

**Material Safety Data Sheet**

Version 3.0  
Revision Date 12/29/2008  
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**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Molybdenumhexacarbonyl

Product Number : 69875  
Brand : Fluka

Company : Sigma-Aldrich Canada, Ltd  
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OAKVILLE ON L6H 6J8  
CANADA

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**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms : Hexacarbonylmolybdenum(0)

Formula :  $C_6MoO_6$   
Molecular Weight : 264.00 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>Hexacarbonylmolybdenum</b>			
13939-06-5	237-713-3	-	-

**3. HAZARDS IDENTIFICATION****WHMIS Classification**

D1A Very Toxic Material Causing Immediate and Serious Toxic Effects

Highly toxic by ingestion  
Highly toxic by skin absorption  
Highly toxic by inhalation

**HMIS Classification**

Health Hazard: 4  
Flammability: 0  
Physical hazards: 0

**Potential Health Effects**

**Inhalation** May be fatal if inhaled. May cause respiratory tract irritation.  
**Skin** May cause skin irritation. May be fatal if absorbed through skin.  
**Eyes** May cause eye irritation.  
**Ingestion** May be fatal if swallowed.

**4. FIRST AID MEASURES**

**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

**In case of skin contact**

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**5. FIRE-FIGHTING MEASURES****Flammable properties**

Flash point no data available

Ignition temperature no data available

**Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for fire-fighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions**

Wear respiratory protection. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**Methods for cleaning up**

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

**7. HANDLING AND STORAGE****Handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

**Storage**

Keep container tightly closed in a dry and well-ventilated place.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Update	Basis
Hexacarbonylmolybdenum	13939-06-5	TWA	5 mg/m <sup>3</sup>	2004-04-30	Canada. Occupational Health and Safety Code 218
		TWA	5 mg/m <sup>3</sup>	2000-01-12	Canada. Act Respecting Occupational Health and

					Safety [R.S.Q., c.2.1], Regulation respecting Occupational Health and Safety (O.C.885-2001), Division XV, Sections 130-14
		TWA	0.5 mg/m3	2006-03-01	Canada. Occupational Health and Safety Act [R.S.O. 1990, c.1], Industrial Establishments (R.R.O. 1990, Reg 851),139
		TWA	0.5 mg/m3	2004-08-01	Canada. Worker's Compensation Act, Occupational Health and Safety Regulations (BC Reg 296/97 as amended), 7.2 [B.C. Reg. 382/2004, s.1]

#### Personal protective equipment

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

##### Hand protection

Handle with gloves.

##### Eye protection

Safety glasses

##### Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

##### Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form solid

Colour beige

### Safety data

pH no data available

Melting point 150 °C (302 °F)

Boiling point 156 °C (313 °F)

Flash point no data available

Ignition temperature no data available

Lower explosion limit	no data available
Upper explosion limit	no data available
Density	1.96 g/mL at 25 °C (77 °F)
Water solubility	no data available

## 10. STABILITY AND REACTIVITY

### Storage stability

Stable under recommended storage conditions.

### Materials to avoid

Strong oxidizing agents

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Molybdenum oxides

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

no data available

### Irritation and corrosion

no data available

### Sensitisation

no data available

### Chronic exposure

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

### Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

### Potential Health Effects

<b>Inhalation</b>	May be fatal if inhaled. May cause respiratory tract irritation.
<b>Skin</b>	May cause skin irritation. May be fatal if absorbed through skin.
<b>Eyes</b>	May cause eye irritation.
<b>Ingestion</b>	May be fatal if swallowed.

## 12. ECOLOGICAL INFORMATION

### Elimination information (persistence and degradability)

no data available

### Ecotoxicity effects

no data available

### Further information on ecology

no data available

### 13. DISPOSAL CONSIDERATIONS

#### Product

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

#### Contaminated packaging

Dispose of as unused product.

### 14. TRANSPORT INFORMATION

#### DOT (US)

UN-Number: 3466 Class: 6.1 Packing group: II  
Proper shipping name: Metal carbonyls, solid, n.o.s. (Hexacarbonylmolybdenum)  
Marine pollutant: No  
Poison Inhalation Hazard: No

#### IMDG

UN-Number: 3466 Class: 6.1 Packing group: II EMS-No: F-A, S-A  
Proper shipping name: METAL CARBONYLS, SOLID, N.O.S. (Hexacarbonylmolybdenum)  
Marine pollutant: No

#### IATA

UN-Number: 3466 Class: 6.1 Packing group: II  
Proper shipping name: Metal carbonyls, solid n.o.s. (Hexacarbonylmolybdenum)

### 15. REGULATORY INFORMATION

#### DSL Status

This product contains the following components listed on the Canadian NDSL list. All other components are on the Canadian DSL list.

Hexacarbonylmolybdenum

CAS-No.  
13939-06-5

#### WHMIS Classification

D1A	Very Toxic Material Causing Immediate and Serious Toxic Effects	Highly toxic by ingestion Highly toxic by skin absorption Highly toxic by inhalation
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### 16. OTHER INFORMATION

#### Further information

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