

## XIAMETER(R) OFS-6040 SILANE

Version Revision Date: SDS Number: Date of last issue: 07/25/2017 4.0 09/13/2017 1039738-00009 Date of first issue: 01/05/2015

#### **SECTION 1. IDENTIFICATION**

Product name : XIAMETER(R) OFS-6040 SILANE

Product code : 00000000004088362

Manufacturer or supplier's details

Company name of supplier : Dow Corning Corporation

Address : South Saginaw Road

Midland Michigan 48686

Telephone : (989) 496-6000

Emergency telephone : 24 Hour Emergency Telephone : (989) 496-5900

CHEMTREC: (800) 424-9300

Recommended use of the chemical and restrictions on use

Recommended use : Adhesive, binding agents

#### **SECTION 2. HAZARDS IDENTIFICATION**

GHS classification in accordance with 29 CFR 1910.1200

Serious eye damage : Category 1

**GHS** label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H318 Causes serious eye damage.

Precautionary Statements : Prevention:

P280 Wear eye protection/ face protection.

Response:

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON

CENTER/doctor.

Other hazards

None known.

#### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**





Version Revision Date: SDS Number: Date of last issue: 07/25/2017 4.0 09/13/2017 1039738-00009 Date of first issue: 01/05/2015

Substance / Mixture : Substance

Chemical nature : Organosilane

Substance name : Glycidoxypropyl trimethoxysilane

CAS-No. : 2530-83-8

#### **Hazardous ingredients**

Chemical name	CAS-No.	Concentration (% w/w)
Glycidoxypropyl trimethoxysilane	2530-83-8	>= 99 - <= 100

#### **SECTION 4. FIRST AID MEASURES**

General advice : In the case of accident or if you feel unwell, seek medical

advice immediately.

When symptoms persist or in all cases of doubt seek medical

advice.

If inhaled : If inhaled, remove to fresh air.

Get medical attention if symptoms occur.

In case of skin contact : In case of contact, immediately flush skin with plenty of water.

Remove contaminated clothing and shoes.

Get medical attention. Wash clothing before reuse.

Thoroughly clean shoes before reuse.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water

for at least 15 minutes.

If easy to do, remove contact lens, if worn.

Get medical attention immediately.

If swallowed, DO NOT induce vomiting.

Get medical attention if symptoms occur.

Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and

delayed

Causes serious eye damage.

Protection of first-aiders : First Aid responders should pay attention to self-protection,

and use the recommended personal protective equipment

when the potential for exposure exists.

Notes to physician : Treat symptomatically and supportively.

#### **SECTION 5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media : Water spray

Alcohol-resistant foam Carbon dioxide (CO2)





Version Revision Date: SDS Number: Date of last issue: 07/25/2017 4.0 09/13/2017 1039738-00009 Date of first issue: 01/05/2015

Dry chemical

Unsuitable extinguishing

media

: None known.

Specific hazards during fire

fighting

Exposure to combustion products may be a hazard to health.

Hazardous combustion prod-

ucts

Carbon oxides

Silicon oxides Formaldehyde

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment. Use water spray to cool unopened containers.

Remove undamaged containers from fire area if it is safe to do

SO.

Evacuate area.

Special protective equipment :

for fire-fighters

In the event of fire, wear self-contained breathing apparatus.

Use personal protective equipment.

#### **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emer-

gency procedures

Use personal protective equipment.

Follow safe handling advice and personal protective

equipment recommendations.

Environmental precautions : Discharge into the environment must be avoided.

Prevent further leakage or spillage if safe to do so.

Prevent spreading over a wide area (e.g., by containment or

oil barriers).

Retain and dispose of contaminated wash water.

Local authorities should be advised if significant spillages

cannot be contained.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

For large spills, provide diking or other appropriate

containment to keep material from spreading. If diked material

can be pumped, store recovered material in appropriate

container.

Clean up remaining materials from spill with suitable

absorbent.

Local or national regulations may apply to releases and disposal of this material, as well as those materials and items

employed in the cleanup of releases. You will need to determine which regulations are applicable.

Sections 13 and 15 of this SDS provide information regarding

certain local or national requirements.

#### **SECTION 7. HANDLING AND STORAGE**

Technical measures : See Engineering measures under EXPOSURE



## XIAMETER(R) OFS-6040 SILANE

Version Revision Date: SDS Number: Date of last issue: 07/25/2017 4.0 09/13/2017 1039738-00009 Date of first issue: 01/05/2015

CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : Use only with adequate ventilation.

Advice on safe handling : Do not get on skin or clothing.

Avoid inhalation of vapor or mist.

Do not swallow.

Do not get in eyes.

Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure

assessment

Keep container tightly closed.

Keep away from water. Protect from moisture.

Take care to prevent spills, waste and minimize release to the

environment.

Conditions for safe storage : Keep in properly labeled containers.

Keep tightly closed.

Store in accordance with the particular national regulations.

Materials to avoid : Do not store with the following product types:

Strong oxidizing agents

## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

## Ingredients with workplace control parameters

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Glycidoxypropyl trimethox- ysilane	2530-83-8	TWA	0.5 ppm	DCC OEL

## Occupational exposure limits of decomposition products

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	
Methanol	67-56-1	TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH
		TWA	200 ppm 260 mg/m <sup>3</sup>	NIOSH REL
		ST	250 ppm 325 mg/m <sup>3</sup>	NIOSH REL
		TWA	200 ppm 260 mg/m <sup>3</sup>	OSHA Z-1

**Engineering measures** : Processing may form hazardous compounds (see section

10).

Ensure adequate ventilation, especially in confined areas.

Minimize workplace exposure concentrations.





Version **Revision Date:** SDS Number: Date of last issue: 07/25/2017 1039738-00009 Date of first issue: 01/05/2015 4.0 09/13/2017

#### Personal protective equipment

Respiratory protection General and local exhaust ventilation is recommended to

maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided

by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other

circumstance where air purifying respirators may not provide

adequate protection.

Hand protection

Material Chemical-resistant gloves

Remarks Choose gloves to protect hands against chemicals depending

> on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before

breaks and at the end of workday.

Wear the following personal protective equipment: Eye protection

Chemical resistant goggles must be worn.

If splashes are likely to occur, wear:

Face-shield

Skin and body protection Select appropriate protective clothing based on chemical

resistance data and an assessment of the local exposure

potential.

Skin contact must be avoided by using impervious protective

clothing (gloves, aprons, boots, etc).

Ensure that eye flushing systems and safety showers are Hygiene measures

> located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

These precautions are for room temperature handling. Use at

elevated temperature or aerosol/spray applications may

require added precautions.

For further information regarding the use of silicones / organic oils in consumer aerosol applications, please refer to the guidance document regarding the use of these type of materials in consumer aerosol applications that has been developed by the silicone industry (www.SEHSC.com) or

contact the Dow Corning customer service group.

#### **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**



# XIAMETER(R) OFS-6040 SILANE

Version Revision Date: SDS Number: Date of last issue: 07/25/2017 4.0 09/13/2017 1039738-00009 Date of first issue: 01/05/2015

Appearance : liquid

Color : Colorless to pale yellow

Odor : aromatic

Odor Threshold : No data available

pH : No data available

Melting point/freezing point : No data available

Initial boiling point and boiling

range

>= 250 °C

Flash point : > 94 °C

Method: Seta closed cup

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Flammability (liquids) : Not applicable

Self-ignition : The substance or mixture is not classified as pyrophoric. The

substance or mixture is not classified as self heating.

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower

flammability limit

No data available

Vapor pressure : No data available

Relative vapor density : No data available

Relative density : 1.07

Solubility(ies)

Water solubility : No data available

Partition coefficient: n-

octanol/water

No data available

Autoignition temperature : No data available

Decomposition temperature : No data available

Viscosity

Viscosity, kinematic : 3.09 mm<sup>2</sup>/s (25 °C)

Explosive properties : Not explosive



## XIAMETER(R) OFS-6040 SILANE

Version Revision Date: SDS Number: Date of last issue: 07/25/2017 4.0 09/13/2017 1039738-00009 Date of first issue: 01/05/2015

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Molecular weight : No data available

Particle size : Not applicable

#### **SECTION 10. STABILITY AND REACTIVITY**

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reac-

tions

Use at elevated temperatures may form highly hazardous

compounds.

Can react with strong oxidizing agents.

When heated to temperatures above 150 °C (300 °F) in the presence of air, product can form formaldehyde vapors. Safe handling conditions may be maintained by keeping vapor concentrations within the occupational exposure limit for for-

maldehyde.

See OSHA formaldehyde standard, 29 CFR 1910.1048 Formaldehyde may cause cancer. It is also toxic by inhalation, skin absorption and ingestion, corrosive to skin and eyes, and

may cause skin sensitization and respiratory irritation.

Hazardous decomposition products will be formed upon con-

tact with water or humid air.

Hazardous decomposition products will be formed at elevated

temperatures.

Conditions to avoid : Exposure to moisture.

Incompatible materials : Oxidizing agents

Water

#### Hazardous decomposition products

Contact with water or humid :

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Methanol

Thermal decomposition : Formaldehyde

#### **SECTION 11. TOXICOLOGICAL INFORMATION**

### Information on likely routes of exposure

Inhalation Skin contact Ingestion Eye contact

#### **Acute toxicity**

Not classified based on available information.

#### **Product:**



## XIAMETER(R) OFS-6040 SILANE

Version Revision Date: SDS Number: Date of last issue: 07/25/2017 4.0 09/13/2017 1039738-00009 Date of first issue: 01/05/2015

Acute inhalation toxicity : LC50: > 5.3 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Remarks: On basis of test data.

Acute dermal toxicity : Acute toxicity estimate: 4,276 mg/kg

Method: Calculation method

#### **Ingredients:**

## Glycidoxypropyl trimethoxysilane:

Acute oral toxicity : LD50 (Rat): 7.5 ml/kg

Assessment: The substance or mixture has no acute oral tox-

icity

Remarks: On basis of test data.

Acute inhalation toxicity : LC50 (Rat): > 5.3 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Remarks: On basis of test data.

Acute dermal toxicity : LD50 (Rabbit): 3.97 ml/kg

Remarks: On basis of test data.

## Skin corrosion/irritation

Not classified based on available information.

#### **Product:**

Species: Rabbit

Result: Mild skin irritation Remarks: On basis of test data.

## **Ingredients:**

## Glycidoxypropyl trimethoxysilane:

Species: Rabbit

Result: Mild skin irritation Remarks: On basis of test data.

### Serious eye damage/eye irritation

Causes serious eye damage.

## **Product:**

Species: Rabbit

Result: Irreversible effects on the eye Remarks: On basis of test data.

### **Ingredients:**

#### Glycidoxypropyl trimethoxysilane:

Species: Rabbit

Result: Irreversible effects on the eye



## XIAMETER(R) OFS-6040 SILANE

Version Revision Date: SDS Number: Date of last issue: 07/25/2017 4.0 09/13/2017 1039738-00009 Date of first issue: 01/05/2015

Remarks: On basis of test data.

## Respiratory or skin sensitization

#### Skin sensitization

Not classified based on available information.

#### Respiratory sensitization

Not classified based on available information.

#### **Product:**

Assessment: Does not cause skin sensitization.

Test Type: Human repeat insult patch test (HRIPT)

Species: Humans Result: negative

Remarks: On basis of test data.

Test Type: Maximization Test

Species: Guinea pig Result: negative

Remarks: On basis of test data.

## Ingredients:

## Glycidoxypropyl trimethoxysilane:

Assessment: Does not cause skin sensitization.

Test Type: Maximization Test

Species: Guinea pig Result: negative

Remarks: On basis of test data.

Test Type: Human repeat insult patch test (HRIPT)

Species: Humans Result: negative

Remarks: On basis of test data.

### Germ cell mutagenicity

Not classified based on available information.

#### **Product:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Result: positive

Remarks: On basis of test data.

Genotoxicity in vivo : Test Type: sister chromatid exchange assay

Species: Rabbit

Application Route: Intravenous injection

Result: negative

Remarks: On basis of test data.

Germ cell mutagenicity -

Assessment

Animal testing did not show any mutagenic effects.



## XIAMETER(R) OFS-6040 SILANE

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 07/25/2017

 4.0
 09/13/2017
 1039738-00009
 Date of first issue: 01/05/2015

## **Ingredients:**

## Glycidoxypropyl trimethoxysilane:

Genotoxicity in vitro : Test Type: In vitro sister chromatid exchange assay in mam-

malian cells Result: positive

Remarks: On basis of test data.

Test Type: Bacterial reverse mutation assay (AMES)

Result: positive

Remarks: On basis of test data.

Test Type: Mutagenicity (in vitro mammalian cytogenetic test)

Result: positive

Remarks: On basis of test data.

Genotoxicity in vivo : Test Type: sister chromatid exchange assay

Species: Rabbit

Application Route: Intraperitoneal injection

Result: negative

Remarks: On basis of test data.

Germ cell mutagenicity -

Assessment

: Animal testing did not show any mutagenic effects.

## Carcinogenicity

Not classified based on available information.

### **Ingredients:**

## Glycidoxypropyl trimethoxysilane:

Species: Mouse

Application Route: Skin contact

Result: negative

Remarks: On basis of test data.

Carcinogenicity - Assess-

ment

: Animal testing did not show any carcinogenic effects.

IARC No ingredient of this product present at levels greater than or

equal to 0.1% is identified as probable, possible or confirmed

human carcinogen by IARC.

OSHA No component of this product present at levels greater than or

equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or

equal to 0.1% is identified as a known or anticipated carcinogen

by NTP.

### Reproductive toxicity

Not classified based on available information.



## XIAMETER(R) OFS-6040 SILANE

Version Revision Date: SDS Number: Date of last issue: 07/25/2017 4.0 09/13/2017 1039738-00009 Date of first issue: 01/05/2015

#### Ingredients:

#### Glycidoxypropyl trimethoxysilane:

Effects on fertility : Test Type: One-generation reproduction toxicity study

Species: Rat, male and female Application Route: Ingestion Symptoms: No effects on fertility. Remarks: On basis of test data.

Effects on fetal development : Test Type: Prenatal development toxicity study (teratogenicity)

Species: Rat, female

Application Route: Ingestion

Symptoms: No effects on fetal development.

Remarks: On basis of test data.

Reproductive toxicity - As-

sessment

No evidence of adverse effects on sexual function and fertility,

or on development, based on animal experiments.

#### STOT-single exposure

Not classified based on available information.

#### STOT-repeated exposure

Not classified based on available information.

#### Ingredients:

## Glycidoxypropyl trimethoxysilane:

Routes of exposure: inhalation (dust/mist/fume)

Assessment: No significant health effects observed in animals at concentrations of 0.2 mg/l/6h/d or less.

Routes of exposure: Ingestion

Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg

bw or less.

## Repeated dose toxicity

#### Ingredients:

### Glycidoxypropyl trimethoxysilane:

Species: Rat

Application Route: inhalation (dust/mist/fume)

Remarks: On basis of test data.

Species: Rat

Application Route: Ingestion Remarks: On basis of test data.

## **Aspiration toxicity**

Not classified based on available information.



## XIAMETER(R) OFS-6040 SILANE

Version Revision Date: SDS Number: Date of last issue: 07/25/2017 4.0 09/13/2017 1039738-00009 Date of first issue: 01/05/2015

#### **Further information**

#### Ingredients:

## Glycidoxypropyl trimethoxysilane:

Remarks: Glycidoxypropyltrimethoxysilane was found to be genetically active in Ames reverse mutation assays, In Vitro sister chromatid exchange assays, and an In Vivo mouse micronucleus assay. This ingredient was not genetically active in an In Vivo cytogenetic assay (mice) or in an In Vivo sister chromatid exchange assay (rabbits, rats). The potential relevance of these data to humans is not known.

#### **SECTION 12. ECOLOGICAL INFORMATION**

#### **Ecotoxicity**

#### **Ingredients:**

## Glycidoxypropyl trimethoxysilane:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 237 mg/l

Exposure time: 96 h

LC50 (Cyprinus carpio (Carp)): 276 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Simocephalus vetulus): 324 mg/l

Exposure time: 48 h

EC50 (Daphnia magna (Water flea)): 710 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202 Remarks: On basis of test data.

Toxicity to algae : ErC50 (Anabaena flos-aquae): 119 mg/l

Exposure time: 72 h

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): > 100 mg/l

Exposure time: 21 d

Toxicity to microorganisms : EC50: > 100 mg/l

Method: OECD Test Guideline 209

#### Persistence and degradability

## **Ingredients:**

## Glycidoxypropyl trimethoxysilane:

Biodegradability : Result: Not readily biodegradable.

Biodegradation: 37 % Exposure time: 28 d

Method: OECD Test Guideline 301A

Stability in water : Degradation half life: 6.5 h (24.5 °C) pH: 7

Method: OECD Test Guideline 111



## XIAMETER(R) OFS-6040 SILANE

Version Revision Date: SDS Number: Date of last issue: 07/25/2017 4.0 09/13/2017 1039738-00009 Date of first issue: 01/05/2015

II

**Bioaccumulative potential** 

**Ingredients:** 

Glycidoxypropyl trimethoxysilane:

Partition coefficient: n-

octanol/water

: log Pow: -2.6

. Mobility in soil

No data available

Other adverse effects

No data available

**SECTION 13. DISPOSAL CONSIDERATIONS** 

**Disposal methods** 

Resource Conservation and

Recovery Act (RCRA)

This product has been evaluated for RCRA characteristics and does not meet the criteria of hazardous waste if discarded

in its purchased form.

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste

handling site for recycling or disposal.

If not otherwise specified: Dispose of as unused product.

**SECTION 14. TRANSPORT INFORMATION** 

International Regulations

**UNRTDG** 

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

**IMDG-Code** 

Not regulated as a dangerous good

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

Not applicable for product as supplied.

**Domestic regulation** 

**49 CFR** 

Not regulated as a dangerous good

**SECTION 15. REGULATORY INFORMATION** 

**EPCRA - Emergency Planning and Community Right-to-Know** 

**CERCLA Reportable Quantity** 



# XIAMETER(R) OFS-6040 SILANE

Version Revision Date: SDS Number: Date of last issue: 07/25/2017 4.0 09/13/2017 1039738-00009 Date of first issue: 01/05/2015

Ingredients	CAS-No.	Component RQ	Calculated product RQ
		(lbs)	(lbs)
Methanol	67-56-1	5000	*

<sup>\*:</sup> Calculated RQ exceeds reasonably attainable upper limit.

#### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

## SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Serious eye damage or eye irritation

SARA 313 : This material does not contain any chemical components with

known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### **US State Regulations**

## Pennsylvania Right To Know

Glycidoxypropyl trimethoxysilane 2530-83-8 Methanol 67-56-1

#### California Prop. 65

WARNING: This product can expose you to chemicals including Methanol, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

#### The ingredients of this product are reported in the following inventories:

NZIoC : All ingredients listed or exempt.

REACH : For purchases from Dow Corning EU legal entities, all

ingredients are currently pre/registered or exempt under REACH. Please refer to section 1 for recommended uses. For purchases from non-EU Dow Corning legal entities with the

intention to export into EEA please contact your DC

representative/local office.

TSCA : All chemical substances in this product are either listed on the

TSCA Inventory or are in compliance with a TSCA Inventory

exemption.

AICS : All ingredients listed or exempt.

IECSC : All ingredients listed or exempt.

ENCS/ISHL : All components are listed on ENCS/ISHL or exempted from

inventory listing.

KECI : All ingredients listed, exempt or notified.

PICCS : All ingredients listed or exempt.

DSL : All chemical substances in this product comply with the CEPA

1999 and NSNR and are on or exempt from listing on the



## XIAMETER(R) OFS-6040 SILANE

Version Revision Date: SDS Number: Date of last issue: 07/25/2017 4.0 09/13/2017 1039738-00009 Date of first issue: 01/05/2015

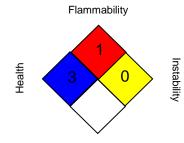
Canadian Domestic Substances List (DSL).

TCSI : All ingredients listed or exempt.

#### **SECTION 16. OTHER INFORMATION**

#### **Further information**

#### NFPA:



Special hazard.

#### HMIS® IV:

HEALTH	1	3
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

DCC OEL : Dow Corning Guide

NIOSH REL : USA. NIOSH Recommended Exposure Limits

OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Lim-

its for Air Contaminants

ACGIH / TWA : 8-hour, time-weighted average ACGIH / STEL : Short-term exposure limit DCC OEL / TWA : Time weighted average

NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour

workday during a 40-hour workweek

NIOSH REL / ST : STEL - 15-minute TWA exposure that should not be exceeded

at any time during a workday

OSHA Z-1 / TWA : 8-hour time weighted average

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organiza-



## XIAMETER(R) OFS-6040 SILANE

Version Revision Date: SDS Number: Date of last issue: 07/25/2017 4.0 09/13/2017 1039738-00009 Date of first issue: 01/05/2015

tion; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan): ISO - International Organisation for Standardization: KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG -United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Material Safety

Data Sheet

Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agen-

cy, http://echa.europa.eu/

Revision Date : 09/13/2017

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

US / Z8