

Product name: Micro-Tec CSG7 conductive silver grease
Document Nr.: SDS0064001007-01

Date: December 29th 2015
Version: 1.0

Section 1: Identification of the substance or mixture and the company

1.1. Product Identifier

Micro-Tec CSG7 conductive silver grease

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

Against electrostatic charge, lubricating and sealing of vacuum feedthroughs

Avoid extreme uses that could result in aerosolisation

1.3. Details of the supplier of the Safety Data Sheet

Vof Micro to Nano
Wateringweg 79
2031EK Haarlem
Netherlands
Tel: +31(0)85-2013155
E: info@microtonano.com

1.4 Emergency telephone number

112 (NLD) or your national emergency telephone number for chemical spills, leaks, fires, exposures or accidents

Section 2: Hazards identification

2.1. Classification of the substance or mixture

| | |
|-----------------------|----------------------------|
| Physical: | 1 |
| Health: | 1 |
| Environment: | 1 Chronic aquatic toxicity |
| Other hazards: | None |

Classification according to Regulation EC Nr. 1272/2008

Not classified as hazardous



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2.2 Labeling elements

Labelling accordance to Regulation EC Nr. 1272/2008

Hazard pictogramm(s):



Signal word:

Warning

Hazard statement(s):

H411: Toxic to aquatic life with long lasting effects

Precautionary statement(s)

Prevention:

P 273: Avoid release to the environment

Response:

P304+P340: If inhaled: Remove person to fresh air and keep comfortable for breathing

P305+P351+P338: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical attention

P370+P378: In case of fire: Use alcohol resistant foam or protein foam for extinction

P391: collect spillage

Storage:

Disposal:

P501: Dispose of contents/container in accordance to local/regional/national/international regulations

Supplemental hazard info:

None

2.3 Other hazards

Argyria Hazard: Prolonged or repeated exposure by ingestion or inhalation can cause irreversible blue-grey skin discoloration

Section 3: Composition / information on components

3.1. Substances

Not applicable



Micro to Nano
Innovative Microscopy Supplies

Wateringweg 79
2031EK Haarlem
The Netherlands

T +31-85-2013155
E info@microtonano.com
I www.microtonano.com

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3.2 Mixtures

| 1. CAS Nr 2. EC Nr 3. Index Nr 4. REACH No | % (weight) | Name | Classification according to directive 67/548/EEC [DSD] | Classification according to regulation Nr 1272/2008 [CLP] |
|--|------------|---|--|---|
| 7440-22-4 231-131-3 not available 01-2119555669-21-xxxx | 61-67 | silver | R52 | Not applicable |
| 63148-62-9 not available not available not available | 30-34 | Dimethylpolysiloxane | | Not applicable |
| 1333-86-4 215-609-9 not available 01-2119384822-32-xxxx | 3-5 | Carbon black bound in grease matrix. Not in respirable form | | Not applicable |

(* Explanation notes: see section 16)

Section 4: First aid measures

4.1. Description of first aid measures

Contact with eyes: Rinse cautiously with water for several minutes. If possible, remove contact lenses. Continue rinsing.
Seek medical attention if irritation persists.

Contact with skin: Wash with water and soap.

Inhalation: Fresh air, keep warm and at rest.

Ingestion: If swallowed, do not induce vomiting
Get medical advice/attention if feeling unwell

4.2. Important symptoms and effects, either immediate or delayed

Inhalation: None known or expected
Ingestion: None known or expected
Skin contact: None known or expected
Eye contact: Mild irritation, mechanical irritation

4.3. Indication of any immediate medical attention and special treatment

General advise: If you feel unwell, seek medical advice; show product label if possible
If symptoms persist, always call a doctor



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Section 5: Firefighting Measures

5.1. Extinguishing media

Use dry chemical, carbon dioxide, chemical foam or water spray to extinguish

5.2 Special hazards arising from the substance or mixture

Carbon oxides (CO, CO₂), SiO₂ and formaldehyde

5.3 Advice to firefighters

Wear self-contained breathing apparatus for fire fighting

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation

Wear suitable protective clothing including eye/face protection

6.2 Environmental precautions

Avoid release to the environment

Do not allow to enter public sewers and waterways

6.3 Methods and material for containment and clean up

Collect spillage, absorbed spillage and wipes in a suitable waste container

Wash spill area with soap and water to remove last traces of residue

6.4 Reference to other sections

For further information see section 8



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Version: 1.0

Section 7: Handling and storage

7.1. Precautions for safe handling

Ensure adequate ventilation
Avoid contact with skin and eyes
Wash thoroughly after use
Wear protective gloves/protective clothing/eye protection/face protection

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed, in a cool, well ventilated place
Keep away from acids, hydrogen peroxide, ammonia and acetylene
Keep out of reach of children

7.3 Specific end uses(s)

Against electro-static charge
Lubricating for moving parts
Vacuum sealant for moving parts and feedthroughs

Section 8: Exposure control and personal protection

8.1. Control parameters

Exposure limits

Occupational exposure limits (OEL)

| Ingredient | Material Name | Source | TWA | STEL | Peak | Notes |
|---------------|-------------------|--------|----------|---------------|---------------|---------------|
| Silver flakes | Silver (metal) Ag | UK | 0.1mg/m3 | Not available | Not available | Not available |
| carbon black | Carbon black | UK | 3.5mg/m3 | 7mg/m3 | Not available | Not available |

8.2 Exposure controls

Control procedures: Ensure adequate ventilation
Personal protection: Take precautions to avoid contact with eyes and skin when handling the products
Ensure adequate ventilation
Inhalation: If exposed to mist, wear oil resistant or oil proof particulate respirators
Hands and skin: Wear suitable gloves against chemicals; recommended gloves:
Nitrile
Eyes: Wear safety goggles or full face protection



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Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---------------------------------------|-------------------------------|
| Appearance/physical state: | Paste |
| Colour: | Silvery, dark gray |
| Odour: | None |
| pH | not applicable |
| Boiling point/range: | >200°C |
| Flash point: | >300°C |
| Evaporation rate: | <1 |
| Explosion limits: upper limit: | Not available |
| lower limit: | Not available |
| Vapour pressure: | 0.13 Kpa |
| Relative density: | 2.29 g/cm ³ @ 20°C |
| Solubility in water: | Insoluble |
| Auto-ignition: | Not available |
| Viscosity: | >34 cSt @ 40°C |

9.2 Other information

VOC: 31%

Section 10: Stability and reactivity

10.1. Reactivity

Reacts with acids to form flammable hydrogen gas
Reacts violently with hydrogen peroxides to form oxygen gas
Reaction with ammonia may form explosives compounds when dry
Reacts with acetylene to form shock-sensitive compounds

10.2 Chemical stability

Stable at normal temperatures and pressures

10.3 Possibility of hazardous reactions

No hazardous reactions known if used for its intended purposes



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10.4 Conditions to avoid

Excessive heat and incompatible substances

10.5 Incompatible materials

Strong oxidising agents, strong acids, strong bases, ammonia, acetylene, hydrogen peroxide

10.6 Hazardous decomposition products

Will not decompose under normal conditions. Thermal decomposition products are Carbon oxides (CO, CO₂), SiO₂ and formaldehyde

Section 11: Toxicological information

11.1. Information on toxicological effects

Information on likely routes of exposure:

Inhalation: No known significant effects
Skin contact: No known significant effects
Eye contact: May cause mild eye irritation, redness

Toxicological data:

| Ingredient | Toxicity | Irritation |
|--------------------------------------|-------------------------------------|---------------|
| Silver, metal | Oral (guinea pig) LD50: >5000 mg/kg | Not available |
| Dimethylpolysiloxane | Dermal (rabbit) LD: >10,000mg/kg | |
| | Inhalation (rat) LC50: >535 mg/L | |
| | Oral (rat) LD50: >5000 mg/kg | |
| Carbon black | Dermal (rabbit) LD: >3000mg/kg | Not available |
| | Oral (rat) LD50: >8000 mg/kg | |
| | Dermal (rabbit) LD: >3000mg/kg | Not available |
| EM-Tec CSG7 conductive silver grease | Not available | Not available |



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Section 12: Ecological information

12.1. Toxicity

Very toxic to aquatic life with long lasting effects

12.2 Persistence and degradability

No information available

12.3 Bioaccumulative potential

No information available

12.4 Mobility in soil

Insoluble in water

12.5 Results of PBT and vPvB assessment

No information available

12.6 Hazardous decomposition products

No experimental data available

Section 13: Disposal considerations

13.1. Waste treatment methods

Product: This material and its container must be disposed of in a safe way.
Containers may still present a chemical hazard when empty
Do not discharge into drains or the environment, dispose to an authorised waste collection point.

National regulations: Disposal should be in accordance with local, state or national legislation.



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Section 14: Transport information

Labels required:



14.1. UN number

UN-number: 3077

14.2 UN proper shipping name

Proper shipping name: Environmentally hazardous substance, solid, N.O.S.,
(silver powder)

14.3 Transport hazard class(es)

Class: 9
ADR/RID-Classification code: F1

14.4 Packing group

Packing: III
Limited Quantity 5L

14.5 Incompatible materials

ADR/RID- Environmentally hazardous: Not applicable
IMDG-Marine pollutant: yes
IATA/ICAO-Environmentally hazardous: No relevant data

14.6 Special precautions for user

No further information available

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC code

Not applicable



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Section 15: Regulatory information

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

UN-number: 3077

15.2 Chemical safety assessment

No information available

Section 16: Other information

RoHS Directive Compliant

This product is fully compliant with the directive 2100/65/EU Annex II (RoHS). It does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's or PBDE's.

WEEE

This product is not a piece of electrical or electronic equipment, and it therefore not governed by Directive 2002/96/EC on waste electrical and electronic equipment (WEEE)

Abbreviations:

| | |
|----------|---|
| Asp. Tox | Aspiration hazard |
| Carc. | Carcinogenicity |
| Exp. | Exposure |
| Flam. | Flammable |
| GHS | Global Harmonised System of Classification of Labelling Chemicals |
| Irrit. | Irritant |
| LC50 | Lethal Concentration 50% |
| LCLo | Lowest published lethal concentration |
| LD50 | Lethal Dose 50% |
| N/A | Not applicable |
| N/E | Not estimated |
| PBT | Persistent Bioaccumulative and Toxic |
| WEL | Workplace Exposure Limit |
| Repr. | Reproductive toxicant |
| RoHS | Restriction of Hazardous Substance |
| SEM | Scanning Electron Microscope |
| STEL | Short-Term Exposure Limit |
| STOT | Specific Target Organ Toxicity |
| TCLo | Lowest published toxic concentration |
| vPvB | very Persistent and very Bioaccumulative |
| WEEE | Waste Electrical and Electronic Equipment |



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DSD / DPD label elements



Full Text Risk and Hazard codes

H410 – Very toxic to aquatic life with long lasting effects.

H411 – Toxic to aquatic life with long lasting effects

Safety advice:

S02 – Keep out of reach of children.

S09 – Keep container in a well ventilated place.

S13 – Keep away from food, drink and animal feeding stuff.

S26 – In case of contact with eyes, rinse with plenty of water and seek medical help.

S281 – After contact with skin, wash immediately with detergent and plenty of waterways.

S29 – Do not empty in drains.

S35 – This materials and its container must be disposed of in a safe way.

S36 – Wear suitable protective clothing.

S37 – Wear suitable gloves.

S38 – In case of insufficient ventilation, wear suitable respiratory equipment.

S39 - Wear eye / face protection.

S45 – In case of accident or if you feel unwell, immediately contact Doctor or Poisons information center (show label if possible).

S46 – If swallowed, seek immediate medical advice and show label if possible.

S56 – Dispose of this materials and its container at hazardous or special waste collection point.

S57 – Use appropriate container to avoid environment contamination.

S61 – Avoid release to the environment

S63 – In case of accident by inhalation, remove casualty to fresh air and keep at rest.

S64 – If swallowed, rinse mouth with water (only if person is conscious)

This product should be stored, handled and used in accordance with good industrial hygiene practices and in accordance with any legal regulation.

The information contained herewith is based on the present state of our knowledge and is intended to describe the product from the point of view of safety requirements. It does not guarantee any specific properties.

It is the responsibility of the user to query and verify any information seeming suspect or where doubt on the validity may exist. The buyer assumes all responsibility of using and handling the product in accordance with local, state, federal and international regulations.

