

## Material Safety Data Sheet

---

### Product & Company Identification

<b>Product:</b>	Pure silicone Diff. Oil 20000cps, 60 ml (OEM-700129)
<b>Manufacturer:</b>	Conrad Electronic SE
<b>Address:</b>	Klaus-Conrad-Str. 1, D-92240 Hirschau
<b>Telephone:</b>	+49 (0) 9604 / 40 - 8988
<b>Date of issue:</b>	27.03.2014

**This product consists of 2 different materials:**

Material name:	Weight%
ELEMENT14 * PDMS 30000	52%
ELEMENT14 * PDMS 10000	48%

**The 2 different MSDS are attached on the following pages:**

ELEMENT14 * PDMS 30000	Page 2 - 7
ELEMENT14 * PDMS 10000	Page 8 - 14

## Material Safety Data Sheet

### 1. Product & Company Identification

<b>Product:</b>	ELEMENT14 * PDMS 30000
<b>Manufacturer:</b>	Conrad Electronic SE
<b>Address:</b>	Klaus-Conrad-Str. 1, D-92240 Hirschau
<b>Telephone:</b>	+49 (0) 9604 / 40 - 8988
<b>Date of issue:</b>	27.03.2014

Chemical Family/Use: Silicone fluid

Formula: Polydimethylsiloxane

**HMIS** Health: 0 Flammability: 1 Reactivity: 0

**NFPA** Health: 0 Flammability: 1 Reactivity: 0

### 2. Hazards Identification

#### EMERGENCY OVERVIEW

Attention! This material is not considered hazardous by the OSHA Hazard Communication Standard 29 CFR 1910.1200

**Form:** liquid

**Color:** clear, colorless

**Odor:** mild

#### POTENTIAL HEALTH EFFECTS

##### INGESTION

No adverse effects are expected under normal conditions of use.

##### SKIN

No adverse effects are expected under normal conditions of use.

##### INHALATION

No adverse effects are expected under normal conditions of use.

##### EYES

No adverse effects are expected under normal conditions of use. May cause slight irritation. May cause: - swelling of the conjunctivae

##### MEDICAL CONDITIONS AGGRAVATED

None known.

##### SUBCHRONIC (TARGET ORGAN )

None known.

##### CHRONIC EFFECTS / CARCINOGENICITY

This product or one of its ingredients present at 0.1% or more is NOT listed as a carcinogen or suspected carcinogen by NTP, IARC, or OSHA.

##### ROUTES OF EXPOSURE

No anticipated routes of exposure.

## Material Safety Data Sheet

---

### 3. Composition/Information on Ingredients

PRODUCT COMPOSITION	CAS-No.	WGT. %
A. HAZARDOUS		
-	-	-
B. NON-HAZARDOUS		
Polydimethylsiloxane	63148-62-9	60 - 100 %

### 4. First Aid Measures

#### INGESTION

Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

#### SKIN

Wash off with soap and water. Get medical attention if symptoms occur.

#### INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration using a barrier device. If breathing is difficult give oxygen. Get medical attention.

#### EYES

Rinse with plenty of water. If symptoms persist, call a physician.

#### NOTE TO PHYSICIAN

Treatment is symptomatic and supportive.

### 5. Fire Fighting Measures

**FLASH POINT:** > 316 °C; 601 °F

**METHOD:** ASTM D 93

**IGNITION TEMPERATURE:** not applicable

**FLAMMABLE LIMITS IN AIR - LOWER (%):** not applicable

**FLAMMABLE LIMITS IN AIR - UPPER (%):** not applicable

**SENSITIVITY TO MECHANICAL IMPACT:** No

#### SENSITIVITY TO STATIC DISCHARGE

Sensitivity to static discharge is not expected.

#### EXTINGUISHING MEDIA

All standard extinguishing agents are suitable.

#### SPECIAL FIRE FIGHTING PROCEDURES

Firefighters must wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.

## Material Safety Data Sheet

---

### 6. Accidental Release Measures

#### ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

Wipe, scrape or soak up in an inert material and put in a container for disposal. Wash walking surfaces with detergent and water to reduce slipping hazard. Wear proper protective equipment as specified in the protective equipment section.

### 7. Handling and Storage

#### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep container closed when not in use. Keep away from children. Attention: Not for injection into humans. May generate formaldehyde at temperatures greater than 150 C (300 F). See Section 10 of MSDS for details.

#### STORAGE

Keep containers tightly closed in a cool, well-ventilated place.

### 8. Exposure Controls/Personal Protection

#### ENGINEERING CONTROLS

Eyewash stations; Showers; Ventilation and other forms of engineering controls are preferred for controlling exposures. Respiratory protection may be needed for non-routine or emergency situations.

#### RESPIRATORY PROTECTION

If exposure limits are exceeded or respiratory irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Supplied air respirators may be required for non-routine or emergency situations. Respiratory protection must be provided in accordance with OSHA regulations (see 29CFR 1910.134).

#### PROTECTIVE GLOVES

Impermeable or chemical resistant gloves.

#### EYE AND FACE PROTECTION

Safety glasses with side-shields

#### OTHER PROTECTIVE EQUIPMENT

Wear suitable protective clothing and eye/face protection.

#### Exposure Guidelines

Component	CAS RN	Source	Value
-----------	--------	--------	-------

Absence of values indicates none found

PEL - OSHA Permissible Exposure Limit; TLV - ACGIH Threshold Limit Value; TWA - Time Weighted Average; INTL REL - Internal Recommended Exposure Limit OSHA revoked the Final Rule Limits of January 19, 1989 in response to the 11th Circuit Court of Appeals decision (AFL-CIO v. OSHA) effective June 30, 1993. See 29 CFR 1910.1000 (58 FR 35338).

## Material Safety Data Sheet

---

### 9. Physical and Chemical Properties

<b>BOILING POINT - C &amp; F:</b>	>200 °C; 392 °F; Polymer
<b>VAPOR PRESSURE (20 C) (MM HG):</b>	1
<b>VAPOR DENSITY (AIR=1):</b>	> 1
<b>FREEZING POINT:</b>	ca. -50 °C; -58 °F; Pour point
<b>PHYSICAL STATE:</b>	liquid
<b>ODOR:</b>	mild
<b>COLOR:</b>	Clear, colorless.
<b>EVAPORATION RATE (BUTYL ACETATE=1):</b>	< 1
<b>DENSITY:</b>	0.97 g/cm <sup>3</sup>
<b>ACID / ALKALINITY (MEQ/G):</b>	no data available
<b>pH:</b>	not applicable
<b>SOLUBILITY IN WATER (20 C):</b>	insoluble
<b>SOLUBILITY IN ORGANIC SOLVENT (STATE SOLVENT):</b>	Slightly in Toluene
<b>VOC EXCL. H<sub>2</sub>O &amp; EXEMPTS (G/L):</b>	14 g/l

### 10. Stability and Reactivity

#### STABILITY

Stable

#### HAZARDOUS POLYMERIZATION

Will not occur.

#### HAZARDOUS THERMAL DECOMPOSITION / COMBUSTION PRODUCTS

Burning can produce the following combustion products:; Carbon dioxide (CO<sub>2</sub>); Carbon monoxide; Silicon dioxide.; formaldehyde-like; Carbon monoxide is highly toxic if inhaled; carbon dioxide in sufficient concentrations can act as an asphyxiant.; Acute overexposure to the products of combustion may result in irritation of the respiratory tract.; This product contains methylpolysiloxanes which can generate formaldehyde at approximately 300 degrees Fahrenheit (150°C) and above, in atmospheres which contain oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant, and potential cancer hazard.

#### INCOMPATIBILITY (MATERIALS TO AVOID)

None known.

#### CONDITIONS TO AVOID

None known.

## Material Safety Data Sheet

---

### 11. Toxicological Information

#### ACUTE ORAL

LD50; Species: rat; > 5,000 mg/kg;

#### ACUTE DERMAL

LD50; Species: rabbit; > 10,000 mg/kg; Remarks: very low acute toxicity

#### ACUTE INHALATION

LC50; Species: rat; > 535 mg/l; Remarks: very low acute toxicity

#### OTHER

no data available

#### SENSITIZATION

Test Type: Magnusson-Kligmann; Species: guinea pig; Result: negative. Method: OECD-Guideline 406 (Skin Sensitisation). Did not cause sensitization on laboratory animals.

#### SKIN IRRITATION

Species: rabbit; Result: No skin irritation

#### EYE IRRITATION

Species: rabbit ; Result: No eye irritation

#### MUTAGENICITY

Negative in the Ames test.

### 12. Ecological Informations

#### ECOTOXICITY

no data available

#### DISTRIBUTION

no data available

#### CHEMICAL FATE

no data available

### 13. Disposal Considerations

#### DISPOSAL METHOD

Disposal should be made in accordance with federal, state and local regulations.

### 14. Transport Information

#### Further Information:

This product is not regarded as dangerous goods according to the national and international regulations on the transport of dangerous goods.

## Material Safety Data Sheet

---

### 15. Regulatory Information

#### Inventories

Canada DSL Inventory	y (positive listing)
Japan Inventory of Existing & New Chemical Substances (ENCS)	y (positive listing)
Korea Existing Chemicals Inventory (KECI)	y (positive listing)
China Inventory of Existing Chemical Substances	y (positive listing)
Australia Inventory of Chemical Substances (AICS)	y (positive listing)
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	y (positive listing)
TSCA list	y (positive listing) On TSCA Inventory
EU list of existing chemical substances	y (positive listing)
Canada NDSL Inventory	n (Negative listing)

For inventories that are marked as quantity restricted or special cases, please contact us.

#### US Regulatory Information

**SARA (311,312) HAZARD CLASS:** No SARA Hazards

**SARA (313) CHEMICALS:** -

#### Canadian Regulatory Information

**WHMIS HAZARD CLASS:** Non-controlled.

### 16. Other Information

#### OTHER

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

C = ceiling limit	NEGL = negligible
EST = estimated	NF = none found
NA = not applicable	UNKN = unknown
NE = none established	REC = recommended
ND = none determined	V = recommended by vendor
SKN = skin	TS = trade secret
R = recommended	MST = mist
NT = not tested	STEL = short term exposure limit
ppm = parts per million	ppb = parts per billion

By-product = reaction by-product, TSCA inventory status not required under 40 CFR part 720.30(h-2).

## Material Safety Data Sheet

### 1. Product & Company Identification

<b>Product:</b>	ELEMENT14 * PDMS 10000
<b>Manufacturer:</b>	Conrad Electronic SE
<b>Address:</b>	Klaus-Conrad-Str. 1, D-92240 Hirschau
<b>Telephone:</b>	+49 (0) 9604 / 40 - 8988
<b>Date of issue:</b>	27.03.2014

Chemical Family/Use: Silicone fluid

Formula: Polydimethylsiloxane

**HMIS** Health: 0 Flammability: 1 Reactivity: 0

**NFPA** Health: 0 Flammability: 1 Reactivity: 0

### 2. Hazards Identification

#### EMERGENCY OVERVIEW

Attention! This material is not considered hazardous by the OSHA Hazard Communication Standard 29 CFR 1910.1200.

Form: Liquid

Color: Clear, colorless

Odor: Mild

#### POTENTIAL HEALTH EFFECTS

##### INGESTION

No adverse effects are expected under normal conditions of use.

##### SKIN

No adverse effects are expected under normal conditions of use.

##### INHALATION

No adverse effects are expected under normal conditions of use.

##### EYES

No adverse effects are expected under normal conditions of use. May cause irritation. May cause: - swelling of the conjunctivae

##### MEDICAL CONDITIONS AGGRAVATED

None known.

##### SUBCHRONIC (TARGET ORGAN )

None known.

##### CHRONIC EFFECTS / CARCINOGENICITY

This product or one of its ingredients present at 0.1% or more is NOT listed as a carcinogen or suspected carcinogen by NTP, IARC, or OSHA.

##### ROUTES OF EXPOSURE

No anticipated routes of exposure



## Material Safety Data Sheet

---

### 3. Composition/Information on Ingredients

PRODUCT COMPOSITION	CAS-No.	WGT. %
A. HAZARDOUS		
-	-	-
B. NON-HAZARDOUS		
Polydimethylsiloxane	63148-62-9	60 - 100 %

### 4. First Aid Measures

#### INGESTION

If swallowed, do NOT induce vomiting. Give a glass of water. Seek medical advice. Never give liquid to an unconscious person.

#### SKIN

Wash area with soap and water.

#### INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration using a barrier device. If breathing is difficult give oxygen. Get medical attention.

#### EYES

Rinse immediately with plenty of water. Consult a physician for specific advice.

#### NOTE TO PHYSICIAN

Treatment is symptomatic and supportive.

### 5. Fire Fighting Measures

**FLASH POINT:** > 300 °C; 572 °F

**IGNITION TEMPERATURE:** Not applicable

**FLAMMABLE LIMITS LEL:** Not applicable

**FLAMMABLE LIMITS UEL:** Not applicable

**SENSITIVITY TO MECHANICAL IMPACT:**

**SENSITIVITY TO STATIC DISCHARGE**

Sensitivity to static discharge is not expected.

**EXTINGUISHING MEDIA**

All standard extinguishing agents are suitable.

**SPECIAL FIRE FIGHTING PROCEDURES**

Firefighters must wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.

## Material Safety Data Sheet

---

### 6. Accidental Release Measures

#### ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

Wipe, scrape or soak up in an inert material and put in a container for disposal. Wash walking surfaces with detergent and water to reduce slipping hazard. Wear proper protective equipment as specified in the protective equipment section.

### 7. Handling and Storage

#### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep container closed. Keep out of reach of children. Attention: Not for injection into humans. May generate formaldehyde at temperatures greater than 150 C(300 F). See Section 8 of the MSDS for Personal Protective Equipment.

#### STORAGE

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

### 8. Exposure Controls/Personal Protection

#### ENGINEERING CONTROLS

Eye wash facilities and emergency shower must be available when handling this product.; Ventilation and other forms of engineering controls are preferred for controlling exposures. Respiratory protection may be needed for non-routine or emergency situations.

#### RESPIRATORY PROTECTION

If exposure limits are exceeded or respiratory irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Supplied air respirators may be required for non-routine or emergency situations. Respiratory protection must be provided in accordance with OSHA regulations (see 29CFR 1910.134).

#### PROTECTIVE GLOVES

Chemical resistant gloves

#### EYE AND FACE PROTECTION

Safety glasses with side shields

#### OTHER PROTECTIVE EQUIPMENT

Wear suitable protective clothing and eye/face protection.

#### Exposure Guidelines

Component	CAS-No.	Source	Value
-----------	---------	--------	-------

Absence of values indicates none found

PEL - OSHA Permissible Exposure Limit; TLV - ACGIH Threshold Limit Value; TWA - Time Weighted Average; INTL REL - Internal Recommended Exposure Limit OSHA revoked the Final Rule Limits of January 19, 1989 in response to the 11th Circuit Court of Appeals decision (AFL-CIO v. OSHA) effective June 30, 1993. See 29 CFR 1910.1000 (58 FR 35338).

## Material Safety Data Sheet

---

### 9. Physical and Chemical Properties

<b>BOILING POINT - C &amp; F:</b>	>200 °C; 392 °F; Polymer
<b>VAPOR PRESSURE (20 C) (MM HG):</b>	1
<b>VAPOR DENSITY (AIR=1):</b>	> 1
<b>FREEZING POINT:</b>	ca. -50 °C; -58 °F; Pour point
<b>PHYSICAL STATE:</b>	liquid
<b>ODOR:</b>	mild
<b>COLOR:</b>	Clear, colorless.
<b>EVAPORATION RATE (BUTYL ACETATE=1):</b>	< 1
<b>DENSITY:</b>	0.97 g/cm <sup>3</sup>
<b>ACID / ALKALINITY (MEQ/G):</b>	no data available
<b>pH:</b>	not applicable
<b>SOLUBILITY IN WATER (20 C):</b>	insoluble
<b>SOLUBILITY IN ORGANIC SOLVENT (STATE SOLVENT):</b>	Slightly in Toluene
<b>VOC EXCL. H<sub>2</sub>O &amp; EXEMPTS (G/L):</b>	14 g/l

### 10. Stability and Reactivity

#### STABILITY

Stable

#### HAZARDOUS POLYMERIZATION.

Hazardous polymerisation does not occur.

#### HAZARDOUS THERMAL DECOMPOSITION / COMBUSTION PRODUCTS

Carbon dioxide; Silicon dioxide.; Formaldehyde.; This product contains methylpolysiloxanes which will likely generate formaldehyde at approximately 300 degrees Fahrenheit (150°C) and above, in atmospheres which contain oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant, and has been classified by the National Toxicology Program as a known human carcinogen. See Section 11 for additional information on formaldehyde.

#### INCOMPATIBLE MATERIALS

None known.

#### CONDITIONS TO AVOID

None known.

## Material Safety Data Sheet

---

### 11. Toxicological Information

#### ACUTE ORAL

LD50; Species: Rat; > 5,000 mg/kg;

#### CARCINOGENICITY

The National Toxicology Program (NTP) classifies formaldehyde as „known to be a human carcinogen“ with respect to nasopharyngeal cancer, sinonasal cancer and myeloid leukemia. The International Agency for Research on Cancer (IARC) classifies formaldehyde as „carcinogenic to humans“. U.S. OSHA regulates formaldehyde as a potential human carcinogen. See the OSHA Formaldehyde Workplace Standard at 29 CFR 1920.1048 (the „OSHA Standard“). Safe handling and use instructions are provided in this MSDS and in the OSHA Standard. OSHA has identified 0.5 ppm, calculated as an eight-hour time-weighted average („TWA“) concentration, as the „Action Level“.

Please review and understand the guidance contained in this MSDS, and refer to the OSHA Standard for regulatory requirements that might be applicable to your operation and use. Many studies and other evaluations have been performed concerning formaldehyde's potential to cause cancer. To review some of these studies and for further information go to [www.osha.gov](http://www.osha.gov); <http://monographs.iarc.fr>; <http://ntp-server.niehs.nih.gov>; <http://epa.gov>; <http://www.nap.edu> and other authoritative websites then search on formaldehyde.

#### ACUTE DERMAL

LD50; Species: Rabbit; > 10,000 mg/kg;

#### ACUTE INHALATION

LC50; Species: Rat; > 535 mg/l;

#### OTHER

No data available.

#### SENSITIZATION

Test type: Magnusson-Kligmann; Species: Guinea Pig; Result: negative. Method: OECD-Guideline 406 (Skin Sensitisation). Did not cause sensitization on laboratory animals.

#### SKIN IRRITATION.

Species: Rabbit; Result: No skin irritation

#### EYE IRRITATION

Species: Rabbit ; Result: No eye irritation

#### MUTAGENICITY

Negative in the Ames test.

### 12. Ecological Informations

#### ECOTOXICITY

No data available.

#### DISTRIBUTION

No data available.

#### CHEMICAL FATE

No data available.

## Material Safety Data Sheet

---

### 13. Disposal Considerations

#### DISPOSAL METHODS

Disposal should be made in accordance with federal, state and local regulations.

### 14. Transport Information

#### Further Information:

This product is not regarded as dangerous goods according to the national and international regulations on the transport of dangerous goods.

### 15. Regulatory Information

#### Inventories

Canada DSL Inventory	y (positive listing)	
Japan Inventory of Existing & New Chemical Substances (ENCS)	y (positive listing)	
Korea Existing Chemicals Inventory (KECI)	y (positive listing)	
China Inventory of Existing Chemical Substances	y (positive listing)	
Australia Inventory of Chemical Substances (AICS)	y (positive listing)	
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	y (positive listing)	
TSCA list	y (positive listing)	On TSCA Inventory
EU list of existing chemical substances	y (positive listing)	
Canada NDSL Inventory	n (Negative listing)	

For inventories that are marked as quantity restricted or special cases, please contact us.

#### US Regulatory Information

**SARA (311,312) HAZARD CLASS:** No SARA Hazards

**SARA (313) CHEMICALS:** -

#### Canadian Regulatory Information

**WHMIS HAZARD CLASS:** Non-controlled.

## Material Safety Data Sheet

---

### 16. Other Information

#### OTHER

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

C = ceiling limit	NEGL = negligible
EST = estimated	NF = none found
NA = not applicable	UNKN = unknown
NE = none established	REC = recommended
ND = none determined	V = recommended by vendor
SKN = skin	TS = trade secret
R = recommended	MST = mist
NT = not tested	STEL = short term exposure limit
ppm = parts per million	ppb = parts per billion

By-product = reaction by-product, TSCA inventory status not required under 40 CFR part 720.30(h-2).