Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice

Silicone oil TT 3, dried, low viscosity, 3 cSt

article number: **1952**
Version: **GHS 3.0 en**
Replaces version of: 2022-10-24
Version: (GHS 2)

date of compilation: 2021-04-07
Revision: 2024-03-03

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

1.1 Product identifier

Identification of the substance	**Silicone oil** TT 3, dried, low viscosity, 3 cSt
Article number	1952
CAS number	63148-62-9
Alternative name(s)	Polydimethylsiloxane

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

Relevant identified uses:	Laboratory chemical Laboratory and analytical use
Uses advised against:	Do not use for private purposes (household). Food, drink and animal feedingstuffs.

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co. KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany

Telephone:+49 (0) 721 - 56 06 0
Telefax: +49 (0) 721 - 56 06 149
e-mail: sicherheit@carlroth.de
Website: www.carlroth.de

Competent person responsible for the safety data sheet:	Department Health, Safety and Environment
e-mail (competent person):	**sicherheit@carlroth.de**

1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 West-mead, NSW	131126	

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

This substance does not meet the criteria for classification.

2.2 Label elements

Labelling

not required

2.3 Other hazards

Special danger of slipping by leaking/spilling product.

Results of PBT and vPvB assessment

The substance was identified as a PBT (persistent, bioaccumulative and toxic). The substance was identified as a vPvB (very persistent and very bioaccumulative). Non-classified PBT substance. Non-classified vPvB substance.

Endocrine disrupting properties

The substance has an endocrine disrupting potential.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance	Silicone oil
Molecular formula	$(C_2H_6OSi)n$
CAS No	63148-62-9

Impurities/additives/constituents:

Name of substance	Identifier	Wt%
Dodecamethylcyclohexasiloxane	CAS No 540-97-6	0.1 – 3
Decamethylcyclopentasiloxane	CAS No 541-02-6	0.1 – 3
Octamethylcyclotetrasiloxane	CAS No 556-67-2	0.1 – 1

Remarks

For full text of abbreviations: see SECTION 16

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

No special measures are necessary.

Following inhalation

Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Rinse cautiously with water for several minutes.

Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings!
water spray, dry extinguishing powder, BC-powder, carbon dioxide (CO_2)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Combustible.

Hazardous combustion products

In case of fire may be liberated: Carbon monoxide (CO), Carbon dioxide (CO_2)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Special danger of slipping by leaking/spilling product.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Other information relating to spills and releases

Place in appropriate containers for disposal.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provision of sufficient ventilation.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice:

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

This information is not available.

Relevant DNELs of components

Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Dodecamethylcyclohexasiloxane	540-97-6	DNEL	11 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Dodecamethylcyclohexasiloxane	540-97-6	DNEL	1.22 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
Dodecamethylcyclohexasiloxane	540-97-6	DNEL	6.1 mg/m³	human, inhalatory	worker (industry)	acute - local effects
Decamethylcyclopentasiloxane	541-02-6	DNEL	97.3 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Decamethylcyclopentasiloxane	541-02-6	DNEL	97.3 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
Decamethylcyclopentasiloxane	541-02-6	DNEL	24.2 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
Decamethylcyclopentasiloxane	541-02-6	DNEL	24.2 mg/m³	human, inhalatory	worker (industry)	acute - local effects
Octamethylcyclotetrasiloxane	556-67-2	DNEL	73 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Octamethylcyclotetrasiloxane	556-67-2	DNEL	73 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects

Relevant DNELs of components

Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Octamethylcyclotetrasiloxane	556-67-2	DNEL	73 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
Octamethylcyclotetrasiloxane	556-67-2	DNEL	73 mg/m³	human, inhalatory	worker (industry)	acute - local effects

Relevant PNECs of components

Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Dodecamethylcyclohexasiloxane	540-97-6	PNEC	1 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Dodecamethylcyclohexasiloxane	540-97-6	PNEC	13 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Dodecamethylcyclohexasiloxane	540-97-6	PNEC	1.3 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Dodecamethylcyclohexasiloxane	540-97-6	PNEC	3.77 mg/kg	terrestrial organisms	soil	short-term (single instance)
Decamethylcyclopentasiloxane	541-02-6	PNEC	1.2 µg/l	aquatic organisms	freshwater	short-term (single instance)
Decamethylcyclopentasiloxane	541-02-6	PNEC	0.12 µg/l	aquatic organisms	marine water	short-term (single instance)
Decamethylcyclopentasiloxane	541-02-6	PNEC	10 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Decamethylcyclopentasiloxane	541-02-6	PNEC	11 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Decamethylcyclopentasiloxane	541-02-6	PNEC	1.1 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Decamethylcyclopentasiloxane	541-02-6	PNEC	1.27 mg/kg	terrestrial organisms	soil	short-term (single instance)
Octamethylcyclotetrasiloxane	556-67-2	PNEC	1.5 µg/l	aquatic organisms	freshwater	short-term (single instance)
Octamethylcyclotetrasiloxane	556-67-2	PNEC	0.15 µg/l	aquatic organisms	marine water	short-term (single instance)
Octamethylcyclotetrasiloxane	556-67-2	PNEC	10 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Octamethylcyclotetrasiloxane	556-67-2	PNEC	3 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Octamethylcyclotetrasiloxane	556-67-2	PNEC	0.3 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Octamethylcyclotetrasiloxane	556-67-2	PNEC	0.54 mg/kg	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection

Use safety goggle with side protection.

Skin protection

• hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374.

• type of material

NBR (Nitrile rubber)

• material thickness

>0,11 mm

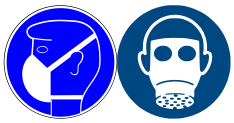
• breakthrough times of the glove material

>480 minutes (permeation: level 6)

• other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of > 65 °C , colour code: Brown). Usually no personal respirative protection necessary.

Environmental exposure controls

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Form	viscous
Colour	colourless
Odour	odourless
Melting point/freezing point	not determined

Boiling point or initial boiling point and boiling range	not determined
Flammability	this material is combustible, but will not ignite readily
Lower and upper explosion limit	not determined
Flash point	>62 °C
Auto-ignition temperature	not determined
Decomposition temperature	>150 °C
pH (value)	not determined
Kinematic viscosity	2.7 – 3.3 $^{mm^2}/_{s}$ at 25 °C
Solubility(ies)	
Water solubility	(The study does not need to be conducted because the substance is known to be insoluble in water)
Solubility in hydrocarbons, aliphatic	soluble
Solubility in hydrocarbons, aromatic	soluble
Solubility in ethylene glycol	practically insoluble
Solubility in ethyl acetate	soluble
Solubility in n-butyl acetate	soluble
Solubility in toluene	soluble
Solubility in trichloroethylene	soluble
Solubility in methanol	practically insoluble
Solubility in trichloromethane (chloroform)	soluble
Partition coefficient	
Partition coefficient n-octanol/water (log value):	this information is not available
Vapour pressure	not determined
Density and/or relative density	
Density	0.9 – 0.91 $^{g}/_{cm^3}$ at 25 °C
Relative vapour density	Information on this property is not available.
Particle characteristics	not relevant (liquid)
Other safety parameters	
Oxidising properties	none

9.2 Other information

Information with regard to physical hazard classes:	hazard classes acc. to GHS (physical hazards): not relevant
Other safety characteristics:	There is no additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

If heated

Vapours may form explosive mixtures with air.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: strong oxidiser

10.4 Conditions to avoid

Keep away from heat. Decompostion takes place from temperatures above: >150 °C.

10.5 Incompatible materials

There is no additional information.

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification acc. to GHS

This substance does not meet the criteria for classification.

Acute toxicity

Shall not be classified as acutely toxic.

GHS of the United Nations, annex 4. May be harmful in contact with skin.

Acute toxicity

Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	>5,000 $^{mg}/_{kg}$	rat		TOXNET
dermal	LD50	>2,000 $^{mg}/_{kg}$	rabbit		TOXNET

Acute toxicity of components

Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Dodecamethylcyclohexasiloxane	540-97-6	oral	LD50	>2,000 $^{mg}/_{kg}$	rat
Dodecamethylcyclohexasiloxane	540-97-6	dermal	LD50	>2,000 $^{mg}/_{kg}$	rat

Acute toxicity of components					
Name of substance	**CAS No**	**Exposure route**	**Endpoint**	**Value**	**Species**
Decamethylcyclopentasiloxane	541-02-6	oral	LD50	>5,000 $^{mg}/_{kg}$	rat
Decamethylcyclopentasiloxane	541-02-6	inhalation: dust/mist	LC50	8.67 $^{mg}/_{l}$/4h	rat
Decamethylcyclopentasiloxane	541-02-6	dermal	LD50	>2,000 $^{mg}/_{kg}$	rabbit
Octamethylcyclotetrasiloxane	556-67-2	oral	LD50	>4,800 $^{mg}/_{kg}$	rat
Octamethylcyclotetrasiloxane	556-67-2	inhalation: dust/mist	LC50	36 $^{mg}/_{l}$/4h	rat

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

• If swallowed

Data are not available.

• If in eyes

Data are not available.

• If inhaled

Data are not available.

• If on skin

Data are not available.

• Other information

Health effects are not known. This information is based upon the present state of our knowledge.

11.2 Endocrine disrupting properties

Not listed.

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute) of components

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Dodecamethylcyclohexasiloxane	540-97-6	ErC50	>2 µg/l	algae	72 h
Decamethylcyclopentasiloxane	541-02-6	LC50	>16 µg/l	fish	96 h
Decamethylcyclopentasiloxane	541-02-6	EC50	>2.9 µg/l	aquatic invertebrates	48 h
Octamethylcyclotetrasiloxane	556-67-2	LC50	>22 µg/l	fish	96 h
Octamethylcyclotetrasiloxane	556-67-2	EC50	>15 µg/l	aquatic invertebrates	48 h
Octamethylcyclotetrasiloxane	556-67-2	ErC50	>22 µg/l	algae	96 h

Aquatic toxicity (chronic) of components

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Dodecamethylcyclohexasiloxane	540-97-6	EC50	>100 mg/l	microorganisms	3 h
Decamethylcyclopentasiloxane	541-02-6	EC50	>15 µg/l	aquatic invertebrates	21 d
Octamethylcyclotetrasiloxane	556-67-2	EC50	>15 µg/l	aquatic invertebrates	21 d

12.2 Persistence and degradability

Biodegradation

Not readily biodegradable.

Degradability of components

Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
Dodecamethylcyclohexasiloxane	540-97-6	carbon dioxide generation	4.47 %	28 d		ECHA
Decamethylcyclopentasiloxane	541-02-6	carbon dioxide generation	0.14 %	28 d		ECHA
Octamethylcyclotetrasiloxane	556-67-2	carbon dioxide generation	3.7 %	29 d		ECHA

12.3 Bioaccumulative potential

Data are not available.

Bioaccumulative potential of components

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
Dodecamethylcyclohexasiloxane	540-97-6	1,160	8.87 (23.6 °C)	
Decamethylcyclopentasiloxane	541-02-6	7,060	8.023 (25.3 °C)	
Octamethylcyclotetrasiloxane	556-67-2	12,400	6.488 (25.1 °C)	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

The substance was identified as a PBT (persistent, bioaccumulative and toxic). The substance was identified as a vPvB (very persistent and very bioaccumulative).

12.6 Endocrine disrupting properties

Not listed.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Consult the appropriate local waste disposal expert about waste disposal.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not assigned
14.3	**Transport hazard class(es)**	not assigned
14.4	**Packing group**	not assigned
14.5	**Environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user

There is no additional information.

14.7 Transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Transport informationNational regulationsAdditional information(UN RTDG)

Not subject to transport regulations. UN RTDG

International Maritime Dangerous Goods Code (IMDG) - Additional information

Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

There is no additional information.

National regulations(Australia)

Australian Inventory of Chemical Substances(AICS)

Substance is listed.

Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

National inventories

Country	Inventory	Status
AU	AIIC	all ingredients are listed
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	all ingredients are listed
JP	CSCL-ENCS	all ingredients are listed
KR	KECI	all ingredients are listed
MX	INSQ	not all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	all ingredients are listed (ACTIVE)
VN	NCI	all ingredients are listed

Legend

AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NCI	National Chemical Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.3	Results of PBT and vPvB assessment: Containing a PBT-/vPvB-substance in a concentration of ≥ 0,1%.	Results of PBT and vPvB assessment: The substance was identified as a PBT (persistent, bioaccumulative and toxic). The substance was identified as a vPvB (very persistent and very bioaccumulative). Non-classified PBT substance. Non-classified vPvB substance.	yes
15.1		National inventories: change in the listing (table)	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)

Abbr.	Descriptions of used abbreviations
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
log KOW	n-Octanol/water
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
UN RTDG	UN Recommendations on the Transport of Dangerous Good
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

Safe Work Australia’s Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.