California Hazardous Substances (Director's): Listed substance

Dibutyl Tin bisneodecanoate (CAS 68928-76-7) Listed.
 Ethyl silicate (CAS 78-10-4) Listed.

US - Massachusetts RTK - Substance: Listed substance

Ethyl silicate (CAS 78-10-4) Listed.

US - New Jersey RTK - Substances: Listed substance

Ethyl silicate (CAS 78-10-4) Listed.

US - Pennsylvania RTK - Hazardous Substances: Listed substance

Ethyl silicate (CAS 78-10-4) Listed.

Mexico regulations This safety data sheet was prepared in accordance with the Official Mexican Standard (NOM-018-STPS-2000).

16. Other Information

Further information HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings Health: 2*
 Flammability: 2
 Physical hazard: 1

NFPA ratings Health: 2
 Flammability: 2
 Instability: 1

Disclaimer These data are offered in good faith as typical values and not as product specifications. NO warranty, either expressed or implied is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

Issue date 05-18-2011