

Material Safety Data Sheet

Molybdenum Nanopowder

Revision Date: 02/04/2009

Date Issued: 11/24/2006

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

Product name	Molybdenum
Product code	NM-0010-HP
Supplier	IoLiTec Ionic Liquids Technologies GmbH Ferdinand-Porsche-Straße 5/1 D-79211 Denzlingen Germany
Telephone	+49 (0)7666 - 9129572
Fax	+49 (0)7666 - 9129345
Emergency telephone	+49 (0)179-5322578
Email	msds@iolitec.de

2 IDENTIFICATION

WARNING! Product is highly flammable (F)

3 COMPOSITION / INFORMATION ON INGREDIENTS HAZARDS

Ingredient name	Molybdenum
CAS No.	7439-98-7
Empirical Formula	Mo

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4 FIRST AID MEASURES

General	Contaminated clothing should be removed and washed before being reused.
Inhalation	Move the exposed person to fresh air at once. If respiratory problems, artificial respiration/oxygen.
Ingestion	Immediately rinse mouth and provide fresh air. Get medical attention immediately.
Skin	Wash the skin immediately with water.
Eyes	Promptly wash eyes with plenty of water while lifting the eye lids. Get medical attention immediately. Continue to rinse for at least 15 minutes.

5 FIRE FIGHTING MEASURES

Extinguishing media	Use: extinguishing powder. Do not use water.
Special risks	Flammable powder.
Protective measures in fire	Wear self-contained breathing apparatus and protective clothing.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions during spill	Evacuate area. Shut off all heat or ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Wear self-contained breathing apparatus, rubber boots and gloves.
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Spill cleanup methods

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.

7 HANDLING AND STORAGE

Usage precautions

Handle under dry protective gas.
Avoid contact with eyes, skin and clothing.
Keep away from heat, sparks and open flame.
Do not use in confined spaces without adequate ventilation and/or respirator.

Storage precautions

Store in a closed container in a cool, dry, well ventilated area. Protect against electrostatic charges.

Special storage criteria

Store away from oxidizing materials.
Store under dry inert gas.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Protective equipment

Safety goggles. Chemical resident gloves.
Protective clothing. Protective mask when high concentrations are present.

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.

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Respirators

Use high efficiency particulate respirator with appropriate filter when high concentrations are presents

Exposure limits

Mo	mg/m ³
ACGIH TLW	5
Austria MAK	15
Belgium TWA	5
Denmark TWA	5
Finland TWA	5
France VME	5
Germany MAK	5
Netherlands MAC-TGG	5
Norway TWA	5
Sweden NGV	10 (total dust) 5 (respirable dust)
Switzerland MAK-W	5
United Kingdom TWA	10; 20-STEL
USA PEL	5

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solid
Color	Dark gray
Odor/taste	No characteristic odor.
Melting Point	2623 °C
Boiling Point	-
Flammability	Highly flammable
Density	-
Water	Insoluble
Solubility	Dissolve in acidic solutions

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10 STABILITY AND REACTIVITY

Stability	No particular stability concerns if handled according to specifications. Oxidizes at elevated temperatures.
Conditions to avoid	Oxidizing agents
Hazardous Decomposition Products	Highly flammable in air Metal oxide fume.

11 TOXICOLOGICAL INFORMATION

Ingestion	Harmful if swallowed.
Inhalation	Harmful to mucous membranes.
Skin	Irritating effect
Eyes	Irritating effect

12 ECOLOGICAL INFORMATION

Environmental hazards	Avoid washing into water courses. Avoid contaminating public drains or water supply.
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13 DISPOSAL CONSIDERATIONS

Disposal method	Contact specialist disposal companies. Dispose of in accordance with Local Authority requirements. Recover and reclaim or recycle, if practical.
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14 TRANSPORT INFORMATION

Dot designation UN: 3089, metal powder, flammable, n.o.s.

Land transport RID/ADR UN#: 3089

Class: 4.1

Packing group: II

Danger code (Kemler): 40

Item: 13b

Proper Shipping Name: Metal powders, flammable, n.o.s. (molybdenum)

Maritime transport IMDG UN#: 3089

Class: 4.1

Packing group: II

Proper Shipping Name: Metal powders, flammable, n.o.s. (molybdenum)

Air transport IATA UN#: 3089

Class: 4.1

Packing group: II

Proper Shipping Name: Metal powders, flammable, n.o.s. (molybdenum)

15 REGULATORY INFORMATION

Label for supply F: Highly flammable

Risk phrases

11 Highly flammable.

Safety phrases

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Keep container in a well-ventilated place.
Keep away from sources of ignition. Wear suitable protective clothing, gloves and eye/face protection.

16 OTHER INFORMATION

DISCLAIMER

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