Safety Data Sheet

according to UK REACH Regulation

SilOil, M80.055.03

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

1.1. Product identifier

SilOil, M80.055.03

Substance name:	Polydimethylsiloxan
CAS No:	63148-62-9

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

Use of the substance/mixture

Heat transfer oil

Uses advised against

Any non-intended use.

1.3. Details of the supplier of the safety data sheet

Manufacturer

Company name:	Peter Huber Kältemaschinenbau SE	
Street:	Werner-von-Siemens-Strasse 1	
Place:	D-77656 Offenburg	
Telephone:	+49 (0) 781 9603-0	Telefax: +49 (0) 781 57211
E-mail:	info@huber-online.com	
Internet:	www.huber-online.com	
Responsible Department:	info@huber-online.com	

Supplier

Company name:	Huber UK Temperature Control Ltd.
Street:	Heage Road Industrial Estate
Place:	GB-DE5 3GH Ripley, Derbyshire
Telephone:	+44 1773 82 3369
E-mail:	info@huber-uk.co.uk
Internet:	https://www.huber-uk.co.uk

1.4. Emergency telephone number:

UK NPIS 0344 892 0111

Further Information

Safety Data Sheet according to UK-REACH Regulation

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

This substance is not classified as hazardous in accordance with GB CLP Regulation.

2.2. Label elements

Additional advice on labelling

Polydimethylsiloxan
CAS-No.: 63148-62-9

2.3. Other hazards

The mixture contains the following substances fulfilling the vPvB criteria according to UK REACH:
Dodecamethylcyclohexasiloxane.
Endocrine disrupting properties: Dodecamethylcyclohexasiloxane.

Additional information:
The substance is suspected to fulfil the PBT criteria. The substance is listed in the PBT assessment list, but the assessment is still ongoing (ECHA).
The substance is included in one of the lists of endocrine disruptors (list II, human).
Environment: This substance does not have endocrine disrupting properties with respect to non-target organisms.

SECTION 3: Composition/information on ingredients

3.1. Substances

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
63148-62-9	Polydimethylsiloxan			> 95 %
540-97-6	Dodecamethylcyclohexasiloxane			< 0,25 %
	208-762-8		01-2119517435-42-XXXX	

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
540-97-6	208-762-8	Dodecamethylcyclohexasiloxane	< 0,25 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg		

Further Information

SVHC: Substance of Very High Concern: Dodecamethylcyclohexasiloxane

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

In case of accident by inhalation: remove casualty to fresh air and keep at rest. In case of respiratory tract irritation, consult a physician.

After contact with skin

Gently wash with plenty of soap and water. Remove contaminated clothing immediately. In case of skin irritation consult a doctor.

After contact with eyes

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion

Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical advice.

4.2. Most important symptoms and effects, both acute and delayed

No symptoms known so far.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO2). Dry extinguishing powder. Alcohol resistant foam. Atomized water. Sand

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Can be released in case of fire: Carbon monoxide (CO). Carbon dioxide (CO2). Formaldehyde.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. Wear chemical resistant suit.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
Co-ordinate fire-fighting measures to the fire surroundings.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Safe handling: see section 7
Special danger of slipping by leaking/spilling product.

For non-emergency personnel

Wear personal protection equipment (refer to section 8).

For emergency responders

No special measures are necessary.

6.2. Environmental precautions

Discharge into the environment must be avoided. Prevent spread over a wide area (e.g. by containment or oil barriers).

6.3. Methods and material for containment and cleaning up

For containment

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).
Treat the recovered material as prescribed in the section on waste disposal.

For cleaning up

Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Wear suitable protective clothing. See section 8.

Advice on protection against fire and explosion

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take

precautionary measures against static discharge. Usual measures for fire prevention.

Advice on general occupational hygiene

Always close containers tightly after the removal of product. When using do not eat, drink or smoke. Wash hands before breaks and after work. Avoid contact with skin, eyes and clothes. Take off immediately all contaminated clothing.

Further information on handling

General protection and hygiene measures: See section 8. Vapours / aerosols must be extracted by suction immediately at point of origin.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place. Store only in original container.

Hints on joint storage

Do not store together with: Explosives. Oxidizing solids. Oxidizing liquids. Radioactive substances. Infectious substances. Food and animal feedingstuff.

Further information on storage conditions

Keep the packing dry and well sealed to prevent contamination and absorbtion of humidity.
Recommended storage temperature: 20 °C
Maximum storage temperature: 50 °C
Protect against: frost. UV-radiation/sunlight. heat. Humidity

7.3. Specific end use(s)

See section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
540-97-6	Dodecamethylcyclohexasiloxane			
Worker DNEL, long-term		inhalation	local	1,22 mg/m³
Worker DNEL, acute		inhalation	local	6,1 mg/m³
Consumer DNEL, long-term		inhalation	local	0,3 mg/m³
Consumer DNEL, acute		inhalation	local	1,5 mg/m³

PNEC values

CAS No	Substance	
Environmental compartment		Value
540-97-6	Dodecamethylcyclohexasiloxane	
Freshwater sediment		13,5 mg/kg
Marine sediment		1,35 mg/kg
Secondary poisoning		66,7 mg/kg

Additional advice on limit values

To date, no national critical limit values exist.

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.
Provide adequate ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses; chemical goggles (if splashing is possible).

Hand protection

In case of prolonged or frequently repeated skin contact:
Wear suitable gloves.
Suitable material:
FKM (fluororubber). - Thickness of glove material: 0,4 mm
Breakthrough time >= 8 h
Butyl rubber. - Thickness of glove material: 0,5 mm
Breakthrough time >= 8 h
CR (polychloroprenes, Chloroprene rubber). - Thickness of glove material: 0,5 mm
Breakthrough time >= 8 h
NBR (Nitrile rubber). - Thickness of glove material: 0,35 mm
Breakthrough time >= 8 h
PVC (Polyvinyl chloride). - Thickness of glove material: 0,5 mm
Breakthrough time >= 8 h
The selected protective gloves have to satisfy the specifications of the Personal Protective Equipment at Work (Amendment) Regulations 2022 and the standard EN ISO 374.
Before using check leak tightness / impermeability. In the case of wanting to use the gloves again, clean them before taking off and air them well.

Skin protection

Suitable protective clothing: Lab apron.

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.
Respiratory protection necessary at:
-aerosol or mist formation
-Exceeding exposure limit values
Suitable respiratory protection apparatus: Full-/half-/quarter-face masks (DIN EN 136/140) Type A-P2
Half-face mask or quarter facepiece: maximum use concentration for substances with exposure limits: P1 filter: up to a max. of 4 times the exposure limit. P2 filter: up to a max. of 10 times the exposure limit. P3 filter: up to a max. of 30 times the expo.
The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Environmental exposure controls

No special precautionary measures are necessary.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	colourless
Odour:	odourless
Odour threshold:	-

		Test method
Melting point/freezing point:	not determined	
Boiling point or initial boiling point and boiling range:	not applicable	
Flammability:	This material is combustible, but will not ignite readily.	
Lower explosion limits:	not determined	
Upper explosion limits:	not determined	

Flash point:	> 62 °C	ISO 2592
Auto-ignition temperature:	not determined	
Decomposition temperature:	not relevant	
pH-Value:	not applicable	
Viscosity / kinematic: (at 25 °C)	ca. 3 mm²/s	
Water solubility:	Immiscible	

Solubility in other solvents

not determined

Dissolution rate:	not relevant
Partition coefficient n-octanol/water:	SECTION 12: Ecological information
Dispersion stability:	not relevant
Vapour pressure:	not determined
Density (at 25 °C):	~ 0,9 g/cm³
Bulk density:	not relevant
Relative vapour density:	not determined
Particle characteristics:	not relevant

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

none

Sustaining combustion:	Not sustaining combustion

Self-ignition temperature

Solid:	not relevant
Gas:	not relevant

Oxidizing properties

none

Other safety characteristics

Evaporation rate:	not determined
Solvent separation test:	not determined
Solvent content:	not determined
Solid content:	not determined
Sublimation point:	not relevant
Softening point:	not relevant
Pour point:	not relevant
Viscosity / dynamic:	not determined
Flow time:	not determined

Further Information

No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.
Refer to section 10.5.

10.4. Conditions to avoid

Protect against: UV-radiation/sunlight. heat.

10.5. Incompatible materials

Materials to avoid: Oxidizing agents, strong. Reducing agents, strong.

10.6. Hazardous decomposition products

Measurements have shown that at temperatures above approx. 150 °C a small amount of formaldehyde is split off by oxidative decomposition.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Acute toxicity

Based on available data, the classification criteria are not met.

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
540-97-6	Dodecamethylcyclohexasiloxane					
	oral	LD50 mg/kg	> 2000	Rat	REACH dossier	OECD Guideline 423
	dermal	LD50 mg/kg	> 2000	Rat	REACH dossier	OECD Guideline 402

Irritation and corrosivity

Based on available data, the classification criteria are not met.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Specific effects in experiment on an animal

No data available.

11.2. Information on other hazards

Endocrine disrupting properties

Endocrine disrupting properties: Dodecamethylcyclohexasiloxane.
The substance is included in one of the lists of endocrine disruptors (list II).

Other information

No data available.

SECTION 12: Ecological information

12.1. Toxicity

Based on available data, the classification criteria are not met.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
540-97-6	Dodecamethylcyclohexasiloxane						
	Acute algae toxicity	ErC50 mg/l	> 0,002	72 h	Raphidocelis subcapitata	REACH dossier	OECD Guideline 201

	Fish toxicity	NOEC >= 0,014 mg/l	90 d	Oncorhynchus mykiss	REACH dossier	OECD Guideline 210
	Crustacea toxicity	NOEC >= 0,0046 mg/l	21 d	Daphnia magna	REACH dossier	OECD Guideline 211
	Acute bacteria toxicity	EC50 > 100 mg/l ( )	3 h	Activated sludge	REACH dossier	OECD Guideline 209

12.2. Persistence and degradability

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
540-97-6	Dodecamethylcyclohexasiloxane			
	OECD 310	4,47	28	REACH dossier
	Not easily bio-degradable (according to OECD-criteria).			

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
540-97-6	Dodecamethylcyclohexasiloxane	8,87

BCF

CAS No	Chemical name	BCF	Species	Source
540-97-6	Dodecamethylcyclohexasiloxane	1160	Pimephales promelas	REACH dossier

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

The mixture contains the following substances fulfilling the vPvB criteria according to UK REACH:
Dodecamethylcyclohexasiloxane.
The substance is suspected to fulfil the PBT criteria. The substance is listed in the PBT assessment list, but the assessment is still ongoing (ECHA).

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.
The aforementioned statement applies to substances contained in the product with a minimum content of 0.1 %.

12.7. Other adverse effects

No data available.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Observe in addition any national regulations! Consult the local waste disposal expert about waste disposal.
Non-contaminated packages may be recycled.
According to (EWC) European Waste Catalogue, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.
Control report for waste code/ waste marking according to (EWC) European Waste Catalogue:

List of Wastes Code - residues/unused products

070217 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of plastics, synthetic rubber and man-made fibres; waste containing silicones other than those mentioned in 07 02 16

List of Wastes Code - used product

070217 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of plastics, synthetic rubber and man-made fibres; waste containing silicones other than those mentioned in 07 02 16

List of Wastes Code - contaminated packaging

150106 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); mixed packaging

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Refer to section 6 - 8

14.7. Maritime transport in bulk according to IMO instruments

not relevant

SECTION 15: Regulatory information

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

EU regulatory information

Authorisations (REACH, annex XIV):

Substances of very high concern, SVHC (REACH, article 59):
Dodecamethylcyclohexasiloxane

Directive 2010/75/EU on industrial emissions:	not determined
Directive 2004/42/EC on VOC in paints and varnishes:	not determined

Information according to Directive 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

Additional information

Safety Data Sheet according to UK-REACH Regulation
The substance is classified as not hazardous according to GHS (GB CLP).
UK REACH Appendix XVII, No.: not relevant

National regulatory information

Water hazard class (D): 1 - slightly hazardous to water

15.2. Chemical safety assessment

For this substance a chemical safety assessment has been carried out.

SECTION 16: Other information

Changes

Rev. 1,0; Initial release: 25.09.2020
Rev. 2.0; 28.07.2022, Changes in section: 2-16
Rev. 3,0; 21.07.2023, Revision
Rev. 4,0; 26.02.2024, Revision; Changes in section: 2 - 16

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS: Chemical Abstracts Service
CLP: Classification, Labelling and Packaging of substances and mixtures
DNEL: Derived No Effect Level
d: day(s)
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European LIst of Notified Chemical Substances
ECHA: European Chemicals Agency
EWC: European Waste Catalogue
IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)
h: hour
LOAEL: Lowest observed adverse effect level
LOAEC: Lowest observed adverse effect concentration
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NOAEL: No observed adverse effect level
NOAEC: No observed adverse effect concentration
NLP: No-Longer Polymers
N/A: not applicable
OECD: Organisation for Economic Co-operation and Development
PNEC: predicted no effect concentration
PBT: Persistent bioaccumulative toxic
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail
REACH: Registration, Evaluation, Authorisation of Chemicals
SVHC: substance of very high concern
TRGS: Technische Regeln für Gefahrstoffe
UN: United Nations
VOC: Volatile Organic Compounds
WGK: Water Hazard Class (Germany)

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.