



SAFETY DATA SHEET

Print Date: 5/31/2015

PRODUCT NAME: ULTRA-FLEX
COLOR: DARK BRONZE

REVISION DATE: May 31st 2015

1. PRODUCT AND COMPANY IDENTIFICATION

Commercial Product Name: ULTRA-FLEX

Product Classification: Silicone Sealant

Manufacturer:

Silco Inc.

7635 St. Clair Avenue

Mentor, OH 44060

PHONE: 440-975-8886 FAX: 440-975-8887

General Description: Silicone elastomer

Physical Form: Paste

Color: Dark Bronze

Odor: Oxime odor

NFPA PROFILE: Health – 2 Flammability – 1 Instability/Reactivity - 0

Note: NFPA = National Fire Protection Association

2. HAZARDS IDENTIFICATION

Physical Hazards:	Not classified	
	Serious eye damage / eye irritant	Category 2
	Sensitization, skin	Category 1
	Reproductive Toxicity (fertility)	Category 2
	Specific Target organ toxicity, Repeated exposure	Category 2 (Cardiovascular / Hematological: Hematopoiesis)

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:

Causes eye irritation. May cause an allergic skin reaction. Suspected of damaging fertility. May cause damage to organs (Cardiovascular / Hematological: hematopoiesis) through prolonged or repeated use.

Precautionary

Statement:

Prevention:

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves / protective clothing / eye protection / face protection. Do not breathe dust / fume / gas / mist / vapors / spray. 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 classified (HNOC):

None known.

Supplemental

Information:

None known.

Substance(s) formed under the conditions of use:

This product reacts with water, moisture or humid air to evolve following compounds. Methylethylketoxime.

HMIS (Ratings):

Health: 2

Flammability: 1

Physical hazard: 0

3. COMPOSITION/ INGREDIENTS

Mixtures

Chemical Name	CAS Number	%
Methyloximesilane*	Proprietary*	1 - < 3
Vinyloximesilane*	Proprietary*	< 1
Alkoxysilane*	Proprietary*	< 1
Methylethylketoxime (impurity)	96-29-7	< 1
Octamethylcyclotetrasiloxane (impurity)	556-67-2	< 1

- Designates that a specific chemical identity and or percentage of composition has been withheld as a trade secret.

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 develops and persists.
Ingestion:	Wash out mouth with water provided person is conscious. Get medical attention immediately.
Most Important symptoms / effects, acute and delayed:	Dermatitis. Rash. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Prolonged exposure may cause chronic effects
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 media:	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂)
Unsuitable extinguishing media:	None known.
Specific hazards arising from the chemical:	By heating and fire, harmful vapors / gases may be formed. Nitrogen oxides (corrosive).
Specific protective equipment and precautions for firefighters:	Firefighters must use standard protective equipment including flame retardant coat, helmet, gloves, rubber boots and self-contained breathing apparatus.
Fire Fighting equipment / Instructions:	Move containers from fire area if you can do so without risk.
General fire hazards:	No unusual fire or explosion hazards noted.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Do not touch or walk through spilled material. Ensure adequate ventilation. Wear appropriate personal protective equipment.
Methods and materials for containment and cleaning up:	Eliminate sources of ignition. Large Spills: Dike the spilled material, where this is possible. 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 precautions:	Prevent further leakage or spillage if safe to do so.

7. HANDLING AND STORAGE

Precaution for safe handling:	Provide adequate ventilation. Use care in handling/storage. Obtain special instructions before use. Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Avoid contact with eyes. Avoid contact with skin.
Conditions for safe storage, including any incompatibilities	Stored locked up. Keep container tightly closed. Keep out of reach of children. Store in a cool dry place out of direct sunlight. Keep in original container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	CAS #	Type	Value
Methylethylketoxime (impurity)	96-29-7	TWA	36 mg/m ³

Vendor guide Components

Methylethylketoxime (impurity)	96-29-7	STEL	10 ppm
		TWA	3 ppm

Biological limit values: No biological exposure limits for the ingredient(s).

Appropriate engineering controls: Provide adequate general and local exhaust ventilation. Provide eyewash station. Pay attention to ventilation such as local exhaust, mechanical and or / door open for at least 24 hours after application.

Individual protection measures such as personal protective equipment.

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

Skin / Hand protection: Wear protective gloves.

Other: 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.

9. PHYSICAL/CHEMICAL CHARACTERISTICS

Appearance

Form:	Paste
Color:	Dark Bronze
Odor:	Oxime odor
Odor Threshold:	Not available
pH:	Not available
Melting point / freezing point:	Not available
Initial boiling point and boiling range:	Not available
Flash Point:	204.8 F ⁰ (96 ⁰ 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 ⁰ C)
Vapor density:	> 1 (air=1)
Relative Density	1.35 (25 ⁰ C)
Solubility (water):	Not soluble
VOC Content:	40 grams per liter
Partition coefficient: (n-octanol / water)	Not applicable
Auto-ignition temperature:	No data
Decomposition temperature:	Not available
Viscosity:	Not applicable
Molecular weight:	Not applicable
Other information:	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 products:	This product reacts with water, moisture, or humid air to evolve following compounds. Methylethylketoxime. Refer to section 8:

exposure controls / personal protection and section 11: toxicological information.

Thermal breakdown of this product during fire or very high heat condition may evolve the following hazardous decomposition product: Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Nitrogen oxides. Formaldehyde.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Ingestion: No significant effects are expected
Inhalation: No significant effects are expected
Skin contact: May cause an allergic reaction
Eye contact: Causes serious eye irritation

Symptoms related to the physical, chemical, and toxicological characteristics: Dermatitis. Rash. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling and blurred vision. May cause an allergic skin reaction.

Information on toxicological effects

Acute toxicity

Components	CAS #	Species	Test Results
Alkoxysilane	(CAS proprietary)		
Acute Dermal LD50		Rabbit	> 2000 mg/kg 16 ml/kg
Inhalation LC 50		Rat	1.49-2.44 mg/l/4h
Oral LD 50		Rat	2995 mg/kg 2400 mg/kg
Methylethylketoxime (impurity)	(CAS 96-29-7)		
Acute Dermal LD50		Rabbit	200 ul/kg
Oral LD50		Rat	930 mg/kg

Skin corrosion / irritation: Skin-Rabbit: Moderately irritating (alkoxysilane)
 Skin-Rabbit: 500 mg/24hr.MILD (Octamethylcyclotetrasiloxane)

Serious eye damage/eye irritation:	Causes serious eye damage. (vinylloximesilane) (methylethylketoxime) Eye – Rabbit: 15mg SEVERE (alkoxysilane) Causes serious eye irritation. Eye – Rabbit: MILD (Octamethylcyclotetrasiloxane)
Respiratory Sensitization:	Not available.
Skin Sensitization:	May cause and allergic skin reaction. (Methyloximesilane) (Vinylloximesilane) (Methylethylketoxime). Positive (Guinea Pig) (alkoxysilane) No evidence of sensitization (Octamethylcyclotetrasiloxane)
Germ Cell Mutagenicity:	Negative (Ames test, Chromosome analysis, Micronucleus test) (Alkoxysilane). Negative (Bacteria) (Octamethylcyclotetrasiloxane)
Carcinogenicity: OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):	Suspected of causing cancer. (Methylethylketoxime) Not listed
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) Developmental toxicity: NOAEL 500 mg/kg/day (rat), maternal toxicity: NOAEL 500 mg/kg/day (rat) (alkoxysilane)
Specific target organ toxicity – single source:	Not available
Specific target organ toxicity – repeated exposure:	May cause damage to the following organs through prolonged exposure. Cardiovascular / Hematological: Hematopoiesis. (vinylloximosilane)

Cardiovascular / Hematological: Hematopoiesis.
(methyloximesilane)

Repeated inhalation or oral exposure of mice and rice to 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:

Not available

Further Information:

Methylethylketoxime (MEKO). Material will generate MEKO upon exposure to humid air gradually. Male rodents exposed to MEKO vapor at high concentration throughout their lifetime developed liver cancer. But relevance to humans is uncertain now. Please read the detail information to MEKO below.

- **Skin Irritation:** Causes mild irritation. Can be absorbed through skin.
- **Eye Irritation:** Causes severe irritation.
- **Acute Oral Tox:** LD50(rat) = >900mg/kg
- **Acute Dermal Tox:** LD50(rabbit)=>1000mg/kg
- **Acute Inhalation Tox:** LC50 (rat) >4.83 mg/l/4hr
- **Inhalation Tox:** Shows narcotic action at high concentration. May produce blood effects.
- **Skin Sensitization:** Positive (guinea pig)
- **Neurotoxicity:** High dose can produce transient and reversible change in neurobehavioral function.

- **Carcinogenicity:** Liver carcinomas were observed in a lifetime inhalation study (ca.2 years) in which mice and rats were exposed.
- **Other Chronic Study:** Degenerative effects on the olfactory epithelium of nasal passages occurred in a concentration related manner in males and females of mice and rats at MEKO concentration of 15, 75 and 375 ppm. The significant change in hematological parameters were observed at 404 ppm concentration.
- **Workplace Environmental Exposure Level:** Vendor guide: 3 ppm(TWA), 10ppm(STEL), AIHA WEEL: 10 ppm(TWA).

12. ECOLOGICAL CONSIDERATIONS

Ecotoxicity

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

	Components	Species	Test Results
Alkoxysilane (CAS proprietary)			
Aquatic			
Algae	EbC50	Green Algae (Senastrum capornutum)	5.5 mg/l, 72 hr
	ErC50	Green Algae (Senastrum)	8.8 mg/l, 72 hr
Crustacea	EC50	Water Flea (Daphnia magna)	90 mg/l, 48 hr
Fish	LC50	Bluegill (Leponis macrochirus)	> 100 mg/l, 96 hr
		Flathead minnow (Pimephales Promelas)	> 100 mg/l, 96 hr
		Rainbow Trout	> 100 mg/l, 96 hr
Methylethylketoxime (impurity) (CAS 96-29-7)			
Aquatic			
Fish	LC50	Flathead minnow (Pimephales Promelas)	777 -914 mg/l, 96 hr

Persistence and degradability: Causes easily hydrolysis in water or atmosphere. (alkoxysilane)

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 Annex II of MARPOL 73/78 and The IBC Code: This product is not intended to be transported in bulk.

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.

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:** Not regulated.
- **New Jersey Worker and Community Right to Know Act:** Not listed.
- **Pennsylvania Worker and Community Right to Know Act:** Not listed.
- **Rhode Island RTK:** Not regulated.
- **California Proposition 65:** California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

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 (IECSC)	Yes
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 (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances	Yes
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: Silco Inc.

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.

<http://www.silco-inc.com>