



# SAFETY DATA SHEET

## SPECIALTY ELECTRONIC MATERIALS SWITZERLAND GMBH

**Product name: MOLYKOTE® Longterm 00 Semi-Fluid Gearbox Grease**

**Issue Date: 31.01.2019**

**Print Date: 23.06.2023**

SPECIALTY ELECTRONIC MATERIALS SWITZERLAND GMBH encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

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## 1. PRODUCT AND COMPANY IDENTIFICATION

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**Product name:** MOLYKOTE® Longterm 00 Semi-Fluid Gearbox Grease

**Recommended use of the chemical and restrictions on use**

**Identified uses:** Lubricants and lubricant additives

### COMPANY IDENTIFICATION

SPECIALTY ELECTRONIC MATERIALS  
SWITZERLAND GMBH  
GROSSMATTE 4  
6014 LUZERN  
SWITZERLAND

**Customer Information Number:**

00800-3876-6838  
SDSQuestion-EU@dupont.com

### EMERGENCY TELEPHONE NUMBER

**24-Hour Emergency Contact:** +(41)- 435082011

**Local Emergency Contact:** 0-800-983-611

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## 2. HAZARDS IDENTIFICATION

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### Classification of the substance or mixture

Skin sensitisation - Category 1 - H317

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

### Label elements

### Hazard pictograms



**Signal word: WARNING**

**Hazard statements**

H317 May cause an allergic skin reaction.

**Precautionary statements**

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
 P272 Contaminated work clothing should not be allowed out of the workplace.  
 P280 Wear protective gloves.  
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
 P362 + P364 Take off contaminated clothing and wash it before reuse.  
 P501 Dispose of contents/ container to an approved waste disposal plant.

**Contains** Pentene, 2,4,4-trimethyl-,sulfurized; Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts

**Other hazards**

No data available

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

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**Chemical nature:** Lubricants and lubricant additives

This product is a mixture.

| CASRN /<br>EC-No. /<br>Index-No.   | Concentration            | Component   | Classification                                  |
|--|--------------------------|---|---|
| <b>CASRN</b><br>64742-52-5<br><b>EC-No.</b><br>265-155-0<br><b>Index-No.</b><br>649-465-00-7 | >= 21,2 - <= 31,775<br>% | Distillates (petroleum),<br>hydrotreated heavy naphthenic             | Asp. Tox. - 1 - H304                            |
| <b>CASRN</b><br>68515-88-8<br><b>EC-No.</b><br>271-114-8<br><b>Index-No.</b><br>-            | >= 1,131 - <= 1,644<br>% | Pentene, 2,4,4-trimethyl-<br>,sulfurized                              | Skin Irrit. - 2 - H315<br>Skin Sens. - 1 - H317 |
| <b>CASRN</b><br>70024-69-0<br><b>EC-No.</b><br>274-263-7<br><b>Index-No.</b><br>-            | <= 0,1117 %              | Benzenesulfonic acid, mono-<br>C16-24-alkyl derivs., calcium<br>salts | Skin Sens. - 1 - H317                           |
| <b>CASRN</b><br>1317-33-5<br><b>EC-No.</b><br>215-263-9                                      | >= 0,7318 - <= 1,0682 %  | Molybdenum disulfide  | Not classified                                  |

| Index-No. |  |  |  |
|-----------|--|--|--|
| -         |  |  |  |

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

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## 4. FIRST AID MEASURES

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### Description of first aid measures

#### General advice:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air; if effects occur, consult a physician.

**Skin contact:** Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be available in work area.

**Eye contact:** Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist. Suitable emergency eye wash facility should be available in work area.

**Ingestion:** If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

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

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

#### Indication of any immediate medical attention and special treatment needed

**Notes to physician:** No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Skin contact may aggravate preexisting dermatitis.

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## 5. FIREFIGHTING MEASURES

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**Suitable extinguishing media:** Water spray Alcohol-resistant foam Carbon dioxide (CO<sub>2</sub>) Dry chemical

**Unsuitable extinguishing media:** None known.

#### Special hazards arising from the substance or mixture

**Hazardous combustion products:** Carbon oxides Carbon dioxide. Sulfur oxides. Carbon monoxide Metal oxides Sulphur oxides

**Unusual Fire and Explosion Hazards:** Exposure to combustion products may be a hazard to health.

**Advice for firefighters**

**Fire Fighting Procedures:** Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

**Special protective equipment for firefighters:** In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

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## **6. ACCIDENTAL RELEASE MEASURES**

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**Personal precautions, protective equipment and emergency procedures:** Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.

**Environmental precautions:** Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

**Methods and materials for containment and cleaning up:** Soak up with inert absorbent material. Clean up remaining materials from spill with suitable absorbant. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

See sections: 7, 8, 11, 12 and 13.

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## **7. HANDLING AND STORAGE**

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**Precautions for safe handling:** Do not get on skin or clothing. Avoid inhalation of vapour or mist. Do not swallow. Avoid contact with eyes. Take care to prevent spills, waste and minimize release to the environment. Handle in accordance with good industrial hygiene and safety practice.

Use only with adequate ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

**Conditions for safe storage:** Keep in properly labelled containers. Store in accordance with the particular national regulations.

Do not store with the following product types: Strong oxidizing agents.  
Unsuitable materials for containers: None known.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

| Component  | Regulation | Type of listing         | Value/Notation        |
|--|------------|-------------------------|-----------------------|
| Distillates (petroleum), hydrotreated heavy naphthenic | ACGIH      | TWA Inhalable fraction  | 5 mg/m3               |
| Molybdenum disulfide                                   | ACGIH      | TWA Inhalable fraction  | 10 mg/m3 , Molybdenum |
|  | ACGIH      | TWA Respirable fraction | 3 mg/m3 , Molybdenum  |
|  | ZA OEL     | TWA OEL-RL              | 10 mg/m3 , Molybdenum |
|  | ZA OEL     | STEL OEL-RL             | 20 mg/m3 , Molybdenum |

Although some of the components of this product may have exposure guidelines, no exposure would be expected under normal handling conditions due to the physical state of the material.

### Exposure controls

**Engineering controls:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

### Individual protection measures

**Eye/face protection:** Use safety glasses (with side shields). Safety glasses (with side shields) should be consistent with EN 166 or equivalent.

#### Skin protection

**Hand protection:** Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Chlorinated polyethylene. Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Viton. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly dependent on the specific composition of the material that the glove is fabricated from. The thickness of the glove must, depending on model and type of material, generally be more than 0.35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0.35 mm. Other glove materials with a thickness of less than 0.35 mm may offer sufficient protection when only brief contact is expected. NOTICE:

The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Other protection:** Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions, no respiratory protection should be needed; however, if handling at elevated temperatures without sufficient ventilation, use an approved air-purifying respirator.

Use the following CE approved air-purifying respirator: Organic vapor cartridge, type A (boiling point >65 °C, meeting standard EN 14387).

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### Appearance

|  |                                 |
|--|---------------------------------|
| Physical state                         | liquid                          |
| Color                                  | black                           |
| Odor                                   | slight                          |
| Odor Threshold                         | No data available               |
| pH                                     | No data available               |
| Melting point/range                    | No data available               |
| Freezing point                         | No data available               |
| Boiling point (760 mmHg)               | > 35 °C                         |
| Flash point                            | <b>closed cup</b> >210 °C       |
| Evaporation Rate (Butyl Acetate = 1)   | No data available               |
| Flammability (solid, gas)              | Not applicable                  |
| Lower explosion limit                  | No data available               |
| Upper explosion limit                  | No data available               |
| Vapor Pressure                         | No data available               |
| Relative Vapor Density (air = 1)       | No data available               |
| Relative Density (water = 1)           | 0,93                            |
| Water solubility                       | No data available               |
| Partition coefficient: n-octanol/water | No data available               |
| Auto-ignition temperature              | No data available               |
| Decomposition temperature              | No data available               |
| Kinematic Viscosity                    | 320 mm <sup>2</sup> /s at 25 °C |

|                             |  |
|-----------------------------|--|
| <b>Explosive properties</b> | Not explosive  |
| <b>Oxidizing properties</b> | The substance or mixture is not classified as oxidizing. |
| <b>Molecular weight</b>     | No data available  |
| <b>Particle size</b>        | Not applicable   |

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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## 10. STABILITY AND REACTIVITY

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**Reactivity:** Not classified as a reactivity hazard.

**Chemical stability:** Stable under normal conditions.

**Possibility of hazardous reactions:** Can react with strong oxidizing agents.

**Conditions to avoid:** None known.

**Incompatible materials:** Oxidizing agents

**Hazardous decomposition products:** Hydrogen sulfide. Trimethyl-1-pentene.

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## 11. TOXICOLOGICAL INFORMATION

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*Toxicological information appears in this section when such data is available.*

### Acute toxicity

#### Acute oral toxicity

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

As product: Single dose oral LD50 has not been determined.

#### Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

#### Acute inhalation toxicity

At room temperature, exposure to vapor is minimal due to low volatility; vapor from heated material may cause respiratory irritation.

As product: The LC50 has not been determined.

### Skin corrosion/irritation

Brief contact may cause slight skin irritation with local redness.

Prolonged contact may cause moderate skin irritation with local redness.

May cause drying and flaking of the skin.

### Serious eye damage/eye irritation

May cause slight eye irritation.  
Corneal injury is unlikely.

**Sensitization**

For skin sensitization:

Contains component(s) which have caused allergic skin sensitization in guinea pigs.

For respiratory sensitization:

No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Specific Target Organ Systemic Toxicity (Repeated Exposure)**

Contains component(s) which have been reported to cause effects on the following organs in animals:  
Liver

**Carcinogenicity**

No relevant data found.

**Teratogenicity**

Contains component(s) which, in laboratory animals, have been toxic to the fetus only at doses toxic to the mother.

**Reproductive toxicity**

Contains component(s) which did not interfere with reproduction in animal studies.

**Mutagenicity**

Contains component(s) which were negative in some in vitro genetic toxicity studies and positive in others. Contains component(s) which were negative in animal genetic toxicity studies.

**Aspiration Hazard**

Based on physical properties, not likely to be an aspiration hazard.

**COMPONENTS INFLUENCING TOXICOLOGY:**

**Distillates (petroleum), hydrotreated heavy naphthenic**

**Acute oral toxicity**

LD50, Rat, > 5 000 mg/kg OECD Test Guideline 401

**Acute dermal toxicity**

LD50, Rabbit, > 5 000 mg/kg OECD Test Guideline 402

**Acute inhalation toxicity**

LC50, Rat, 4 Hour, dust/mist, > 5,53 mg/l OECD Test Guideline 403

**Pentene, 2,4,4-trimethyl-,sulfurized**

**Acute oral toxicity**

LD50, Rat, > 3 641 mg/kg

**Acute dermal toxicity**

LD50, Rabbit, 5 480 mg/kg Estimated.



**Acute inhalation toxicity**

The LC50 has not been determined.

**Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts**

**Acute oral toxicity**

Single dose oral LD50 has not been determined.

**Acute dermal toxicity**

The dermal LD50 has not been determined.

**Acute inhalation toxicity**

The LC50 has not been determined.

**Molybdenum disulfide**

**Acute oral toxicity**

LD50, Rat, > 2 000 mg/kg No deaths occurred at this concentration.

**Acute dermal toxicity**

LD50, Rat, male and female, > 2 000 mg/kg No deaths occurred at this concentration.

**Acute inhalation toxicity**

LC50, Rat, 4 Hour, dust/mist, > 2,82 mg/l No deaths occurred at this concentration.

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## **12. ECOLOGICAL INFORMATION**

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*Ecotoxicological information appears in this section when such data is available.*

**Toxicity**

**Distillates (petroleum), hydrotreated heavy naphthenic**

**Acute toxicity to fish**

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

LL50, Pimephales promelas (fathead minnow), 96 Hour, > 100 mg/l, OECD Test Guideline 203

**Acute toxicity to aquatic invertebrates**

EL50, Daphnia magna (Water flea), 48 Hour, > 10 000 mg/l

**Acute toxicity to algae/aquatic plants**

EL50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 100 mg/l, OECD Test Guideline 201

NOELR, Pseudokirchneriella subcapitata (green algae), 72 Hour, 100 mg/l, OECD Test Guideline 201

**Toxicity to bacteria**

NOEC, 10 min, >= 1,93 mg/l

**Chronic toxicity to aquatic invertebrates**

NOELR, Daphnia magna (Water flea), 21 d, 10 mg/l

**Pentene, 2,4,4-trimethyl-,sulfurized**

**Acute toxicity to aquatic invertebrates**

Not expected to be acutely toxic to aquatic organisms.  
EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l

**Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts**

**Acute toxicity to fish**

No relevant data found.

**Acute toxicity to aquatic invertebrates**

Based on data from similar materials  
EC50, Daphnia magna (Water flea), 48 Hour, > 1 000 mg/l, Test substance: Water Accommodated Fraction

**Acute toxicity to algae/aquatic plants**

Based on data from similar materials  
EC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, > 1 000 mg/l, Test substance: Water Accommodated Fraction

**Molybdenum disulfide**

**Acute toxicity to fish**

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).  
For similar material(s):  
LC50, Fish, 96 Hour, > 100 mg/l

**Acute toxicity to aquatic invertebrates**

Based on data from similar materials  
EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l

**Acute toxicity to algae/aquatic plants**

Based on data from similar materials  
ErC50, algae, 72 Hour, Growth rate, > 100 mg/l

**Toxicity to bacteria**

EC50, 30 Hour, Respiration rates., > 100 mg/l

**Chronic toxicity to fish**

Based on data from similar materials  
NOEC, Fish, 34 d, > 10 mg/l

**Chronic toxicity to aquatic invertebrates**

Based on data from similar materials  
NOEC, Daphnia magna, 21 d, > 10 mg/l

**Persistence and degradability**

**Distillates (petroleum), hydrotreated heavy naphthenic**

**Biodegradability:** Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

10-day Window: Fail

**Biodegradation:** 31 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301F

**Pentene, 2,4,4-trimethyl-,sulfurized**

**Biodegradability:** Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

10-day Window: Not applicable

**Biodegradation:** 24,6 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301C

**Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts**

**Biodegradability:** No relevant data found.

**Molybdenum disulfide**

**Biodegradability:** Biodegradability is not applicable to inorganic substances.

**Bioaccumulative potential**

**Distillates (petroleum), hydrotreated heavy naphthenic**

**Bioaccumulation:** No relevant data found.

**Pentene, 2,4,4-trimethyl-,sulfurized**

**Bioaccumulation:** Bioconcentration potential is low (BCF less than 100 or log Pow greater than 7).

**Partition coefficient: n-octanol/water(log Pow):** 12,56 estimated

**Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts**

**Bioaccumulation:** No relevant data found.

**Molybdenum disulfide**

**Bioaccumulation:** Partitioning from water to n-octanol is not applicable.

**Mobility in soil**

**Distillates (petroleum), hydrotreated heavy naphthenic**

No relevant data found.

**Pentene, 2,4,4-trimethyl-,sulfurized**

Expected to be relatively immobile in soil (Koc > 5000).

**Partition coefficient (Koc):** > 5000 Estimated.

**Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts**

No relevant data found.

**Molybdenum disulfide**

No relevant data found.

**Results of PBT and vPvB assessment**

**Distillates (petroleum), hydrotreated heavy naphthenic**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**Pentene, 2,4,4-trimethyl-,sulfurized**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**Molybdenum disulfide**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**Other adverse effects**

**Distillates (petroleum), hydrotreated heavy naphthenic**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Pentene, 2,4,4-trimethyl-,sulfurized**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Molybdenum disulfide**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

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### **13. DISPOSAL CONSIDERATIONS**

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**Disposal methods:** Do not dump into any sewers, on the ground, or into any body of water. This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 2008/98/EC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required.

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### **14. TRANSPORT INFORMATION**

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**Classification for ROAD and Rail transport:**

Not regulated for transport

**Classification for SEA transport (IMO-IMDG):**

Not regulated for transport

**Transport in bulk  
according to Annex I or II  
of MARPOL 73/78 and the  
IBC or IGC Code**

Consult IMO regulations before transporting ocean bulk

**Classification for AIR transport (IATA/ICAO):**

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

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## **15. REGULATORY INFORMATION**

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### **Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.**

Listed in Regulation: Not applicable

Classification and labeling have been performed according to Regulation (EC) No 1272/2008.

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## **16. OTHER INFORMATION**

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### **Full text of H-Statements referred to under sections 2 and 3.**

H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.

### **Revision**

Identification Number: 1290720 / A715 / Issue Date: 31.01.2019 / Version: 3.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

### **Legend**

|             |   |
|-------------|---|
| ACGIH       | USA. ACGIH Threshold Limit Values (TLV)   |
| STEL OEL-RL | Short term occupational exposure limits - recommended limit                           |
| TWA         | 8-hour, time-weighted average   |
| TWA OEL-RL  | Long term occupational exposure limits - recommended limit                            |
| ZA OEL      | South Africa. Hazardous Chemical Substances Regulations, Occupational Exposure Limits |
| Asp. Tox.   | Aspiration hazard   |
| Skin Irrit. | Skin irritation   |
| Skin Sens.  | Skin sensitisation  |

### **Full text of other abbreviations**

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN -

Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

#### **Information Source and References**

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

SPECIALTY ELECTRONIC MATERIALS SWITZERLAND GMBH urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

ZA