

SILICONE OIL (POLYDIMETHYLSILOXANE, PDMS)

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SECTION 1: IDENTIFICATION

1.1 GHS Product identifier:

SILICONE OIL (POLYDIMETHYLSILOXANE, PDMS)
Dimethyl Silicone Fluid; Dimethylpolysiloxane
CAS: 63148-62-9

Other means of identification:

Not relevant

1.2 Recommended use of the chemical and restrictions on use:

Relevant uses: Heat transfer fluid, lubricant, dielectric fluid, release agent, defoamer and additive for personal care, cosmetics, textile, paint and industrial formulations. For industrial user only.
Uses advised against: All uses not specified in this section or in section 7.3.

1.3 Supplier's details:

SURAJ CHEMICALS
No 92, Govindappa Naicken Street, Shiva Complex, Chennai – 600001, Tamil Nadu, India
Tel: +91 - 7092722822, +91 - 9840284032 / +91 - 44 - 25393652, 42130281
Email: sales@surajchemicals.com | Website: www.surajchemicals.com
GST No: 33ACEPV8190L1ZZ

1.4 Emergency phone number:

Emergency Contact No: +91 - 7092722822, +91 - 9840284032

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

GHS:
Classification of this product has been carried out in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Not classified as a hazardous substance or mixture per GHS criteria.

Per well-established published GHS data, polydimethylsiloxane (silicone oil) is a standard low-hazard specialty chemical with an extensive history of safe industrial and consumer use. Not classified for acute toxicity, skin/eye irritation, sensitization, carcinogenicity, mutagenicity, reproductive toxicity or aquatic hazard.

2.2 GHS label elements, including precautionary statements:

GHS: Not classified as hazardous – no signal word, pictogram or hazard statement required

Hazard statements:

None assigned under GHS.

Precautionary statements:

P262: Do not get in eyes, on skin, or on clothing (general handling hygiene).
P280: Wear protective gloves/eye protection where splashing may occur.

2.3 Other hazards which do not result in classification:

Spilled product creates a very slippery surface, especially on floors. Not a PBT/vPvB substance per available data.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances:

Chemical description: Polydimethylsiloxane (linear silicone fluid)
In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: 63148-62-9	Polydimethylsiloxane — Not classified	≥ 99% (typical commercial grade)

To obtain more information on the hazards of the substances, consult sections 11, 12 and 16.

3.2 Mixtures:

Non-applicable

SECTION 4: FIRST AID MEASURES

4.1 Description of necessary first-aid measures:

Generally regarded as non-hazardous; standard first aid applies.

By inhalation:

Remove the person affected to fresh air if exposed to mist/vapour at elevated temperature. Seek medical attention if discomfort persists.

By skin contact:

Wash skin with soap and water. Not expected to cause irritation under normal handling; may leave a slippery film.

By eye contact:

Rinse eyes thoroughly with lukewarm water for several minutes. Seek medical advice if irritation persists.

By ingestion/aspiration:

Do not induce vomiting due to aspiration risk with low-viscosity liquid. Rinse mouth with water. Seek medical advice if feeling unwell.

4.2 Most important symptoms/effects, acute and delayed:

No significant acute symptoms expected under normal handling conditions. See sections 2 and 11.

4.3 Indication of immediate medical attention and special treatment needed, if necessary:

Not relevant; treat symptomatically. Monitor for aspiration pneumonitis if ingestion with aspiration is suspected (relevant mainly for very low viscosity grades).

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media:

Suitable: Dry chemical powder, carbon dioxide, foam, water spray/fog
Unsuitable: High-pressure water jet (may spread burning liquid)

5.2 Specific hazards arising from the chemical:

High flash point liquid; not readily combustible under normal conditions. On combustion, may release silicon dioxide fume, formaldehyde, carbon monoxide and carbon dioxide.

5.3 Special protective actions for fire-fighters:

Evacuate non-essential personnel. Wear self-contained breathing apparatus and protective clothing in enclosed, smoke-filled areas.

Additional provisions:

Cool closed containers exposed to fire with water spray. Contain fire-fighting water run-off.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel:

Avoid slipping on spilled product – it is extremely slippery. Use PPE described in section 8.

For emergency responders:

Wear appropriate protective equipment as per section 8.

6.2 Environmental precautions:

Avoid release of large quantities to drains and watercourses.

6.3 Methods and materials for containment and cleaning up:

Contain spillage with absorbent material (sand, earth, vermiculite or proprietary absorbent). Collect into a suitable, labelled container for disposal or recovery. Wash down residual slippery film with detergent and water.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A. General precautions for safe use:

Avoid prolonged skin contact. Provide adequate ventilation if heated. Use non-slip footwear and clean up spills promptly.

B. Technical recommendations for the prevention of fires and explosions:

No special fire prevention measures required under normal ambient-temperature use; avoid open flame near heated product.

C. Technical recommendations on general occupational hygiene:

Do not eat, drink or smoke while handling. Wash hands after handling.

D. Technical recommendations to prevent environmental risks:

Prevent release to drains and watercourses in bulk quantities. Follow the protective measures given in section 8.

7.2 Conditions for safe storage, including any incompatibilities:

A. Specific storage requirements:

Minimum Temp.	Ambient
Maximum Temp.	40°C
Maximum time	24 Months (unopened, in original packaging)

B. General conditions for storage:

Store in tightly closed containers in a cool, dry, well-ventilated place away from strong oxidizers and open flame.

7.3 Specific end use(s):

Except for the instructions already specified, it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters:

No specific occupational exposure limit is established for polydimethylsiloxane under Indian regulations.

Identification	Occupational Exposure Limit Type	Value
Polydimethylsiloxane CAS: 63148-62-9	No established OEL	Typical value – refer to current specification sheet

8.2 Appropriate engineering controls:

General ventilation is normally sufficient; use local exhaust ventilation if heated to generate vapour/mist.

B. Respiratory protection:

Not normally required under normal, ambient-temperature handling conditions.

C. Specific protection for the hands:

Protective gloves recommended for prolonged or repeated handling.

D. Eye and face protection:

Safety glasses recommended where splashing may occur.

E. Bodily protection:

Standard industrial workwear; non-slip footwear recommended due to slip hazard from spillage.

F. Additional emergency measures:

Eyewash station and washing facilities should be available in the work area.

Environmental exposure controls:

Avoid environmental spillage of both the product and its container. See subsection 7.1.D.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance	
Physical state at 20°C	Liquid
Appearance	Clear, colorless to pale yellow oily liquid
Color	Colorless to pale yellow
Odor	Odourless
Odour threshold	Not relevant
Volatility	

Boiling point at atmospheric pressure	>200°C (typical, grade-dependent)
Vapour pressure at 20°C	<0.01 mm Hg (negligible, grade-dependent)
Evaporation rate at 20°C	Very low (negligible)
Product Description	
Density / Relative density at 25°C	~0.96–0.97 g/cm³ (typical, viscosity-grade dependent)
Dynamic / Kinematic viscosity at 25°C	Typical value – refer to current specification sheet (available in viscosity grades from ~5 to >100,000 cSt)
Concentration	≥99% (typical commercial grade)
pH	Non-applicable (insoluble in water)
Vapour density	Not relevant
Partition coefficient n-octanol/water (log Pow)	>6
Solubility in water at 20°C	Insoluble; soluble in some organic solvents (e.g. toluene, xylene)
Decomposition temperature	Typical value – refer to current specification sheet (>250°C)
Melting point/freezing point	~ -50°C (pour point, typical)
Flammability	
Flash Point	>300°C (closed cup, typical for medium/high-viscosity grades; lower-viscosity grades may have a flash point >150°C – refer to current specification sheet)
Flammability (solid, gas)	Non-applicable (liquid); not readily flammable
Autoignition temperature	>400°C (typical)
Lower / Upper flammability limit	Not established
Particle Characteristics	
Median equivalent diameter	Non-applicable (liquid)

* Values are typical for the commercial grade; refer to current specification sheet for batch-specific data (viscosity grade affects several properties).

9.2 Other information:

Explosive properties	Not relevant
Oxidising properties	Not relevant – not an oxidiser
Corrosive to metals	Not relevant
Heat of combustion	Not established
Surface tension at 20°C	~20–21 mN/m (typical – silicones are low-surface-tension liquids)
Refraction index	~1.40–1.41 (typical)

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

Stable under normal conditions of use. No known hazardous reactivity with common materials.

10.2 Chemical stability:

Chemically and thermally stable under the indicated conditions of storage, handling and use, including over a wide temperature range.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions are not expected.

10.4 Conditions to avoid:

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Not applicable	Avoid temperatures above autoignition/flash point	No special measures	No special measures

10.5 Incompatible materials:

Strong Oxidizers	Strong Acids/Bases	Open Flame/Heat
Avoid contact	No significant reaction known	Keep away

10.6 Hazardous decomposition products:

Thermal decomposition at high temperature (well above normal use conditions) may release formaldehyde, siloxane fragments, carbon monoxide, carbon dioxide and silicon dioxide fume.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

Per well-established published data for this CAS number, polydimethylsiloxane (silicone oil) is a low-hazard specialty chemical with an extensive history of safe industrial, cosmetic and even pharmaceutical (simethicone) use:

A. Ingestion (acute effect):

Very low acute oral toxicity; used in pharmaceutical antifatulent (simethicone) formulations at related grades.

B. Inhalation (acute effect):

Not expected to cause adverse effects under normal handling due to negligible vapour pressure.

C. Contact with skin and eyes (acute effect):

Not expected to be irritating. May cause mild, transient discomfort on direct eye contact due to oiliness.

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity):

Classification criteria for carcinogenicity, mutagenicity and reproductive toxicity are not met based on available data. IARC: Not listed.

E. Sensitizing effects:

Not classified as a skin or respiratory sensitizer based on available data.

F. Specific target organ toxicity (STOT) – single exposure:

Classification criteria are not met based on available data.

G. Specific target organ toxicity (STOT) – repeated exposure:

Classification criteria are not met based on available data.

H. Aspiration hazard:

Low-viscosity grades may pose an aspiration hazard if swallowed and vomited; higher-viscosity grades are not expected to be an aspiration hazard. Refer to current specification sheet for the relevant viscosity grade.

Product-specific toxicological information:

Identification	Acute Toxicity	Genus
Polydimethylsiloxane	LD50 oral: >5000 mg/kg	Rat

CAS: 63148-62-9	LD50 dermal: >2000 mg/kg	Rabbit
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SECTION 12: ECOLOGICAL INFORMATION

Not classified as hazardous to the aquatic environment.

12.1 Toxicity:

Acute Toxicity	Species	Genus
LC50: >100 mg/L (96h)	Non-applicable	Fish
EC50: >100 mg/L (48h)	Non-applicable	Crustacean (Daphnia)

12.2 Persistence and degradability:

Not readily biodegradable (silicone polymer backbone); low inherent aquatic toxicity due to very low water solubility.

12.3 Bioaccumulative potential:

High log Pow, but very large molecular size and negligible water solubility limit bioavailability and bioaccumulation in aquatic organisms.

12.4 Mobility in soil:

Koc	Henry	Dry Soil	Moist Soil
High (strongly adsorbs to soil/sediment)	Low	Low mobility expected	Low mobility expected

12.5 Results of PBT and vPvB assessment:

Not classified as PBT/vPvB under available regulatory frameworks for this grade.

12.6 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Disposal methods:

Dispose of in accordance with local, state and national regulations as non-hazardous waste. Do not discharge to drains. Incineration at a licensed facility or recovery/recycling are suitable disposal routes. Empty containers may retain product residue; dispose of as per label/regulatory guidance.
Refer to national and local regulations on waste management.

SECTION 14: TRANSPORT INFORMATION

Transport of dangerous goods by land (ADR 2023 / RID 2023):

14.1 UN number	Not regulated (non-dangerous goods)
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Not classified
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	Non-hazardous for transport
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by sea (IMDG 41-22):

14.1 UN number	Not regulated (non-dangerous goods)
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Not classified
14.4 Packing group	N/A
14.5 Marine pollutant	No
14.6 Special precautions for user	Non-hazardous for transport
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by air (IATA/ICAO 2024):

14.1 UN number	Not regulated (non-dangerous goods)
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Not classified
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	Non-hazardous for transport
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations specific for the product in question:

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of local circumstances, in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product. Food/pharma-contact and cosmetic grades of PDMS typically comply with applicable food-additive (FSSAI) and pharmacopoeial (USP/Ph.Eur.) specifications; refer to current specification sheet for grade-specific compliance status.

Other legislation:
The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Texts of the legislative phrases mentioned in sections 2 and 3:

Not applicable – no hazard statements assigned.
This product is not classified as hazardous under GHS criteria based on well-established published data for this substance.

Advice related to training:

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

Published GHS classification data and standard chemical reference sources for CAS 63148-62-9.

Abbreviations and acronyms:

ADR: European agreement concerning the international carriage of dangerous goods by road | IMDG: International maritime dangerous goods code | IATA: International Air Transport Association | ICAO: International Civil Aviation Organisation | LD50: Lethal Dose 50 | LC50: Lethal Concentration 50 | EC50: Effective Concentration 50 | Log-POW: Octanol-water partition coefficient | Koc: Partition coefficient of organic carbon | IARC: International Agency for Research on Cancer

The information contained in this safety data sheet is based on sources, technical knowledge and current legislation, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product; it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within Suraj Chemicals' awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

END OF SAFETY DATA SHEET