

# Safety Data Sheet

## Molybdenum disulfide powder

Revision Date: 04/01/2019

Date Issued: 07/25/2019

### 1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY / UNDERTAKING

<b>Product name</b>	Molybdenum disulfide powder
<b>Product code</b>	NC-0017-HP
<b>Supplier</b>	IoLiTec Ionic Liquids Technologies GmbH Salzstrasse 184 D-74076 Heilbronn Germany
<b>Telephone</b>	+49 (0)7131 - 898390
<b>Fax</b>	+49 (0)7131 - 89839109
<b>Emergency telephone</b>	+49 (0)176-84850874
<b>Email</b>	msds@iolitec.de

### 2 HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

##### Classification (67/548/EEC or 1999/45/EC)

Irritating to eyes, respiratory system and skin.

##### Classification (REGULATION (EC) No 1272/2008)

Skin corrosion/irritation, Category 2, H315

Serious eye damage/Eye irritation, Category 2, H319

Specific Target Organ Toxicity - Single exposure: Respiratory tract irritation, Category 3, H335

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### 2.2 Label elements

#### Labelling (67/548/EEC or 1999/45/EC)

##### Hazard description:

##### Label for supply



Xi, Irritant.

##### Risk phrases

R: 36/37/38

Irritating to eyes, respiratory system and skin.

##### Safety phrases

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S37/39: Wear suitable gloves and eye/face protection.

#### Labelling (REGULATION (EC) No 1272/2008, GHS)

##### Hazard statements



Warning

##### H-phrases

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H335: May cause respiratory irritation.

##### Precautionary statements

##### P-phrases

P261: Avoid breathing dust/fume/gas/mist/vapours/spray .

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P302 + P352: IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

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### 3 COMPOSITION / INFORMATION ON INGREDIENTS

<b>Ingredient name</b>	Molybdenum(IV)sulfide, 99 %
<b>CAS No.</b>	1317-33-5
<b>Empirical Formula</b>	MoS <sub>2</sub>
<b>Molecular weight</b>	160.07 amu

### 4 FIRST AID MEASURES

<b>General</b>	Contaminated clothing should be removed and washed before being reused.
<b>Inhalation</b>	Move the exposed person to fresh air at once. If respiratory problems, artificial respiration/ oxygen.
<b>Ingestion</b>	Immediately rinse mouth and provide fresh air. Do not induce vomiting. Get medical attention immediately.
<b>Skin</b>	Wash the skin immediately with soap and water.
<b>Eyes</b>	Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention immediately. Continue to rinse.

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### 5 FIRE FIGHTING MEASURES

<b>Extinguishing media</b>	Dry Sand, Special Metal extinguishing powder.
<b>Unsuitable extinguishing media</b>	Water
<b>Special fire fighting procedures</b>	No special procedures required.
<b>Unusual fire &amp; explosion hazards</b>	-
<b>Protective measures in fire</b>	Wear self-contained breathing apparatus as

### 6 ACCIDENTAL RELEASE MEASURES

<b>Personal precautions during spill</b>	Wear protective clothing and avoid inhalation of powder, fume and vapor as well as skin or eye contact.
<b>Precautions to protect environment</b>	Avoid washing into water courses. Avoid contaminating public drains or water supply.
<b>Spill cleanup methods</b>	Avoid contact with skin or inhalation of spillage, dust or vapor, Avoid dust formation. Collect and reclaim or dispose in sealed containers in license waste. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate.

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### 7 HANDLING AND STORAGE

#### Handling precautions

Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

#### Storage precautions

Keep closed. Store at moderate temperatures in dry, well ventilated area.

### 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

#### Protective equipment

Safety goggles. Chemical resistant gloves. Protective clothing. Protective mask.

#### Process control measures

Provide eyewash station and safety shower. Use engineering controls to reduce air contamination to permissible exposure levels.

#### Ventilation

Provide adequate general and local exhaust ventilation.

#### Respirators

Use high efficiency particulate respirator with appropriate filter.

### 9 PHYSICAL AND CHEMICAL PROPERTIES

#### Appearance

Solid

#### Odor/taste

No characteristic odor.

#### PH

N/A

#### Boiling Point

N/A

#### Melting Point

2375 °C

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<b>Flash Point</b>	N/A
<b>Flammability</b>	N/A
<b>Autoignition Temp</b>	N/A
<b>Oxidizing Properties</b>	N/A
<b>Explosive Properties</b>	N/A
<b>Explosion Limits</b>	N/A
<b>Vapor Pressure</b>	N/A
<b>SG/Density</b>	5,06 g/cm <sup>3</sup> at 25 °C
<b>Partition Coefficient</b>	N/A
<b>Viscosity</b>	N/A
<b>Vapor Density</b>	N/A
<b>Saturated Vapor Conc.</b>	N/A
<b>Evaporation Rate</b>	N/A
<b>Bulk Density</b>	N/A
<b>Decomposition Temp.</b>	N/A
<b>Solvent Content</b>	N/A
<b>Water Content</b>	N/A
<b>Surface Tension</b>	N/A
<b>Conductivity</b>	N/A
<b>Solubility</b>	N/A

### 10 STABILITY AND REACTIVITY

<b>Stability</b>	No particular stability concerns.
<b>Conditions to avoid</b>	Hydrogen peroxide, Strong oxidizing agents
<b>Hazardous Decomposition</b>	Hazardous decomposition products formed under fire conditions. - Sulphur oxides, Molybdenum oxides

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### 11 TOXICOLOGICAL INFORMATION

<b>Ingestion</b>	Harmful if swallowed.
<b>Inhalation</b>	May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.
<b>Skin</b>	May cause irritation and allergic reaction.
<b>Eyes</b>	May cause irritation and allergic reaction.
<b>Toxicological tests:</b>	
<b>Acute toxicity</b>	LC50 Inhalation - rat - 4 h - > 2.820 mg/m <sup>3</sup> Remarks: Lungs, Thorax, or Respiration: Other changes.

### 12 ECOLOGICAL INFORMATION

<b>Environmental hazards</b>	Do not allow material to be released to the environment without proper governmental permits.
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### 13 DISPOSAL CONSIDERATIONS

<b>Disposal method</b>	Contact specialist disposal companies. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Dispose of in accordance with Local Authority requirements. Recover and reclaim or recycle, if practical.
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### 14 TRANSPORT INFORMATION

<b>General</b>	Not classified as dangerous for transport purposes.
<b>UN No.</b>	0
<b>Road transport notes</b>	Not classified as dangerous for road transport.
<b>Rail transport notes</b>	Not classified as dangerous for rail transport.
<b>Sea transport notes</b>	Not classified as dangerous for sea transport.
<b>Air transport notes</b>	Not classified as dangerous for air transport.

### 15 REGULATORY INFORMATION

In accordance with local and national regulations.

### 16 OTHER INFORMATION

#### DISCLAIMER

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPOSED TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. IOLITEC SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT. THIS INFORMATION RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED AND MAY NOT BE VALID FOR SUCH MATERIAL USED IN COMBINATION WITH ANY OTHER MATERIALS OR ANY PROCESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY HIMSELF AS TO THE SUITABILITY OF SUCH INFORMATION FOR HIS OWN PARTICULAR USE.

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