



SAFETY DATA SHEET

According to regulation (EC) n° 1907/2006 Annex II

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

1.1 Product identifier:

Product name: MONOGEL

Synonyms, Trade Names: MONOGEL

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

Identified uses: Isolation of electrical or electronic material.

Uses advised against: None known.

1.3 Details of the supplier of the safety data sheet:

Manufacturer:

RAYTECH S.r.l.
Via Enrico Fermi 11, 13, 17
20019 Settimo Milanese (MI) - ITALIA
Telephone: +39 (02) 33500147
Fax: +39 (02) 33500287
e-mail: info@raytech.it

Supplier:

RAYTECH S.r.l.
Via Enrico Fermi 11, 13, 17
20019 Settimo Milanese (MI) - ITALIA
Telephone: +39 (02) 33500147
Fax: +39 (02) 33500287

1.4 Emergency telephone number: +39 (02) 33500147

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

The product has not been classified as hazardous according to the legislation in force.

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

Not classified

2.2 Label Elements

Not applicable

Hazard summary

Physical Hazards: No specific recommendations.

Health Hazards

Inhalation: Not applicable
Eye contact: No specific symptoms noted.
Skin Contact: No specific symptoms noted.
Ingestion: No specific symptoms noted.



Other Health Effects: No other information noted.

Environmental Hazards: Not regarded as dangerous for the environment.

2.3 Other hazards

Chemical compounds containing silicon - hydrogen bonds (SiH). For further information, refer to section 10: "Stability and Reactivity".

Meets PBT (persistent/bioaccumulative/toxic) criteria.

Meets vPvB criteria.

SECTION 3: Composition/information on ingredients

3.1 Substance

General information: Crosslinked Elastomer.
The product is supplied already cured.
In the table below the percent concentrations of impurity, not intentionally added, are referred to the row material before crosslinking. The residual content of these impurity in the final cured product is expected to be below 0,1 %.

Chemical name	Concentration	CAS-No.	EC No.	REACH Registration No.	M-Factor:	Notes
Octamethylcyclotetra siloxane	≥ 0,1 - <0.25%	556-67-2	209-136-7	01-2119529238-36-0002	No data available.	# PBT vPvB
Decamethylcyclopentasiloxane	≥ 0,1 - <0.25%	541-02-6	208-764-9	01-2119511367-43-0003	No data available.	vPvB
Dodecamethylcyclohexasiloxane	≥ 0,1 - <0.25%	540-97-6	208-762-8	01-2119517435-42-0002	No data available.	vPvB

* 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).

Classification

Chemical name	Classification	Notes
Octamethylcyclotetrasiloxane	Flam. Liq. 3 H226; Repr. 2 H361f; Aquatic Chronic 4 H413;	No data available.
Decamethylcyclopentasiloxane	None known.	No data available.
Dodecamethylcyclohexasiloxane	None known.	No data available.

CLP: Regulation No. 1272/2008.

The full text for all H-statements is displayed in section 16.



SECTION 4: First aid measures

General: Get medical attention if symptoms occur. Contaminated clothing to be placed in closed container until disposal or decontamination.

4.1 Description of first aid measures

Inhalation: Not relevant.

Skin Contact: Remove contaminated clothing and shoes. Wash with soap and water.

Eye contact: In the event of contact with the eyes, rinse thoroughly with clean water. Continue to rinse for at least 15 minutes.

Ingestion: Do not induce vomiting. Rinse mouth thoroughly.

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

None known.

4.3 Indication of any immediate medical attention and special treatment needed

Hazards: No specific recommendations.

Treatment: No specific recommendations.

SECTION 5: Firefighting measures

General Fire Hazards: No specific recommendations.

5.1 Extinguishing media

Suitable extinguishing media: Foam. Powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media: Not known.

5.2 Special hazards arising from the substance:

Not known.
For further information, refer to section 10: "Stability and Reactivity".

5.3 Advice for firefighters

Special fire fighting procedures: Water spray should be used to cool containers.

Special protective equipment for fire-fighters:

Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

6.1.1 For non-emergency personnel: Wear appropriate personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment. Keep away from Alkalis and caustic products. Eliminate all sources of ignition.

6.1.2 For emergency No data available.



responders:

- 6.2 Environmental Precautions:** Collect spillage. Prevent entry into waterways, sewer, basements or confined areas.
- 6.3 Methods and material for containment and cleaning up:** To clean the floor and all objects contaminated by this material, use an appropriate solvent.(cf. : § 9) Flush area with plenty of water.
- 6.4 Reference to other sections:** Caution: Contaminated surfaces may be slippery. For waste disposal, see Section 13 of the SDS.

SECTION 7: Handling and storage

- 7.1 Precautions for safe handling:** For further information, refer to Section 10: "Stability and Reactivity". Read and follow manufacturer's recommendations.
- 7.2 Conditions for safe storage, including any incompatibilities:** Keep away from incompatible materials, open flames, and high temperatures.
- 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
Octamethylcyclotetrasiloxane	VME	10 ppm 120 mg/m3	

8.2 Exposure controls Appropriate Engineering Controls:

Not applicable

Individual protection measures, such as personal protective equipment

- General information:** No specific precautions.
- Eye/face protection:** Safety Glasses.
- Skin protection**
- Hand Protection:** Material: Nitrile.
Material: Polyvinyl chloride (PVC).
Material: Rubber or plastic.
- Other:** It is a good industrial hygiene practice to minimize skin contact. Wear suitable protective clothing.
- Respiratory Protection:** No specific precautions.
- Hygiene measures:** No specific precautions.



Environmental Controls: No data available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state:	Solid
Form:	Gel
Color:	Clear
Odor:	Odorless
Odor Threshold:	No data available.
pH:	Not applicable
Freezing point:	No data available.
Boiling Point:	No data available.
Flash Point:	Not applicable
Evaporation Rate:	No data available.
Flammability (solid, gas):	No data available.
Flammability Limit - Upper (%):	No data available
Flammability Limit - Lower (%):	No data available
Vapor pressure:	Not applicable
Vapor density (air=1):	Not applicable
Density:	Approximate 0.96 kg/dm ³ (23 °C)
Solubility(ies)	
Solubility in Water:	Insoluble
Solubility (other):	Diethylether: Very slightly soluble. Chlorinated solvents: Very slightly soluble. Aromatic hydrocarbons: Very slightly soluble. Aliphatic hydrocarbons: Very slightly soluble. Acetone: Very slightly soluble. Ethanol: Very slightly soluble.
Partition coefficient (n-octanol/water):	No data available.
Autoignition Temperature:	> 400 °C
Decomposition Temperature:	>> 200 °C
Viscosity:	Not applicable
Explosive properties:	No data available.
Oxidizing properties:	According to the data on the components Not considered as oxidizing. (evaluation by structure-activity relationship)

9.2 Other information: No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity:	No other information noted.
10.2 Chemical Stability:	Material is stable under normal conditions.
10.3 Possibility of hazardous reactions:	No other information noted.



- 10.4 Conditions to avoid:** No other information noted.
- 10.5 Incompatible Materials:** No other information noted.
- 10.6 Hazardous Decomposition Products:** Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors. Amorphous silica.

SECTION 11: Toxicological information

Information on likely routes of exposure

- Inhalation:** No effects expected (assessment based on ingredients).
- Ingestion:** No effects expected (assessment based on ingredients).
- Skin Contact:** No effects expected (assessment based on ingredients).
- Eye contact:** No effects expected (assessment based on ingredients).

11.1 Information on toxicological effects:

Acute toxicity:

Oral:

Product: Not classified for acute toxicity based on available data.

Dermal:

Product: Not classified for acute toxicity based on available data.

Inhalation:

Product: Composition/information on ingredients

Specified substance(s):

Decamethylcyclopentasiloxane LC 50 (Rat): 8,67 mg/l

octamethylcyclotetrasiloxane LC 50 (Rat, 4 h): > 36 mg/l

Repeated dose toxicity:

Product: No data available

Specified substance(s):

Decamethylcyclopentasiloxane
NOAEL (Rat, Oral): $\geq 1\ 000$ mg/kg
NOAEL (Rat, Inhalation - vapor): $\geq 2,42$ mg/l
NOAEL (Rat, Dermal): $\geq 1\ 600$ mg/kg

Dodecamethylcyclohexasiloxane
NOAEL (Rat, Oral): $\geq 1\ 000$ mg/kg Method: OECD 422
NOAEL (Rat, Inhalation - vapor): 0,0182 mg/l Method: OECD 413

octamethylcyclotetrasiloxane
NOAEL (Rat, Inhalation): 1,820 mg/l Method: OECD 453
NOAEL (Rabbit, Dermal): 960 mg/kg Method: OECD 411

Skin Corrosion/Irritation:

Product: Composition/information on ingredients

Specified substance(s):

Decamethylcyclopentasiloxane Rabbit : Not irritating

Dodecamethylcyclohexasiloxane OECD 404 (Rabbit) : Not irritating



octamethylcyclotetrasiloxane Rabbit, 24 h : Not irritating

Serious Eye Damage/Eye Irritation:

Product: Composition/information on ingredients

Specified substance(s):

Decamethylcyclopentasiloxane Rabbit : Not irritating

Dodecamethylcyclohexasiloxane OECD 405 (Rabbit) : Not irritating

octamethylcyclotetrasiloxane Rabbit, 24 h : Not irritating

Respiratory or Skin Sensitization:

Product: Composition/information on ingredients

Specified substance(s):

Decamethylcyclopentasiloxane Not a skin sensitizer.

Dodecamethylcyclohexasiloxane OECD 406 (Guinea Pig) : Not a skin sensitizer.

octamethylcyclotetrasiloxane Guinea Pig : Not a skin sensitizer.

Germ Cell Mutagenicity:

In vitro:

Product: Composition/information on ingredients

Specified substance(s):

Decamethylcyclopentasiloxane Chromosomal aberration : No mutagenic components identified.
Bacteria : No mutagenic components identified.

Dodecamethylcyclohexasiloxane Mouse lymphoma cells (OECD 476): negative with and without metabolic activation
Bacteria (OECD 471): negative with and without metabolic activation

octamethylcyclotetrasiloxane Bacteria : No mutagenic components identified.
Chromosomal aberration : No mutagenic components identified.
In vitro gene mutations test on mammalian cells: : No mutagenic components identified.

In vivo:

Product: No data available

Specified substance(s):

Decamethylcyclopentasiloxane No effects expected.

Dodecamethylcyclohexasiloxane Mammalian erythrocyte micronucleus test (OECD 474): No mutagenic effects.

octamethylcyclotetrasiloxane No effects expected.

Carcinogenicity:

Product: Composition/information on ingredients

Specified substance(s):

Octamethylcyclotetrasiloxane Rat (, Female, Male, Inhalation): (OECD 453) No effects expected.

Reproductive toxicity:

Product: Composition/information on ingredients

Specified substance(s):



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

octamethylcyclotetrasiloxane Suspected of damaging fertility.

Reproductive toxicity (Fertility):

Product: Composition/information on ingredients

Specified substance(s):

Decamethylcyclopentasiloxane Fertility study 2 generations. Rat (Inhalation): NOAEL (parent): 3,64 mg/l NOAEL (F1):None. NOAEL (F2): None. Method: OECD 416

Dodecamethylcyclohexasiloxane Reproduction/developmental toxicity screening test. Rat (Gavage (Oral)): NOAEL (parent): $\geq 1\ 000$ mg/kg NOAEL (F1): $\geq 1\ 000$ mg/kg NOAEL (F2): Method: OECD 422

Octamethylcyclotetrasiloxane Fertility study 2 generations. Rat (Inhalation): NOAEL (parent): 3,64 mg/l NOAEL (F1):None. NOAEL (F2): None. Method: OECD 416

Developmental toxicity (Teratogenicity):

Product: Composition/information on ingredients

Specified substance(s):

Dodecamethylcyclohexasiloxane Rabbit NOAEL (terato): $\geq 1\ 000$ mg/kg NOAEL (mater): $\geq 1\ 000$ mg/kg Method: OECD 414 Rat NOAEL (terato): $\geq 1\ 000$ mg/kg NOAEL (mater): $\geq 1\ 000$ mg/kg Method: OECD 414

Octamethylcyclotetrasiloxane Rat (Inhalation): NOAEL (terato): $> 6,066$ mg/l NOAEL (mater): 3,640 mg/l Method: OECD 414

Specific Target Organ Toxicity - Single Exposure:

Product: No data available.

Specified substance(s):

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

Specific Target Organ Toxicity - Repeated Exposure:

Product: No data available.

Specified substance(s):

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

Aspiration Hazard:

Product: No data available.

Specified substance(s):

octamethylcyclotetrasiloxane No effects expected

SECTION 12: Ecological information

12.1 Toxicity:

Acute toxicity:

Fish:

Product: Composition/information on ingredients

Specified substance(s):



octamethylcyclotetrasiloxane LC 50 (Oncorhynchus mykiss, 96 h): $\geq 0,022$ mg/l

Aquatic Invertebrates:

Product: Composition/information on ingredients

Specified substance(s):

octamethylcyclotetrasiloxane EC 50 (Water flea (Daphnia magna), 48 h): $> 0,015$ mg/l

Chronic Toxicity:

Fish:

Product: No data available

Specified substance(s):

Decamethylcyclopentasiloxane NOEC (Oncorhynchus mykiss, 90 d): $\geq 0,014$ mg/l

octamethylcyclotetrasiloxane NOEC (Oncorhynchus mykiss, 93 d): $\geq 0,0044$ mg/l

Aquatic Invertebrates:

Product: Composition/information on ingredients

Specified substance(s):

Dodecamethylcyclohexasiloxane NOEC (Water flea (Daphnia magna), 21 d): $\geq 0,0046$ mg/l

octamethylcyclotetrasiloxane NOEC (Water flea (Daphnia magna), 21 d): $0,015$ mg/l

Toxicity to Aquatic Plants:

Product: Composition/information on ingredients

Specified substance(s):

octamethylcyclotetrasiloxane EC 50 (Green algae (Selenastrum capricornutum), 96 h): $> 0,022$ mg/l

Dodecamethylcyclohexasiloxane NOEC (Algae (Pseudokirchneriella subcapitata), 72 h): $\geq 0,002$ mg/l
EC 50 (Algae (Pseudokirchneriella subcapitata), 72

12.2 Persistence and Degradability: Biodegradation:

Product: Composition/information on ingredients

Specified substance(s):

Decamethylcyclopentasiloxane 0,14 % (28 d) The product is not readily biodegradable.

Dodecamethylcyclohexasiloxane 4,5 % (28 d, OECD 310) The product is not readily biodegradable.

octamethylcyclotetrasiloxane 3,7 % (29 d) The product is not considered to be readily biodegradable.

BOD/COD Ratio:

Product: No data available.

12.3 Bioaccumulative potential:

Product: Composition/information on ingredients

Specified substance(s):

Decamethylcyclopentasiloxane Fathead Minnow, Bioconcentration Factor (BCF): 7 060



Dodecamethylcyclohexasiloxane Fathead Minnow, Bioconcentration Factor (BCF): 2 860 (OECD 305) Has the potential to bioaccumulate.

octamethylcyclotetrasiloxane Fathead Minnow, Bioconcentration Factor (BCF): 12 400

12.4 Mobility in soil:

No data available.

12.5 Results of PBT and vPvB assessment:

Composition/information on ingredients

Decamethylcyclopentasiloxane Meets vPvB criteria REACH (1907/2006) Ax XIII

Dodecamethylcyclohexasiloxane Meets vPvB criteria REACH (1907/2006) Ax XIII

octamethylcyclotetrasiloxane Meets PBT (persistent/bioaccumulative/toxic) criteria, Meets vPvB criteria REACH (1907/2006) Ax XIII

12.6 Other adverse effects:

None known.

SECTION 13: Disposal considerations

13.1 Waste treatment methods:

General information:

The user's attention is drawn to the possible existence of local regulations regarding disposal.

Disposal methods

Disposal instructions:

Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging:

Contaminated packages should be as empty as possible. Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. Recycle following cleaning or dispose of at an authorised site.

SECTION 14: Transport information

This material is not subject to transport regulations.

Other information:

No special precautions.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code: Not applicable.

SECTION 15: Regulatory information

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

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



**15.2 Chemical safety
assessment:**

No Chemical Safety Assessment has been carried out.

Inventory Status:

Australia AICS:	Not in compliance with the inventory
Canada DSL Inventory List:	Not in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory.
Japan (ENCS) List	Not in compliance with the inventory
China Inv. Existing Chemical Substances:	On or in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory.
US TSCA Inventory:	On or in compliance with the inventory.
New Zealand Inventory of Chemicals:	On or in compliance with the inventory.

SECTION 16: Other information

Revision Information: Not relevant.

References

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

Key abbreviations or acronyms used:

No data available.

**Key literature references and
sources for data:**

No data available.

Wording of the H-statements in section 2 and 3

H226 Flammable liquid and vapor.
H361f Suspected of damaging fertility.
H413 May cause long lasting harmful effects to aquatic life.

Training information:

No data available.

Disclaimer:

The information given is based on data available for the material, the components of the material, and similar materials. The information is believed to be correct. It is given in good faith. This information should be used to make an independent determination of the methods to safeguard workers and the environment.