



# SAFETY DATA SHEET

## SPECIALTY ELECTRONIC MATERIALS SWITZERLAND GMBH

**Product name:** MOLYKOTE® HSC Plus Paste

**Issue Date:** 2026.03.31

**Print Date:** 2026.04.08

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® HSC Plus Paste

**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:** +1 703-741-5970

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## 2. HAZARDS IDENTIFICATION

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### Classification of the substance or mixture

Acute toxicity - Category 4 - Inhalation - H332

Eye irritation - Category 2 - H319

Short-term (acute) aquatic hazard - Category 1 - H400

Long-term (chronic) aquatic hazard - Category 2 - H411

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

**Label elements**

**Hazard pictograms**



**Signal word: WARNING**

**Hazard statements**

H319 Causes serious eye irritation.  
 H332 Harmful if inhaled.  
 H410 Very toxic to aquatic life with long lasting effects.

**Precautionary statements**

P261 Avoid breathing dust.  
 P273 Avoid release to the environment.  
 P280 Wear eye protection/ face protection.  
 P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a  
 + P312 POISON CENTER/ doctor if you feel unwell.  
 P337 + P313 If eye irritation persists: Get medical advice/ attention.  
 P391 Collect spillage.

**Contains** Copper flakes

**Other hazards**

This product contains no substances assessed to be PBT or vPvB at levels of 0.1% or higher.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical nature:** Inorganic and organic compounds, Mixture

This product is a mixture.

| CASRN /<br>EC-No. /<br>Index-No.                            | Concentration      | Component                                                | Classification                                                                                                                    |
|-------------------------------------------------------------|--------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| CASRN<br>-<br>EC-No.<br>-<br>Index-No.<br>029-019-01-X      | >= 20.0 - < 25.0 % | Copper flakes                                            | Acute Tox. - 4 - H302<br>Acute Tox. - 3 - H331<br>Eye Irrit. - 2 - H319<br>Aquatic Acute - 1 - H400<br>Aquatic Chronic - 1 - H410 |
| CASRN<br>8012-95-1<br>EC-No.<br>232-384-2<br>Index-No.<br>- | >= 10.0 - < 20.0 % | Paraffin oils                                            | Asp. Tox. - 1 - H304                                                                                                              |
| CASRN<br>64742-56-9<br>EC-No.                               | >= 10.0 - < 20.0 % | Distillates, petroleum, solvent-dewaxed light paraffinic | Not classified                                                                                                                    |

|                                                                                  |                    |                      |                |
|----------------------------------------------------------------------------------|--------------------|----------------------|----------------|
| 265-159-2<br><b>Index-No.</b><br>649-469-00-9                                    |                    |                      |                |
| <b>CASRN</b><br>7440-31-5<br><b>EC-No.</b><br>231-141-8<br><b>Index-No.</b><br>— | >= 10.0 - < 20.0 % | Tin                  | Not classified |
| <b>CASRN</b><br>1317-33-5<br><b>EC-No.</b><br>215-263-9<br><b>Index-No.</b><br>— | >= 1.0 - < 10.0 %  | Molybdenum disulfide | Not classified |

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

*Note*

Distillates, petroleum, solvent-dewaxed light paraffinic:

The classification as a carcinogen need not to apply because the substance contains less than 3% DMSO extract as measured by IP 346. Note L of Annex VI to Regulation (EC) 1272/2008.

## 4. FIRST AID MEASURES

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

**Skin contact:** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation occurs: Get medical advice/attention.

**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. Consult a physician if necessary.

### 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.

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## 5. FIREFIGHTING MEASURES

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### Extinguishing media

**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:** Nitrogen oxides (NO<sub>x</sub>). Oxides of phosphorus. Sulphur oxides. Metal oxides. Carbon oxides.

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

### Advice for firefighters

**Fire Fighting Procedures:** Collect contaminated fire extinguishing water separately. This must not be discharged into drains.. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage.. 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:** Do not release the product to the aquatic environment above defined regulatory levels. Prevent further leakage or spillage if safe to do so. 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:** Wipe up or scrape up and contain for salvage or disposal. 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.

## 7. HANDLING AND STORAGE

**Precautions for safe handling:** Do not swallow. Do not get in eyes. Avoid prolonged or repeated contact with skin. Keep container tightly closed. Take care to prevent spills, waste and minimize release to the environment. Handle in accordance with good industrial hygiene and safety practice. Use with local exhaust ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

**Conditions for safe storage:** Keep in properly labelled containers. Keep tightly closed. Keep in a cool, well-ventilated place. 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                   |
|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------|
| Paraffin oils                                            | ACGIH                                                                                                                                                                                                                 |                                                    | See Further information |
|                                                          | Further information: URT irr: Upper Respiratory Tract irritation; *: 2023 Adoption; L: Exposure by all routes should be carefully controlled to levels as low as possible.; A2: Suspected human carcinogen            |                                                    |                         |
|                                                          | ACGIH                                                                                                                                                                                                                 | TWA Inhalable particulate matter                   | 5 mg/m3                 |
|                                                          | Further information: A4: Not classifiable as a human carcinogen                                                                                                                                                       |                                                    |                         |
| Distillates, petroleum, solvent-dewaxed light paraffinic | ACGIH                                                                                                                                                                                                                 | TWA Inhalable particulate matter                   | 5 mg/m3                 |
|                                                          | Further information: A4: Not classifiable as a human carcinogen                                                                                                                                                       |                                                    |                         |
|                                                          | ARE OEL                                                                                                                                                                                                               | TWA Mist                                           | 0.2 mg/m3               |
| Tin                                                      | ACGIH                                                                                                                                                                                                                 | TWA Inhalable fraction                             | 2 mg/m3                 |
|                                                          | Further information: pneumoconiosis (or stannosis): Pneumoconiosis (or Stannosis); (): Adopted values or notations enclosed are those for which changes are proposed in the NIC; See Notice of Intended Changes (NIC) |                                                    |                         |
|                                                          | 91/322/EEC                                                                                                                                                                                                            | TWA                                                | 2 mg/m3 , Tin           |
|                                                          | Further information: 6: Existing scientific data on health effects appear to be particularly limited; Indicative                                                                                                      |                                                    |                         |
|                                                          | 91/322/EEC                                                                                                                                                                                                            | TWA                                                | 2 mg/m3 , Tin           |
|                                                          | Further information: Indicative                                                                                                                                                                                       |                                                    |                         |
| Molybdenum disulfide                                     | ACGIH                                                                                                                                                                                                                 | TWA Inhalable particulate matter                   | 10 mg/m3 , Molybdenum   |
|                                                          | ACGIH                                                                                                                                                                                                                 | TWA Respirable particulate matter                  | 3 mg/m3 , Molybdenum    |
|                                                          | ARE OEL                                                                                                                                                                                                               | TWA Respirable dust                                | 3 mg/m3 , Molybdenum    |
|                                                          | ARE OEL                                                                                                                                                                                                               | TWA Measured as inhalable fraction of the aerosol. | 10 mg/m3 , Molybdenum   |

### 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.

#### 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. If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles. Chemical goggles 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. 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.

See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### Appearance

|                                      |                                              |
|--------------------------------------|----------------------------------------------|
| Physical state                       | paste                                        |
| Color                                | bronze                                       |
| Odor                                 | none                                         |
| Odor Threshold                       | No data available                            |
| pH                                   | Substance/mixture is non-soluble (in water). |
| Melting point/ range                 | No data available                            |
| Freezing point                       | No data available                            |
| Boiling point (760 mmHg)             | Not applicable                               |
| Flash point                          | Not applicable                               |
| Evaporation Rate (Butyl Acetate = 1) | Not applicable                               |
| Flammability (solid, gas)            | Not classified as a flammability hazard      |
| Lower explosion limit                | No data available                            |
| Upper explosion limit                | No data available                            |
| Vapor Pressure                       | Not applicable                               |
| Relative Vapor Density (air = 1)     | No data available                            |
| Relative Density (water = 1)         | 1.30                                         |

|                                        |                                                          |
|----------------------------------------|----------------------------------------------------------|
| Water solubility                       | No data available                                        |
| Partition coefficient: n-octanol/water | No data available                                        |
| Auto-ignition temperature              | No data available                                        |
| Decomposition temperature              | No data available                                        |
| Dynamic Viscosity                      | Not applicable                                           |
| Kinematic Viscosity                    | Not applicable                                           |
| Explosive properties                   | Not explosive                                            |
| Oxidizing properties                   | The substance or mixture is not classified as oxidizing. |
| Molecular weight                       | No data available                                        |
| Particle size                          | No data available                                        |

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. When heated to temperatures above 150 °C (300 °F) in the presence of air, product can form formaldehyde vapours. Safe handling conditions may be maintained by keeping vapour concentrations within the occupational exposure limit for formaldehyde.

**Conditions to avoid:** None known.

**Incompatible materials:** Oxidizing agents

**Hazardous decomposition products:**

Decomposition products can include and are not limited to: 1-Butene.

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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

Acute toxicity estimate. > 2,000 mg/kg Calculation method

#### Acute dermal toxicity

Product test data not available. Refer to component data.

#### Acute inhalation toxicity

Acute toxicity estimate. 4 Hour. dust/mist. 3.35 mg/l Calculation method

### Skin corrosion/irritation

Product test data not available. Refer to component data.

**Serious eye damage/eye irritation**

Product test data not available. Refer to component data.

**Sensitization**

Product test data not available. Refer to component data.

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

Product test data not available. Refer to component data.

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

Product test data not available. Refer to component data.

**Carcinogenicity**

Product test data not available. Refer to component data.

**Teratogenicity**

Product test data not available. Refer to component data.

**Reproductive toxicity**

Product test data not available. Refer to component data.

**Mutagenicity**

Product test data not available. Refer to component data.

**Aspiration Hazard**

Product test data not available. Refer to component data.

**COMPONENTS INFLUENCING TOXICOLOGY:****Copper flakes****Acute dermal toxicity**

LD50. Rat. > 2,000 mg/kg OECD Test Guideline 402

**Skin corrosion/irritation**

Brief contact is essentially nonirritating to skin.

**Serious eye damage/eye irritation**

May cause moderate eye irritation.

**Sensitization**

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No data available

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

The substance or mixture is not classified as specific target organ toxicant, single exposure.

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

Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Information given is based on data obtained from similar substances.

**Carcinogenicity**

Animal testing did not show any carcinogenic effects. For similar material(s):

**Teratogenicity**

Did not cause birth defects in laboratory animals. Information given is based on data obtained from similar substances.

**Reproductive toxicity**

In animal studies, did not interfere with reproduction. Information given is based on data obtained from similar substances.

**Mutagenicity**

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative. Information given is based on data obtained from similar substances.

**Aspiration Hazard**

No aspiration toxicity classification

**Paraffin oils****Acute dermal toxicity**

For similar material(s): LD50. Rabbit. > 5,000 mg/kg OECD Test Guideline 402

**Skin corrosion/irritation**

Brief contact is essentially nonirritating to skin.

Prolonged contact may cause skin irritation with local redness.

Repeated contact may cause skin irritation with local redness.

**Serious eye damage/eye irritation**

May cause slight eye irritation.

May cause slight temporary corneal injury.

**Sensitization**

One type of mineral oil (CAS 8042-47-5) has caused skin sensitization in guinea pigs.

Did not cause allergic skin reactions when tested in guinea pigs.

**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)**

In animals, effects have been reported on the following organs after ingestion:

Kidney.

Liver.

Spleen.

Excessive repeated exposure to mineral oil mist may produce lung injury.

**Carcinogenicity**

Did not cause cancer in laboratory animals.

Available data are inadequate to evaluate carcinogenicity. IARC has classified untreated and mildly-treated mineral oils as Group 1 (sufficient evidence for carcinogenicity in humans) and highly refined oils as Group 3 (not classifiable as to its carcinogenicity).

**Teratogenicity**

Relevant data not available.

**Reproductive toxicity**

Relevant data not available.

**Mutagenicity**

For similar material(s): In vitro genetic toxicity studies were negative.

**Aspiration Hazard**

May be fatal if swallowed and enters airways.

**Distillates, petroleum, solvent-dewaxed light paraffinic****Acute dermal toxicity**

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

**Skin corrosion/irritation**

Brief contact may cause slight skin irritation with local redness.

**Serious eye damage/eye irritation**

May cause slight temporary eye irritation.

**Sensitization**

Did not cause allergic skin reactions when tested in guinea pigs.

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

The substance or mixture is not classified as specific target organ toxicant, single exposure.

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

Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Information given is based on data obtained from similar substances.

**Carcinogenicity**

Animal testing did not show any carcinogenic effects. Information given is based on data obtained from similar product.

**Teratogenicity**

Did not cause birth defects in laboratory animals. Information given is based on data obtained from similar substances.

**Reproductive toxicity**

In animal studies, did not interfere with fertility. Information given is based on data obtained from similar substances.

**Mutagenicity**

This material was not mutagenic in an Ames bacterial assay. Animal genetic toxicity studies were negative. In vitro genetic toxicity studies were negative. Information given is based on data obtained from similar substances.

**Aspiration Hazard**

No aspiration toxicity classification

**Tin**

**Acute dermal toxicity**

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

**Skin corrosion/irritation**

Essentially nonirritating to skin.

**Serious eye damage/eye irritation**

May cause slight eye irritation.

May cause slight corneal injury.

**Sensitization**

For skin sensitization:

No relevant data found.

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)**

Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

**Carcinogenicity**

No relevant data found.

**Teratogenicity**

Did not cause birth defects or any other fetal effects in laboratory animals.

**Reproductive toxicity**

In animal studies, did not interfere with reproduction.

**Mutagenicity**

In vitro genetic toxicity studies were negative.

**Aspiration Hazard**

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

**Molybdenum disulfide**

**Acute dermal toxicity**

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

**Skin corrosion/irritation**

Brief contact is essentially nonirritating to skin.

Prolonged contact may cause slight skin irritation with local redness.

**Serious eye damage/eye irritation**

May cause slight temporary eye irritation.

Corneal injury is unlikely.

**Sensitization**

For skin sensitization:

Did not cause allergic skin reactions when tested 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)**

No relevant data found.

**Carcinogenicity**

No relevant data found.

**Teratogenicity**

No relevant data found.

**Reproductive toxicity**

No relevant data found.

**Mutagenicity**

For similar material(s): In vitro genetic toxicity studies were negative.

**Aspiration Hazard**

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

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## 12. ECOLOGICAL INFORMATION

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

**Toxicity****Copper flakes****Acute toxicity to fish**

LC50. Oncorhynchus mykiss (rainbow trout). 96 Hour. 0.068 - 0.094 mg/l

**Acute toxicity to aquatic invertebrates**

Information given is based on data obtained from similar substances.

EC50. Daphnia magna (Water flea). 48 Hour. 0.0338 - 0.792 mg/l. OECD Test Guideline 202

**Acute toxicity to algae/aquatic plants**

Information given is based on data obtained from similar substances.

EC50. Raphidocelis subcapitata (freshwater green alga). 72 Hour. 0.035 - 0.824 mg/l. OECD Test Guideline 201

Information given is based on data obtained from similar substances.

NOEC. Chlamydomonas reinhardtii (green algae). 10 d. 0.022 mg/l. OECD Test Guideline 201

**Chronic toxicity to fish**

NOEC. Oncorhynchus mykiss (rainbow trout). 60 d. 0.018 mg/l

**Chronic toxicity to aquatic invertebrates**

For similar material(s):

NOEC. Daphnia magna (Water flea). 21 d. 0.0368 mg/l

### **Paraffin oils**

#### **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).

LC50. Pimephales promelas (fathead minnow). > 100 mg/l

LC50. Lepomis macrochirus (Bluegill sunfish). 96 Hour. > 10,000 mg/l

#### **Acute toxicity to aquatic invertebrates**

For similar material(s):

EL50. Daphnia magna (Water flea). 48 Hour. 1,000 - 10,000 mg/l

#### **Acute toxicity to algae/aquatic plants**

For similar material(s):

EL50. Pseudokirchneriella subcapitata (green algae). 72 Hour. > 100 mg/l

### **Distillates, petroleum, solvent-dewaxed light paraffinic**

#### **Acute toxicity to fish**

Information given is based on data obtained from similar substances.

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

#### **Acute toxicity to aquatic invertebrates**

Information given is based on data obtained from similar substances.

EC50. Daphnia magna (Water flea). 48 Hour. > 10,000 mg/l. OECD Test Guideline 202

#### **Acute toxicity to algae/aquatic plants**

Information given is based on data obtained from similar substances.

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

#### **Toxicity to bacteria**

Based on data from similar materials

NOEC. 10 min. > 1.93 mg/l. DIN 38 412 Part 8

#### **Chronic toxicity to fish**

For similar material(s):

NOEC. Oncorhynchus mykiss (rainbow trout). 14 d. > 1,000 mg/l

#### **Chronic toxicity to aquatic invertebrates**

Information given is based on data obtained from similar product.

NOEC. Daphnia magna. 21 d. 10 mg/l

### **Tin**

#### **Acute toxicity to fish**

Not expected to be acutely toxic to aquatic organisms.

#### **Toxicity to bacteria**

Based on data from similar materials

EC50. 3 Hour. > 511 mg/l. OECD Test Guideline 209

#### **Chronic toxicity to aquatic invertebrates**

No toxicity at the limit of solubility

Based on data from similar materials  
NOEC. Ceriodaphnia dubia (water flea). 7 d. 100 µg/l

#### **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**

##### **Copper flakes**

**Biodegradability:** Not applicable

##### **Paraffin oils**

**Biodegradability:** Material is expected to be readily biodegradable.

10-day Window: Pass

**Biodegradation:** 82 %

**Exposure time:** 24 d

**Method:** OECD Test Guideline 301F

##### **Distillates, petroleum, solvent-dewaxed light paraffinic**

**Biodegradability:** Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability). Information given is based on data obtained from similar substances.

**Biodegradation:** 31 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301F

##### **Tin**

**Biodegradability:** Biodegradation is not applicable.

##### **Molybdenum disulfide**

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

**Bioaccumulative potential**

**Copper flakes**

**Bioaccumulation:** Bioaccumulation is unlikely. Not applicable

**Paraffin oils**

**Bioaccumulation:** Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

**Partition coefficient: n-octanol/water(log Pow):** > 3.5 Estimated.

**Distillates, petroleum, solvent-dewaxed light paraffinic**

**Bioaccumulation:** No data available Not applicable

**Tin**

**Bioaccumulation:** No relevant data found.

**Molybdenum disulfide**

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

**Mobility in soil**

**Copper flakes**

Not applicable

**Paraffin oils**

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

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

**Distillates, petroleum, solvent-dewaxed light paraffinic**

Expected to be relatively immobile in soil (Log Koc > 3).  
estimated

**Tin**

No relevant data found.

**Molybdenum disulfide**

No relevant data found.

**Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**Other adverse effects**

**Copper flakes**

No data available

**Paraffin oils**

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

**Distillates, petroleum, solvent-dewaxed light paraffinic**

No relevant data found.

**Tin**

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:**

|                       |                                                                      |
|-----------------------|----------------------------------------------------------------------|
| Proper shipping name  | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,<br>N.O.S.(Copper flakes) |
| UN number             | UN 3077                                                              |
| Class                 | 9                                                                    |
| Packing group         | III                                                                  |
| Environmental hazards | Copper flakes                                                        |

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

|                                                                                               |                                                                      |
|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| Proper shipping name                                                                          | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,<br>N.O.S.(Copper flakes) |
| UN number                                                                                     | UN 3077                                                              |
| Class                                                                                         | 9                                                                    |
| Packing group                                                                                 | III                                                                  |
| Marine pollutant                                                                              | Copper flakes                                                        |
| Transport in bulk<br>according to Annex I or II<br>of MARPOL 73/78 and the<br>IBC or IGC Code | Consult IMO regulations before transporting ocean bulk               |

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

|                      |                                                                      |
|----------------------|----------------------------------------------------------------------|
| Proper shipping name | Environmentally hazardous substance, solid, n.o.s.(Copper<br>flakes) |
| UN number            | UN 3077                                                              |
| Class                | 9                                                                    |
| Packing group        | III                                                                  |

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: ENVIRONMENTAL HAZARDS

Number in Regulation: E1

100 t

200 t

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.

|      |                                                       |
|------|-------------------------------------------------------|
| H302 | Harmful if swallowed.                                 |
| H304 | May be fatal if swallowed and enters airways.         |
| H319 | Causes serious eye irritation.                        |
| H331 | Toxic if inhaled.                                     |
| H332 | Harmful if inhaled.                                   |
| H400 | Very toxic to aquatic life.                           |
| H410 | Very toxic to aquatic life with long lasting effects. |
| H411 | Toxic to aquatic life with long lasting effects.      |

### Revision

Identification Number: 2286921 / A715 / Issue Date: 2026.03.31 / Version: 12.0

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

### Legend

|                 |                                                                                                                                               |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 91/322/EEC      | Europe. Commission Directive 91/322/EEC on establishing indicative limit values                                                               |
| ACGIH           | USA. ACGIH Threshold Limit Values (TLV)                                                                                                       |
| ARE OEL         | Abu Dhabi Emirate - EHSMS Manual, Volume 2, Environment, Health and Safety Protection Policies, Section 2, Part I: EEPP Air Quality Standards |
| TWA             | Limit Value - eight hours                                                                                                                     |
| Acute Tox.      | Acute toxicity                                                                                                                                |
| Aquatic Acute   | Short-term (acute) aquatic hazard                                                                                                             |
| Aquatic Chronic | Long-term (chronic) aquatic hazard                                                                                                            |
| Asp. Tox.       | Aspiration hazard                                                                                                                             |
| Eye Irrit.      | Eye irritation                                                                                                                                |

### Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; 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 Harmonised 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 Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; 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 - Organisation 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; TECI - Thailand Existing Chemicals 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.

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