

SAFETY DATA SHEET

Print Date: 5/31/2015

PRODUCT NAME: SOLUTION 450
COLOR: WHITE,CLEAR,BLUE,BLACK,ALUMINUM

REVISION DATE: May 31st 2015

1. PRODUCT AND COMPANY IDENTIFICATION

Commercial Product Name: SOLUTION 450
PHONE: 847-588-2480 FAX: 847-588-2477
General Description: Silicone elastomer
Physical Form: Paste
Color: White
Odor: Acetic acid odor
NFPA PROFILE: Health – 1 Flammability – 1 Instability/Reactivity - 0
Note: NFPA = National Fire Protection Association

Company: MRO solutions, 5645 Howard, Niles, IL 60714
EMERGENCY: 800-424-9300

2. HAZARDS IDENTIFICATION

Physical Hazards: Not classified
Health Hazards: Reproductive toxicity (fertility) Category 2
Environmental Hazards: Not classified
OSHA Defined Hazards: Not classified

Hazards not stated here are "Not Classified", "Not Applicable" or Classification not possible".

GHS Label Elements



Signal Word:

Warning

Hazard Statement:

Suspected of damaging fertility.

Precautionary

Obtain special instructions before use. Do not handle until all safety

Statement: precautions have been read and understood. Wear protective gloves / **Prevention:** protective clothing / eye protection / face protection. Wash well after handling. Contaminated work clothing should not be allowed out of work place.

Response: **SKIN:** Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention / advice. Get medical attention / advice if you feel unwell.

EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritant persists get medical attention / advice.

If exposed or concerned: get medical attention or advice. Take off contaminated clothing and wash it before reuse.

Storage:

Store locked up.

Disposal:

Disposal of contents / container in accordance with local / regional /state / federal and international regulations. **Hazard(S) not Otherwise** None known.

Classified (HNOC):

Supplemental Information:

None known.

Substance(s) formed compounds: Acetic acid

This product reacts with water, moisture or humid air to evolve **under the conditions of** following

use:

The following material is embedded in the product and not available as respirable dusts. When used as intended or as supplied, the product will not pose hazards. Titanium oxide.

HMIS (Ratings):

Health: 1

Flammability: 1

Physical hazard: 0

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3. COMPOSITION/ INGREDIENTS

Mixtures

Hazardous Ingredients

Chemical Name

Ethyltriacetoxysilane

CAS Number

17689-77-9

%

Methylacetoxysilane

4253-34-3

1 - 5

Titanium oxide

13463-67-7

1 – 5 < 1

Distillates (petroleum), hydrotreated middle

64742-46-7

1 – 7

Octamethylcyclotetrasiloxane (impurity)

556-67-2

< 1

4. FIRST AID MEASURES

Inhalation:	Remove to fresh air. Call a physician if symptoms develop or persist.
Skin Contact:	Wash off with soap and plenty of water. For minor skin contact, avoid spreading material on unaffected skin. If skin irritation or rash occurs: get medical attention / advice. Take off contaminated clothing and wash before use.
Eyes Contact:	Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation developed or persists.
Ingestion:	Wash out mouth. Get medical attention immediately.
Most important symptoms / effects, acute and delayed:	Direct contact with eyes may cause temporary irritation.
Indication of immediate Medical attention and Special treatment Needed:	Treat Symptomatically.
General Information:	If exposed or concerned: Get medical advice / attention. Ensure that medical personnel are aware materials involved and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. FIRE FIGHTING MEASURES

Suitable extinguishing Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂ **media:**

Unsuitable extinguishing None known. **media:**

Specific hazards arising By heating and fire, harmful vapors / gases may be formed. **from the chemical:**

Specific protective Firefighters must use standard protective equipment including flame **equipment and** retardant coat, helmet, gloves, rubber boots and self-contained **precautions for** breathing apparatus. **firefighters:**

Fire Fighting equipment Move containers from fire area if you can do so without risk.

/ Instructions:

General fire hazards: No unusual fire or explosion hazards noted.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, Keep unnecessary personnel away. Local authorities should be **protective equipment** advised if significant spillages cannot be contained. Do not touch or **and emergency** walk through spilled material. Ensure adequate ventilation. Wear **procedures** appropriate personal protective equipment.

Methods and materials Eliminate sources of ignition.

for containment and **Large Spills:** Dike the spilled material, where this is possible.

cleaning up: Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up product and place into a container for later disposal.

Small Spills: Wipe up with absorbent material (e.g. cloth). Clean surface thoroughly to remove residual contamination. Never return spills in original containers for reuse.

Environmental Prevent further leakage or spillage if safe to do so. **precautions:**

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7. HANDLING AND STORAGE

Precaution for safe Provide adequate ventilation. Use care in handling/storage. Obtain **handling:** special instructions before use. Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Pregnant and breastfeeding women must not handle this product. Do not breathe mist or vapor. Avoid contact with eyes.

Avoid contact with skin. Avoid long term exposure.

Conditions for safe Stored locked up. Keep container tightly closed. Keep out of reach of **storage, including any** children. Store in a cool dry place out of direct sunlight. Keep in **incompatibilities** original container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

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

Components	CAS #	Type	Value
Titanium oxide	13463-67-7	PEL	15 mg/m3
Decomposition			
Acetic acid	64-19-7	PEL	25 mg/m3
		10 ppm	US. ACGIH Threshold Limit Values

Components

Titanium dioxide	13463-67-7	TWA	10 mg/m3
Decomposition			
Acetic acid	64-19-7	STEL	15 ppm
		TWA	10 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Decomposition

Acetic acid	64-19-7	STEL	37 mg/m3
			15 ppm
		TWA	25 mg/m3
			10 ppm

Biological limit values:

No biological exposure limits for the ingredient(s).

Appropriate engineering Provide adequate general and local exhaust. Provide eyewash **controls:** station. Pay attention to ventilation such as local exhaust,

mechanical and or / door open for at least 24 hours after applications.

Individual protection measures such as personal protective equipment.

Eye / Face protection: Tightly sealed safety glasses according to EN 166.

Skin / Hand protection: Other:

Wear protective gloves.
Wear suitable protective clothing.

Respiratory protection:

If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.

Thermal hazards:

Wear appropriate thermal protective clothing, when necessary.

General Hygiene Considerations:

Avoid contact with eyes. Avoid contact with skin. When using, do not eat, drink or smoke. Keep away from food or drink. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the work place. Handle in accordance with good industrial hygiene and safety practice.

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9. PHYSICAL/CHEMICAL CHARACTERISTICS

Appearance

Form:	Paste
Color:	White
Odor:	Acetic acid odor
Odor Threshold:	Not available
pH:	Not available
Melting point / freezing point:	Not available
Initial boiling point and boiling range:	Not available
Flash Point:	141.8 °F (> 96 °C) Closed cup
Evaporative rate:	< 1 (Butyl Acetate = 1)
Flammability (solid, gas):	Not applicable
Upper / Lower flammability or explosive limits: Flammability limit – lower (%):	No data
Flammability limit – upper (%):	No data
Explosive limit – Lower (%):	Not available
Explosive limit – Upper (%):	Not available
Vapor pressure:	Negligible (25° C)
Vapor density:	> 1 (air=1)
Relative density:	1.04 (25 °C)
Solubility (water):	Not soluble
Partition coefficient:	Not applicable
(n-octanol / water)	
Auto-ignition temperature:	No data
Decomposition temperature:	Not available
Viscosity:	Not applicable
Molecular weight:	Not applicable

10. STABILITY AND REACTIVITY

Reactivity	No hazardous reaction known under normal conditions of use, storage and transport.
Chemical stability	Stable at normal conditions.
Possibility of hazardous Reactions	Hazardous polymerization does not occur.
Conditions to avoid	None known.
Incompatible materials	Strong oxidizing agents. Water and moisture.
Hazardous decomposition compounds. Acetic acid.	This product reacts with water, moisture, or humid air to evolve products: following Thermal breakdown of this product during fire or very high heat condition may evolve the following hazardous decomposition product: Carbon dioxides and traces of incompletely burned carbon compounds. Silicon dioxide. Formaldehyde.

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11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Ingestion: Expected to be a low ingestion hazard.
Inhalation: Prolonged inhalation may be harmful.
Skin contact: No adverse effects due to skin contact are expected.

Eye contact: Direct contact with eyes may cause temporary irritation. **Symptoms related to the** Direct contact with eyes may cause temporary irritation. **physical, chemical, and toxicological characteristics:**

Information on toxicological effects

Acute toxicity

Toxicological data

Decomposition

			CAS #		Species	Test Results
Acetic acid			64-19-7			
Acute						
Dermal						
LD50	Rabbit	1060 mg/kg		Inhalation		
LC 50					Guinea Pig	5000 ppm, 1 hours
					Mouse	5620 ppm, 1 hours
					Rat	11.4 mg/l, 4hours

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Oral LD50	Mouse Rabbit Rat	4960 mg/kg 1200 mg/kg 3.31 g/kg
Skin corrosion / irritation:	Causes severe skin burns and eye damage. (Acetic acid) Skin-Rabbit: 500 mg/24hr.MILD (Octamethylcyclotetrasiloxane)	
Serious eye damage/eye irritation:	Causes serious eye damage. (Acetic acid) Eye – Rabbit: MILD (Octamethylcyclotetrasiloxane)	
Not available.	Respiratory Sensitization:	
Skin Sensitization:	No evidence of sensitization (Octamethylcyclotetrasiloxane)	
Germ Cell Mutagenicity:	Negative (Bacteria) (Octamethylcyclotetrasiloxane)	
Carcinogenicity:	The following material is embedded in the product and not available as respirable dusts. When used as intended or as supplied, the product will not pose hazards. Titanium oxide.	
IARC Monographs, Overall	Titanium oxide (CAS 13463-67-7)	Evaluation of Carcinogenicity. 2B Possibly carcinogenic to humans.
OSHA Specifically	Not listed	
Regulated Substances (29 CFR 1910.1001-1050):		
Reproductive Toxicity:	Octamethylcyclotetrasiloxane administered to rats by whole body inhalation at concentrations of 500 and 700 ppm for 70 days prior to mating, through mating, gestation and lactation resulted in decreases in live litter size. Additionally, increases in the incidence of deliveries of offspring extending over an unusually long time period (dystocia) were observed at these concentrations. Statistically significant alterations in these parameters were not observed in the lower concentrations evaluated (300 and 70 ppm). In a previous range-finding study, rats exposed to vapor concentrations of 700 ppm had decreases in the number of implantation sites and live litter size. The significance of these findings to humans is not known. (Octamethylcyclotetrasiloxane)	
Specific target organ toxicity –	Not available single exposure:	
Specific target organ toxicity –	Repeated inhalation or oral exposure of mice and rats to repeated exposure:	
Octamethylcyclotetrasiloxane produced an increase in liver size. No	gross histopathological or significant clinical chemistry effects were observed. An increase in liver metabolizing enzymes, as well as a transient increase in the number of normal cells (hyperplasia) followed by an increase in cell size (hypertrophy) were determined	
	to be the underlying causes of the liver enlargement. The biochemical mechanisms producing these effects are highly sensitive in rodents, while similar mechanisms in humans are insensitive. A two year combined chronic and carcinogenicity assay was conducted on Octamethylcyclotetrasiloxane. Rats were exposed by whole-body vapor inhalation 6hrs /day, 5 days a week for up to 104 weeks to 0, 10, 30, 150 or 700 ppm of Octamethylcyclotetrasiloxane. The increase in incidence of (uterine) endometrial cell hyperplasia and uterine adenomas (benign tumors) were observed in female rats at 700 ppm. Since these effects only occurred at 700 ppm, a level that greatly exceeds typical workplace or consumer exposure, it is unlikely that industrial, commercial or consumer uses of products containing Octamethylcyclotetrasiloxane would result in a significant risk to humans. (Octamethylcyclotetrasiloxane)	
Aspiration hazard:	Not available	
Chronic effects:	Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.	
Further Information:	This product reacts with water, moisture or humid air to evolve following compounds: Acetic acid.	

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12. ECOLOGICAL CONSIDERATIONS

Ecotoxicity

- Octamethylcyclotetrasiloxane: May cause long lasting harmful effects to aquatic life.

Components

Titanium oxide
(CAS 13463-67-7)

Aquatic

Crustacea

EC50

Water Flea (Daphnia magna)

> 1000 mg/l, 48 hours

Fish

LC50

Mummichog (Fundulus Heteroclitus)

> 1000 mg/l, 96 hours

Decomposition

Acetic acid
(CAS 64-19-7)

Aquatic

Crustacea

EC50

Water flea (Daphnia Magna)

65 mg/l, 48 hours

Fish

LC50

Bluegill (Leponis Macrochirus)

75mg/l, 96 hours

Persistence and degradability: Not available.

Bioaccumulative potential: Bio concentration Factor (BCF) / (Flathead minnow): 12400 Octamethylcyclotetrasiloxane.

Mobility in Soil: Not available.

Other adverse effects: Not available

13. DISPOSAL CONSIDERATIONS

Can be land-filled for cured product or burned in a chemical incinerator equipped with an afterburner and scrubber. Do not dispose the emptied container unlawfully. Observe all federal, state & local laws.

14. TRANSPORT INFORMATION

DOT: Not regulated as dangerous good.

IATA: Not regulated as dangerous good.

IMDG: Not regulated as dangerous good.

Transport in bulk according to and The IBC Code:

This product is not intended to be transported in bulk. **Annex II of MARPDL 73/78**

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15. REGULATORY INFORMATION

US federal regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not listed

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) SARA 313 (TRI reporting)

US State Regulations

- **Massachusetts: Substance List:** Titanium oxide (CAS 13463-67-7)
- **New Jersey Worker and Community Right to Know Act:** Titanium oxide (CAS 13463-67-7)

- **Pennsylvania Worker and Community Right to Know Act:** Titanium oxide (CAS 13463-67-7) - **Rhode Island RTK:** Not regulated.
- **California Proposition 65:** The following material is embedded in the product and not available as respirable dusts. When used as intended or as supplied, the product will not pose hazards.
- **US California Proposition 65 – CRT: Listed date / Carcinogenic substance** Titanium oxide (CAS 13463-67-7) Listed: September 2, 2011

International Inventories

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 (NDSL)	No
China	Inventory of Existing Chemical Substances in China	Yes
	(IECSC)	
Europe	European Inventory of Existing Commercial Chemicals	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances	Yes
	(ENCS)	
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical	Yes
	Substances	
Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes
United States	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.

A "No" indicates that one or more components of the product are not listed or exempted from listing on the inventory administered by the governing country.

16. OTHER INFORMATION

Prepared by: MRO Solutions

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.