



**SAFETY DATA SHEET**  
DDP SPECIALTY ELECTRONIC MATERIALS  
US 9, LLC

**Product name:** MOLYKOTE<sup>®</sup> HSC Plus Paste

**Issue Date:** 10/17/2018

**Print Date:** 04/30/2020

DDP SPECIALTY ELECTRONIC MATERIALS US 9, LLC 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. IDENTIFICATION

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**Product name:** MOLYKOTE<sup>®</sup> HSC Plus Paste

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

**Identified uses:** Lubricants and lubricant additives

### COMPANY IDENTIFICATION

DDP SPECIALTY ELECTRONIC MATERIALS  
US 9, LLC  
974 Centre Road  
Wilmington DE 19805  
UNITED STATES

**Customer Information Number:**

833-338-7668

SDSQuestion-NA@dupont.com

### EMERGENCY TELEPHONE NUMBER

**24-Hour Emergency Contact:** 1-800-424-9300

**Local Emergency Contact:** 800-424-9300

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## 2. HAZARDS IDENTIFICATION

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### Hazard classification

GHS classification in accordance with 29 CFR 1910.1200

Not a hazardous substance or mixture.

### Other hazards

No data available

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

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

This product is a mixture.

**Component**

**CASRN**

**Concentration**

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Copper metal powder	7440-50-8	>= 18.0 - <= 26.0 %
Paraffin oils	8012-95-1	>= 16.0 - <= 24.0 %
Solvent dewaxed heavy paraffinic distillates	64742-65-0	<= 17.0 %
Distillates, petroleum, solvent-dewaxed light paraffinic	64742-56-9	<= 17.0 %
Tin	7440-31-5	>= 9.0 - <= 13.0 %
Polybutene	9003-29-6	>= 9.0 - <= 13.0 %
Molybdenum disulfide	1317-33-5	>= 5.0 - <= 7.0 %

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## 4. FIRST AID MEASURES

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### Description of first aid measures

#### General advice:

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:** Wash off with plenty of water.

**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:** No emergency medical treatment 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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**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 (NOx) 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. 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:** Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

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## 6. ACCIDENTAL RELEASE MEASURES

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**Personal precautions, protective equipment and emergency procedures:** 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.

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## 7. HANDLING AND STORAGE

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**Precautions for safe handling:** 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
Copper metal powder	ACGIH	TWA	1 mg/m <sup>3</sup> , Copper
	OSHA Z-1	TWA	1 mg/m <sup>3</sup> , Copper
	OSHA P0	TWA	1 mg/m <sup>3</sup> , Copper
	ACGIH	TWA	0.2 mg/m <sup>3</sup> , Copper
	OSHA Z-1	TWA	0.1 mg/m <sup>3</sup> , Copper
	OSHA P0	TWA	0.1 mg/m <sup>3</sup> , Copper
Paraffin oils	OSHA P0	TWA	5 mg/m <sup>3</sup>
	OSHA Z-1	TWA	5 mg/m <sup>3</sup>
	ACGIH		(L)
	OSHA Z-1	TWA Mist	5 mg/m <sup>3</sup>
	ACGIH	TWA Inhalable fraction	5 mg/m <sup>3</sup>
	CAL PEL	PEL particulate	5 mg/m <sup>3</sup>
Solvent dewaxed heavy paraffinic distillates	OSHA P0	TWA Mist	5 mg/m <sup>3</sup>
	OSHA Z-1	TWA Mist	5 mg/m <sup>3</sup>
	ACGIH	TWA Inhalable fraction	5 mg/m <sup>3</sup>
Distillates, petroleum, solvent-dewaxed light paraffinic	OSHA Z-1	TWA Mist	5 mg/m <sup>3</sup>
	ACGIH	TWA Inhalable fraction	5 mg/m <sup>3</sup>
Tin	OSHA Z-1	TWA	2 mg/m <sup>3</sup> , Tin
	OSHA P0	TWA	2 mg/m <sup>3</sup> , Tin
	ACGIH	TWA	2 mg/m <sup>3</sup>
	OSHA Z-1	TWA	2 mg/m <sup>3</sup> , Tin
	CAL PEL	PEL	2 mg/m <sup>3</sup> , Tin
Molybdenum disulfide	OSHA Z-1	TWA total dust	15 mg/m <sup>3</sup> , Molybdenum
	ACGIH	TWA Inhalable fraction	10 mg/m <sup>3</sup> , Molybdenum
	ACGIH	TWA Respirable fraction	3 mg/m <sup>3</sup> , Molybdenum
	CAL PEL	PEL Total dust	10 mg/m <sup>3</sup> , Molybdenum
	CAL PEL	PEL respirable dust fraction	3 mg/m <sup>3</sup> , 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. Local exhaust ventilation may be necessary for some operations.

**Individual protection measures**

**Eye/face protection:** Use chemical goggles.

**Skin protection**

**Hand protection:** Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). 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 discomfort is experienced, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge.

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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	Not applicable
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

<b>Auto-ignition temperature</b>	No data available
<b>Decomposition temperature</b>	No data available
<b>Dynamic Viscosity</b>	Not applicable
<b>Kinematic Viscosity</b>	Not applicable
<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>	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:** 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

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

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

Based on information for component(s):

LD50, Rat, > 5,000 mg/kg Estimated.

#### Acute dermal toxicity

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

As product: The dermal LD50 has not been determined.

Based on information for component(s):

LD50, Rabbit, > 2,000 mg/kg Estimated.

**Acute inhalation toxicity**

Vapors are unlikely due to physical properties. No adverse effects are anticipated from single exposure to dust.

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 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 corneal injury.

**Sensitization**

Based on information for component(s):

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)**

Based on information for component(s):

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**

No relevant data found.

**Teratogenicity**

Based on information for component(s): Typical for this family of materials. Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

**Reproductive toxicity**

No relevant data found.

**Mutagenicity**

No relevant data found.

**Aspiration Hazard**

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

**COMPONENTS INFLUENCING TOXICOLOGY:**

**Copper metal powder**

**Acute inhalation toxicity**

LC50, Rat, 4 Hour, dust/mist, > 5.11 mg/l OECD Test Guideline 436 No deaths occurred at this concentration.

**Paraffin oils****Acute inhalation toxicity**

Vapors are unlikely due to physical properties. Excessive exposure to mineral oil mist may cause lung injury (lipoid pneumonia).

Prolonged excessive exposure to mist may cause adverse effects. Excessive exposure may cause irritation to upper respiratory tract (nose and throat).

For similar material(s): LC50, Rat, 4 Hour, dust/mist, > 5 mg/l OECD Test Guideline 403

**Solvent dewaxed heavy paraffinic distillates****Acute inhalation toxicity**

LC50, Rat, male and female, 4 Hour, dust/mist, > 5 mg/l No deaths occurred at this concentration.

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

Based on data from similar materials LC50, Rat, 4 Hour, dust/mist, > 5.53 mg/l OECD Test Guideline 403

**Tin****Acute inhalation toxicity**

LC50, Rat, male and female, 4 Hour, dust/mist, > 4.75 mg/l No deaths occurred at this concentration.

**Polybutene****Acute inhalation toxicity**

LC50, Rat, 4 Hour, vapour, 4.82 mg/l

**Molybdenum disulfide****Acute inhalation toxicity**

LC50, Rat, 4 Hour, dust/mist, > 2.82 mg/l No deaths occurred at this concentration.

**Carcinogenicity****Component**

Paraffin oils

**List**

ACGIH

**Classification**

A2: Suspected human carcinogen

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**12. ECOLOGICAL INFORMATION**

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

**Toxicity****Copper metal powder****Acute toxicity to fish**

Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species).

LC50, 96 Hour, 8.1 µg/l



**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), 48 Hour, 0.792 mg/l

**Acute toxicity to algae/aquatic plants**

EC50, Chlorella vulgaris (Fresh water algae), 72 Hour, 0.333 mg/l, OECD Test Guideline 201

**Chronic toxicity to fish**

NOEC, Oncorhynchus mykiss (rainbow trout), 1 µg/l

**Paraffin oils**

**Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

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

**Solvent dewaxed heavy paraffinic distillates**

**Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LL50, Pimephales promelas (fathead minnow), static test, 96 Hour, > 100 mg/l

**Acute toxicity to aquatic invertebrates**

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

**Acute toxicity to algae/aquatic plants**

NOEC, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate, > 100 mg/l

**Toxicity to bacteria**

Based on data from similar materials

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

**Chronic toxicity to aquatic invertebrates**

Based on data from similar materials

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

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

**Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Based on data from similar materials

LC50, Pimephales promelas (fathead minnow), 96 Hour, > 100 mg/l, OECD Test Guideline 203

**Acute toxicity to aquatic invertebrates**

Based on data from similar materials  
EC50, Daphnia magna (Water flea), 48 Hour, > 10,000 mg/l, OECD Test Guideline 202

**Acute toxicity to algae/aquatic plants**

Based on data from similar materials  
EC50, 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 aquatic invertebrates**

Based on data from similar materials  
NOEC, Daphnia magna (Water flea), 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

**Polybutene**

**Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis  
(LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).  
LC50, Pimephales promelas (fathead minnow), static test, 96 Hour, > 1,000 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), static test, 48 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent

**Molybdenum disulfide**

**Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis  
(LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).  
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 metal powder**

**Biodegradability:** Biodegradation is 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

**Chemical Oxygen Demand:** 1.45 - 3.01 mg/mg

**Solvent dewaxed heavy paraffinic distillates**

**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:** 2 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301B

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

**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: Fail

**Biodegradation:** 2 - 4 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301B

**Tin**

**Biodegradability:** Biodegradation is not applicable.

**Polybutene**

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

**Biodegradation:** 93.9 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 310

**Photodegradation**  
**Atmospheric half-life:** 48.76 d  
**Method:** Estimated.

**Molybdenum disulfide**

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

**Bioaccumulative potential**

**Copper metal powder**

**Bioaccumulation:** No relevant data found.

**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.

**Solvent dewaxed heavy paraffinic distillates**

**Bioaccumulation:** Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

**Partition coefficient: n-octanol/water(log Pow):** 3.9 - 6 Estimated.

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

**Bioaccumulation:** No relevant data found.

**Tin**

**Bioaccumulation:** No relevant data found.

**Polybutene**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** 2.89 Measured

**Molybdenum disulfide**

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

**Mobility in soil**

**Copper metal powder**

No relevant data found.

**Paraffin oils**

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

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

**Solvent dewaxed heavy paraffinic distillates**

No relevant data found.

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

No relevant data found.

**Tin**

No relevant data found.

**Polybutene**

For similar material(s):  
 Potential for mobility in soil is very high (Koc between 0 and 50).  
**Partition coefficient (Koc):** 43.79 Estimated.

### **Molybdenum disulfide**

No relevant data found.

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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. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device. For additional information, refer to: Handling & Storage Information, MSDS Section 7 Stability & Reactivity Information, MSDS Section 10 Regulatory Information, MSDS Section 15

**Treatment and disposal methods of used packaging:** Empty containers should be recycled or otherwise disposed of by an approved waste management facility. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. Do not re-use containers for any purpose.

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## **14. TRANSPORT INFORMATION**

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### **DOT**

<b>Proper shipping name</b>	Environmentally hazardous substance, solid, n.o.s.(Copper metal powder)
<b>UN number</b>	UN 3077
<b>Class</b>	9
<b>Packing group</b>	III
<b>Marine pollutant</b>	Copper metal powder
<b>Reportable Quantity</b>	Copper metal powder

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

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

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

<b>Proper shipping name</b>	Environmentally hazardous substance, solid, n.o.s.(Copper metal powder)
<b>UN number</b>	UN 3077
<b>Class</b>	9
<b>Packing group</b>	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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### Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

No SARA Hazards

### Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

The following components are subject to reporting levels established by SARA Title III, Section 313:

<b>Components</b>	<b>CASRN</b>
Copper metal powder	7440-50-8

### Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103

Calculated RQ exceeds reasonably attainable upper limit.

<b>Components</b>	<b>CASRN</b>	<b>RQ (RCRA Code)</b>
Copper metal powder	7440-50-8	5000 lbs RQ

### Pennsylvania Right To Know

The following chemicals are listed because of the additional requirements of Pennsylvania law:

<b>Components</b>	<b>CASRN</b>
Copper metal powder	7440-50-8
Paraffin oils	8012-95-1
Distillates, petroleum, solvent-dewaxed light paraffinic	64742-56-9
Solvent dewaxed heavy paraffinic distillates	64742-65-0
Tin	7440-31-5
Polybutene	9003-29-6
Hydroxylapatite	1306-06-5
Molybdenum disulfide	1317-33-5

### California Prop. 65

WARNING: This product can expose you to chemicals including Solvent dewaxed heavy paraffinic distillates, which is/are known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### United States TSCA Inventory (TSCA)

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

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## 16. OTHER INFORMATION

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### Hazard Rating System

#### NFPA

Health	Flammability	Instability
0	1	0

#### HMIS

Health	Flammability	Physical Hazard
0/	1	0

### Revision

Identification Number: 2286921 / A776 / Issue Date: 10/17/2018 / Version: 7.0

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

### Legend

(L)	Exposure by all routes should be carefully controlled to levels as low as possible.
ACGIH	USA. ACGIH Threshold Limit Values (TLV)
CAL PEL	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
OSHA P0	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
PEL	Permissible exposure limit
TWA	8-hour, time-weighted average

### Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); EC<sub>x</sub> - Concentration associated with x% response; EHS - Extremely Hazardous Substance; EL<sub>x</sub> - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErC<sub>x</sub> - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; 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**

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