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

1.1 Product identifiers

Product name: Poly(dimethylsiloxane)
Product Number: 469300
Brand: Aldrich
CAS-No.: 107-46-0

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

Identified uses: Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company: Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES

Telephone: +1 314 771-5765
Fax: +1 800 325-5052

1.4 Emergency telephone

Emergency Phone #: 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225
Short-term (acute) aquatic hazard (Category 1), H400
Long-term (chronic) aquatic hazard (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word: Danger
Hazard statement(s): Highly flammable liquid and vapor.
H410 Very toxic to aquatic life with long lasting effects.
Precautionary statement(s)
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P391 Collect spillage.
P403 + P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

SECTION 3: Composition/information on ingredients

3.1 Substances
Synonyms: Hexamethyldisiloxane
HMDSO

Formula: \( \text{C}_6\text{H}_{18}\text{OSi}_2 \)
Molecular weight: 162.38 g/mol
CAS-No.: 107-46-0
EC-No.: 203-492-7

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>hexamethyldisiloxane</td>
<td>Flam. Liq. 2; Aquatic Acute 1; Aquatic Chronic 1; H225, H400, H410</td>
<td>( \leq 100 % )</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice
Consult a physician. Show this material safety data sheet to the doctor in attendance. Move out of dangerous area.
If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Dry powder Dry sand

Unsuitable extinguishing media
Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture
Carbon oxides
silicon oxides
Combustible.

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling
Avoid inhalation of vapor or mist.

Advice on protection against fire and explosion
Use explosion-proof equipment. Advice on protection against fire and explosion
Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Store under inert gas. hygroscopic

Storage class
Storage class (TRGS 510): 3: Flammable liquids

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters
Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Full contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Body Protection**
Impervious clothing, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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**SECTION 9: Physical and chemical properties**

9.1 **Information on basic physical and chemical properties**

a) Appearance
   Form: liquid
   Color: colorless

b) Odor
   No data available

c) Odor Threshold
   No data available

d) pH
   No data available

e) Melting point/freezing point
   Melting point/range: -59 °C (-74 °F) - lit.

f) Initial boiling point and boiling range
   101 °C 214 °F - lit.

g) Flash point
   -6 °C (21 °F) - closed cup

h) Evaporation rate
   No data available
i) Flammability (solid, gas) No data available

j) Upper/lower flammability or explosive limits
   Upper explosion limit: 21.8 %(V)
   Lower explosion limit: 0.5 %(V)

k) Vapor pressure 44 hPa at 20 °C (68 °F)
l) Vapor density 5.61 - (Air = 1.0)
m) Density
   Relative density 0.764 g/cm3 at 20 °C (68 °F) - lit.
   No data available

n) Water solubility 0.00093 g/l at 23 °C (73 °F) - slightly soluble

o) Partition coefficient: n-octanol/water log Pow: > 4 at 25 °C (77 °F)
p) Autoignition temperature 340 °C (644 °F) at 1,013 hPa

q) Decomposition temperature No data available

r) Viscosity No data available

s) Explosive properties No data available

t) Oxidizing properties none

9.2 Other safety information
   Relative vapor density 5.61 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity No data available

10.2 Chemical stability Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
   Vapors may form explosive mixture with air.

10.4 Conditions to avoid
   Heat, flames and sparks.

10.5 Incompatible materials
   Strong acids, Strong bases, Strong oxidizing agents, Oxygen

10.6 Hazardous decomposition products
   In the event of fire: see section 5
SECTION 11: Toxicological information

11.1 Information on toxicological effects

**Acute toxicity**
- LD50 Oral - Rat - > 5,000 mg/kg
- LC50 Inhalation - Rat - 4 h - 15956 ppm - vapor

(OECD Test Guideline 403)
- LD50 Dermal - Rabbit - > 2,000 mg/kg
(OECD Test Guideline 402)
- NOAEL Oral - Rat - 160 mg/kg

**Skin corrosion/irritation**
- Skin - Rabbit
  - Result: No skin irritation
(OECD Test Guideline 404)

**Serious eye damage/eye irritation**
- Eyes - Rabbit
  - Result: No eye irritation

**Respiratory or skin sensitization**
- No data available

**Germ cell mutagenicity**
- Test Type: Chromosome aberration test in vitro
- Test system: Chinese hamster lung cells
- Method: OECD Test Guideline 473
  - Result: negative

Test Type: in vivo assay
- Species: Rat
- Cell type: Bone marrow
- Application Route: Intraperitoneal
- Method: OECD Test Guideline 475
  - Result: negative

**Carcinogenicity**
- No data available

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.

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.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA’s list of regulated carcinogens.

**Reproductive toxicity**
- No toxicity to reproduction
- No toxicity to reproduction

**Specific target organ toxicity - single exposure**
- No data available

**Specific target organ toxicity - repeated exposure**
- No data available
Aspiration hazard
No data available

11.2 Additional Information

RTECS: JM9237000
Prolonged or repeated exposure to skin causes defatting and dermatitis. Dizziness, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity

<table>
<thead>
<tr>
<th>Toxicity to fish</th>
<th>flow-through test LC50 - Oncorhynchus mykiss (rainbow trout) - ca. 0.46 mg/l - 96 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to algae</td>
<td>EC50 - Pseudokirchneriella subcapitata (green algae) - 0.22 mg/l - 95 h (OECD Test Guideline 201)</td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability

<table>
<thead>
<tr>
<th>Biodegradability</th>
<th>aerobic - Exposure time 28 d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>2% - Not biodegradable.</td>
</tr>
<tr>
<td></td>
<td>(OECD Test Guideline 301C)</td>
</tr>
</tbody>
</table>

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cyprinus carpio (Carp) - 70 d at 25 °C(hexamethyldisiloxane)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioconcentration factor (BCF): 1,100 - 2,400</td>
</tr>
<tr>
<td>(OECD Test Guideline 305C)</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.
No data available
SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

DOT (US)
UN number: 1993  Class: 3  Packing group: II
Proper shipping name: Flammable liquids, n.o.s. (hexamethyldisiloxane)
Reportable Quantity (RQ):
Poison Inhalation Hazard: No

IMDG
UN number: 1993  Class: 3  Packing group: II  EMS-No: F-E, S-E
Proper shipping name: FLAMMABLE LIQUID, N.O.S. (hexamethyldisiloxane)
Marine pollutant: yes

IATA
UN number: 1993  Class: 3  Packing group: II
Proper shipping name: Flammable liquid, n.o.s. (hexamethyldisiloxane)

SECTION 15: Regulatory information

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

SARA 313 Components
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.

SARA 311/312 Hazards
Fire Hazard

Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act.
SECTION 16: Other information

Further information
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