

Silwet* 408 surfactant

SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2015/830

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name: Silwet* 408 surfactant

Chemical name	Polyalkyleneoxide Modified Heptamethyltrisiloxane
INDEX No.	Not applicable
CAS-No.	67674-67-3
EC No.	614-100-2
REACH Registration No.	Polymer

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Agricultural Use. Surfactant

Uses advised against: Not for aerosol use

1.3 Details of the supplier of the safety data sheet

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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

The product has been classified according to the legislation in force.

Classification according to Regulation (EC) No 1272/2008 as amended.

Health Hazards

Acute toxicity (Inhalation - vapor)	Category 4	H332: Harmful if inhaled.
Serious eye irritation	Category 2	H319: Causes serious eye irritation.

Environmental Hazards

Chronic hazards to the aquatic environment	Category 2	H411: Toxic to aquatic life with long lasting effects.
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2.2 Label Elements

Contains: Polyalkyleneoxide Modified Heptamethyltrisiloxane



Signal Words: Warning

Hazard Statement(s): H332: Harmful if inhaled.
H319: Causes serious eye irritation.
H411: Toxic to aquatic life with long lasting effects.

Precautionary Statements

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- Prevention:** P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
 P264: Wash thoroughly after handling.
 P273: Avoid release to the environment.
 P280: Wear protective gloves/protective clothing/eye protection/face protection.
- Response:** P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P312: Call a POISON CENTER/doctor if you feel unwell.
 P337+P313: If eye irritation persists: Get medical advice/attention.
 P391: Collect spillage.
- Disposal:** P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Unknown toxicity - Health

- Acute toxicity, inhalation, vapor 0 %
 Acute toxicity, inhalation, dust or mist 0 %

Unknown toxicity - Environment

- Acute hazards to the aquatic environment 0 %
 Chronic hazards to the aquatic environment 0 %

Additional Information: No data available.

2.3 Other hazards No data available.

SECTION 3: Composition/information on ingredients

Chemical nature: Polyalkyleneoxide Modified Heptamethyltrisiloxane

3.1 Substances

- General information:** No data available.
Chemical name Polyalkyleneoxide Modified Heptamethyltrisiloxane
INDEX No.: Not applicable
CAS-No.: 67674-67-3
EC No.: 614-100-2
REACH Registration No.: Polymer
M-Factor: No data available.

Chemical name	Concentration	CAS-No.	EC No.	REACH Registration No.	M-Factor:	Notes
Polyalkyleneoxide Modified Heptamethyltrisiloxane	50 - <100%	67674-67-3	614-100-2	Polymer	No data available.	

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

This substance has workplace exposure limit(s).

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PBT: persistent, bioaccumulative and toxic substance.
 vPvB: very persistent and very bioaccumulative substance.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Inhalation:** Move the exposed person to fresh air at once. After inhalation of aerosol/mist seek medical advice immediately.
- Eye contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
- Skin Contact:** Wash off promptly and flush contaminated skin with water. Promptly remove clothing if soaked through and flush skin with water. Get medical attention.
- Ingestion:** Call a physician or poison control center immediately. Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed: No data available.

4.3 Indication of any immediate medical attention and special treatment needed

- Hazards:** No data available.
- Treatment:** No data available.

SECTION 5: Firefighting measures

General Fire Hazards: Do not use water jet as an extinguisher, as this will spread the fire. Use water spray to keep fire-exposed containers cool.

5.1 Extinguishing media

- Suitable extinguishing media:** All standard extinguishing agents are suitable.
- Unsuitable extinguishing media:** water jet

5.2 Special hazards arising from the substance or mixture: No data available.

5.3 Advice for firefighters

- Special fire fighting procedures:** All equipment used when handling the product must be grounded.
- Special protective equipment for fire-fighters:** Wear self-contained breathing apparatus and protective clothing.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures: Avoid contact with eyes, skin, and clothing. Avoid contact with liquid and vapors. Use personal protective equipment.

6.2 Environmental Precautions: Prevent runoff from entering drains, sewers, or streams.

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- 6.3 Methods and material for containment and cleaning up:** Absorb spillage with suitable absorbent material.
- 6.4 Reference to other sections:** Remove sources of ignition. In case of spills, beware of slippery floors and surfaces.

SECTION 7: Handling and storage:

- 7.1 Precautions for safe handling:** Do not taste or swallow. Avoid contact with eyes, skin, and clothing. Do not breathe vapor/spray. Wash hands after handling. See Section 8 of the SDS for Personal Protective Equipment.
- Storage conditions:** No data available.
- 7.2 Conditions for safe storage, including any incompatibilities:** Keep container tightly closed. Keep away from sources of ignition - No smoking. Use original container or packaging of similar material of construction
- Storage Stability:** No data available.
- 7.3 Specific end use(s):** No data available.

SECTION 8: Exposure controls/personal protection

**8.1 Control Parameters
 Occupational Exposure Limits**

Chemical name	Type	Exposure Limit Values	Source
2-Propanol	TWA	200 ppm	Ireland. OELVs, Schedule 1 (Code of Practice for Chemical Agents Regulations), as amended (2011)
	STEL	400 ppm	Ireland. OELVs, Schedule 1 (Code of Practice for Chemical Agents Regulations), as amended (2018)

Biological Limit Values

None.

8.2 Exposure controls

Appropriate Engineering Controls: Provide adequate general and local exhaust ventilation. Eye washes and showers for emergency use.

Individual protection measures, such as personal protective equipment

General information: No data available.

Eye/face protection: Safety glasses with side-shields conforming to EN166

Skin protection

Hand Protection: Advice: Protective gloves made of : Nitrile rubber. This recommendation is valid only for our Product as delivered. If this product will be mixed with other substances you need to contact a supplier of CE approved protective gloves (e.g. KCL GmbH, D-36124 Eichenzell, Tel. 0049 (0) 6659 87300, Fax. 0049 (0) 6659 87155, email: vertrieb@kcl.de).
 Material: 730 Camatril
 Minimum break through time: 480 min
 Glove thickness: 0,4 mm

Other: Safety shoes Wear suitable protective clothing.

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Respiratory Protection:	No data available.
Hygiene measures:	No data available.
Environmental exposure controls:	No data available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Pale yellow
Odor:	Polyether
Odor Threshold:	No data available.
pH:	No data available.
Freezing point:	-8 °C Pour Point
Boiling Point:	> 150 °C (1.013 hPa) Copolymer
Flash Point:	118 °C (ASTM D 93)
Evaporation Rate:	< 1 (n-Butyl acetate=1)
Flammability (solid, gas):	No data available.
Flammability Limit - Upper (%):	No data available.
Flammability Limit - Lower (%):	No data available.
Vapor pressure:	< 1,33 hPa (20 °C)
Relative vapor density:	Heavier than air
Density:	1,0200 g/cm ³ (25 °C)
Relative density:	No data available.
Solubility(ies)	
Solubility in Water:	Dispersible
Solubility (other):	No data available.
Partition coefficient (n-octanol/water) Log Pow:	> 3,30 ; pH 5 > 3,31 ; pH 7 > 3,31 ; pH 9
Autoignition Temperature:	No data available.
Decomposition Temperature:	No data available.
SADT:	No data available.
Viscosity, dynamic:	No data available.
Viscosity, kinematic:	No data available.
Explosive properties:	No data available.
Oxidizing properties:	No data available.

9.2 Other information

No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity:	No data available.
10.2 Chemical Stability:	Material is stable under normal conditions.
10.3 Possibility of hazardous reactions:	Hazardous polymerization does not occur.
10.4 Conditions to avoid:	Keep away from heat, sparks and open flame.

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- 10.5 Incompatible Materials:** Strong Acids, Strong Bases
- 10.6 Hazardous Decomposition Products:** In case of fire, gives off (emits): Carbon oxides Oxides of silicon. Measurements at temperatures above 150°C in presence of air (oxygen) have shown that small amounts of formaldehyde are formed due to oxidative degradation.

SECTION 11: Toxicological information

Information on likely routes of exposure

- Inhalation:** No data available.
- Ingestion:** No data available.
- Skin Contact:** No data available.
- Eye contact:** No data available.

11.1 Information on toxicological effects

Acute toxicity

Oral

- Product:** LD 50 (Rat): > 2.000 mg/kg Slightly toxic
- Specified substance(s)**
 Polyalkyleneoxide No data available.
 Modified
 Heptamethyltrisiloxane

Dermal

- Product:** LD 50 (Rat): > 2.000 mg/kg Not classified
- Specified substance(s)**
 Polyalkyleneoxide LD 50 (Rat): > 4.000 mg/kg
 Modified
 Heptamethyltrisiloxane

Inhalation

- Product:** LC50 (Rat, 4 h): 2 mg/l Aerosols
 LC50 (Rat, 4 h): > 11,78 mg/l 5% Diluted aqueous solution
 ATEmix13,1 mg/l Vapour
- Specified substance(s)**
 Polyalkyleneoxide No data available.
 Modified
 Heptamethyltrisiloxane

Repeated dose toxicity

- Product:** NOAEL (Rat, Oral, 28 d): 150 mg/kg (OECD 422)
- Specified substance(s)**
 Polyalkyleneoxide No data available.
 Modified
 Heptamethyltrisiloxane

Skin Corrosion/Irritation:

- Product:** (Rabbit): No skin irritation
- Specified substance(s)**
 Polyalkyleneoxide No data available.
 Modified
 Heptamethyltrisiloxane

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Serious Eye Damage/Eye Irritation:

Product: (Rabbit, 4 h): Strongly irritating.
Specified substance(s)
 Polyalkyleneoxide (Rabbit): Strongly irritating.
 Modified
 Heptamethyltrisiloxane

Respiratory or Skin

Sensitization:

Product: (Guinea Pig) Did not cause sensitization on laboratory animals.
Specified substance(s)
 Polyalkyleneoxide (Guinea Pig) negative
 Modified
 Heptamethyltrisiloxane

Germ Cell Mutagenicity

In vitro

Product: Ames-Test: negative (not mutagenic)
 Chromosomal aberration: negative
 Mammalian cytogenicity test: negative

Specified substance(s)
 Polyalkyleneoxide Salmonella Typhimurium/ Escherichia coli: negative
 Modified
 Heptamethyltrisiloxane

In vivo

Product: OECD-Guideline 474 (Genetic Toxicology: Micronucleus Test): negative

Specified substance(s)
 Polyalkyleneoxide No data available.
 Modified
 Heptamethyltrisiloxane

Carcinogenicity

Product: No data available.

Specified substance(s)
 Polyalkyleneoxide No data available.
 Modified
 Heptamethyltrisiloxane

Reproductive toxicity

Product: No data available.

Specified substance(s)
 Polyalkyleneoxide No data available.
 Modified
 Heptamethyltrisiloxane

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specified substance(s)
 Polyalkyleneoxide No data available.
 Modified
 Heptamethyltrisiloxane

Specific Target Organ Toxicity - Repeated Exposure

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Product: No data available.

Specified substance(s)

Polyalkyleneoxide No data available.
 Modified
 Heptamethyltrisiloxane

Aspiration Hazard

Product: No data available.

Specified substance(s)

Polyalkyleneoxide No data available.
 Modified
 Heptamethyltrisiloxane

Other effects: No data available.

SECTION 12: Ecological information

12.1 Toxicity

Acute toxicity

Fish

Product: LC50 (Zebra Fish, 96 h): 6,8 mg/l

Specified substance(s)

Polyalkyleneoxide (Oncorhynchus mykiss, 96 h): 4,5 mg/l
 Modified NOEC (Oncorhynchus mykiss, 96 h): 3,2 mg/l
 Heptamethyltrisiloxane

Aquatic Invertebrates

Product: EC50 (Daphnia magna, 48 h): 25 mg/l

Specified substance(s)

Polyalkyleneoxide EC50 (Daphnia magna, 48 h): 24 mg/l
 Modified NOEC (Daphnia magna, 48 h): 5,6 mg/l
 Heptamethyltrisiloxane

Chronic Toxicity

Fish

Product: No data available.

Specified substance(s)

Polyalkyleneoxide No data available.
 Modified
 Heptamethyltrisiloxane

Aquatic Invertebrates

Product: No data available.

Specified substance(s)

Polyalkyleneoxide No data available.
 Modified
 Heptamethyltrisiloxane

Toxicity to Aquatic Plants

Product: EC50 (Algae (Pseudokirchneriella subcapitata), 96 h): 32 mg/l

Specified substance(s)

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Polyalkyleneoxide
 Modified
 Heptamethyltrisiloxane
 No data available.

12.2 Persistence and Degradability

Biodegradation

Product: The product is not readily biodegradable.

Specified substance(s)

Polyalkyleneoxide
 Modified
 Heptamethyltrisiloxane
 No data available.

BOD/COD Ratio

Product No data available.

Specified substance(s)

Polyalkyleneoxide
 Modified
 Heptamethyltrisiloxane
 No data available.

12.3 Bioaccumulative potential

Product: No data available.

Specified substance(s)

Polyalkyleneoxide
 Modified
 Heptamethyltrisiloxane
 No data available.

12.4 Mobility in soil:

No data available.

Known or predicted distribution to environmental compartments

Polyalkyleneoxide Modified
 Heptamethyltrisiloxane
 No data available.

12.5 Results of PBT and vPvB assessment:

vPvB: very persistent and very bioaccumulative substance.

Polyalkyleneoxide Modified
 Heptamethyltrisiloxane
 No data available.

12.6 Other adverse effects: No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

General information: The generation of waste should be avoided or minimized wherever possible. Do not discharge into drains, water courses or onto the ground. See Section 8 for information on appropriate personal protective equipment.

Disposal methods: Can be incinerated when in compliance with local regulations.

SECTION 14: Transport information

ADR

14.1 UN Number: UN 3082
 14.2 UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Polyalkyleneoxide Modified Heptamethyltrisiloxane)
 14.3 Transport Hazard Class(es)
 Class: 9

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Label(s): 9
 Hazard No. (ADR): 90
 Tunnel restriction code: (-)
 14.4 Packing Group: III
 14.5 Environmental Hazards: Environmentally hazardous
 Marine Pollutant Yes

ADN

14.1 UN Number: UN 3082
 14.2 UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Polyalkyleneoxide Modified Heptamethyltrisiloxane)
 14.3 Transport Hazard Class(es)
 Class: 9
 Label(s): 9
 14.4 Packing Group: III
 14.5 Environmental Hazards: Environmentally hazardous
 Marine Pollutant Yes

RID

14.1 UN Number: UN 3082
 14.2 UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Polyalkyleneoxide Modified Heptamethyltrisiloxane)
 14.3 Transport Hazard Class(es)
 Class: 9
 Label(s): 9
 14.4 Packing Group: III
 14.5 Environmental Hazards: Environmentally hazardous
 Marine Pollutant Yes

IMDG

14.1 UN Number: UN 3082
 14.2 UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Polyalkyleneoxide Modified Heptamethyltrisiloxane)
 14.3 Transport Hazard Class(es)
 Class: 9
 Label(s): 9
 EmS No.: F-A, S-F
 14.4 Packing Group: III
 14.5 Environmental Hazards: Environmentally hazardous
 Marine Pollutant: Yes

IATA

14.1 UN Number: UN 3082
 14.2 Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.(Polyalkyleneoxide Modified Heptamethyltrisiloxane)
 14.3 Transport Hazard Class(es):
 Class: 9
 Label(s): 9MI
 14.4 Packing Group: III
 14.5 Environmental Hazards: Environmentally hazardous
 Marine Pollutant: Yes

14.6 Special precautions for user: Keep away from food, drink and animal feeding stuffs.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code:

Not applicable

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SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

EU Regulations

Regulation 1005/2009/EC on substances that deplete the ozone layer, Annex I, Controlled Substances: none

Regulation 1005/2009/EC on substances that deplete the ozone layer, Annex II, New Substances: none

EU. Regulation 2019/1021/EU on persistent organic pollutants (POPs) (recast), as amended: none

Regulation (EC) No. 649/2012 Import and export of dangerous chemicals: none

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended: none

EU. REACH Candidate List of Substances of Very High Concern for Authorization (SVHC): none

Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use:

Chemical name	CAS-No.	Concentration
2-Propanol	67-63-0	0,1 - 1,0%

Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens and mutagens at work.: none

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breast feeding.: none

Directive 2012/18/EU (Seveso III): on the control of major accident hazards involving dangerous substances:

Chemical name	CAS-No.	Concentration
2-Propanol	67-63-0	0,1 - 1,0%

EU. Regulation No. 166/2006 PRTR (Pollutant Release and Transfer Registry), Annex II: Pollutants: none

Directive 98/24/EC on the protection of workers from the risks related to chemical agents at work:

Chemical name	CAS-No.	Concentration
2-Propanol	67-63-0	0,1 - 1,0%

15.2 Chemical safety assessment:

No Chemical Safety Assessment has been carried out.

Inventory Status

Australia AICS:	On or in compliance with the inventory	Remarks: None.
Canada DSL Inventory List:	On or in compliance with the inventory	Remarks: None.
EINECS, ELINCS or NLP:	On or in compliance with the inventory	Remarks: None.

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Japan (ENCS) List:	On or in compliance with the inventory	Remarks: None.
China Inv. Existing Chemical Substances:	On or in compliance with the inventory	Remarks: None.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory	Remarks: None.
Canada NDSL Inventory:	Not in compliance with the inventory.	Remarks: None.
Philippines PICCS:	On or in compliance with the inventory	Remarks: None.
US TSCA Inventory:	On or in compliance with the inventory	Remarks: None.
New Zealand Inventory of Chemicals:	On or in compliance with the inventory	Remarks: None.
Taiwan Chemical Substance Inventory:	On or in compliance with the inventory	Remarks: None.
REACH:	If purchased from Momentive Performance Materials GmbH in Leverkusen, Germany, all substances in this product have been registered by Momentive Performance Materials GmbH or upstream in our supply chain or are exempt from registration under Regulation (EC) No 1907/2006 (REACH). For polymers, this includes the constituent monomers and other reactants.	Remarks: None.

SECTION 16: Other information

Revision Information: Not relevant.

Key literature references and sources for data: No data available.

Wording of the H-statements in section 2 and 3

H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H411	Toxic to aquatic life with long lasting effects.

Training information: No data available.

Classification according to Regulation (EC) No 1272/2008 as amended.

Acute Tox. 4, H332
Eye Dam. 2, H319
Aquatic Chronic 2, H411

Issue Date: 09.12.2020

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