



MATERION

1. Chemical and company identification

Name of chemical (Product name)	Molybdenum Product		
Company name	Materion Advanced Materials Group		
Address	42 Mt. Ebo Road South Brewster, NY 10509 United States		
Telephone	1+845.279.0900		
Emergency telephone number	Chemtrec	1+703.527.3887	
Reference number	133		

2. Hazards identification

GHS classification

Physical hazards	The product is not classified according to GHS.		
Health hazards	Skin corrosion/irritation	Category 2	
	Serious eye damage/eye irritation	Category 2	
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation	
Environmental hazards	The product is not classified according to GHS.		

GHS label elements

Symbols	None.
Signal words	None.
Hazard statement	None.

Precautionary statement

Prevention	None.
Response	None.
Storage	None.
Disposal	None.

Other hazards which do not result in classification None known.

Supplemental information None.

3. Composition/information on ingredients

Substance or mixture Substance

Components	CAS Number	Gazette notification		Concentration (%)
		ENCS no.	ISHL no.	
Molybdenum	7439-98-7			100 - 100

Chemical formula Mo (7439-98-7)

4. First aid measures

If inhaled	Not available.
If on skin	Not available.
If in eyes	Not available.
If swallowed	Not available.

5. Fire-fighting measures

Extinguishing media	Not available.
Extinguishing media to avoid	None.

6. Accidental release measures

Personal precautions, protective equipment and emergency measures	Not available.
Environmental precautions	Not available.

Methods or materials for containment and cleaning up Not available.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation) Not available.

Safe handling advice Not available.

Storage

Safe storage conditions Not available.

Safe packaging materials Not available.

8. Exposure controls/personal protection

Occupational exposure limits

Japan. OELs - ISHL. (Workplace Environment Assessment Standards)

Material	Type	Value	Form
Molybdenum Product	TLV	0.025 mg/m3	Dust.
Components	Type	Value	Form

Molybdenum (CAS 7439-98-7)	TLV	0.025 mg/m3	Dust.
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Japan. OELs - JSOH (Japan Society of Occupational Health: Recommendation of Occupational Exposure Limits)

Material	Type	Value	Form
Molybdenum Product	TWA	8 mg/m3 2 mg/m3	Total dust. Respirable dust.
Components	Type	Value	Form

Molybdenum (CAS 7439-98-7)	TWA	8 mg/m3 2 mg/m3	Total dust. Respirable dust.
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US. ACGIH Threshold Limit Values

Material	Type	Value	Form
Molybdenum Product	TWA	3 mg/m3 10 mg/m3	Respirable fraction. Inhalable fraction.
Components	Type	Value	Form

Molybdenum (CAS 7439-98-7)	TWA	3 mg/m3 10 mg/m3	Respirable fraction. Inhalable fraction.
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Personal protective equipment

Respiratory protection Not available.

Hand protection Not available.

Eye protection Not available.

Skin and body protection Not available.

9. Physical and chemical properties

Appearance

Physical state Solid.

Color Not available.

Odor Not available.

pH Not available.

Melting point/Freezing point 4751.6 °F (2622 °C)

Boiling point, initial boiling point, and boiling range 8382.2 °F (4639 °C)

Flash point Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%)	Not available.
Vapor pressure	< 0.0000001 kPa at 25 °C
Vapor density	Not available.
Specific gravity	10.28
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity (Coefficient of viscosity)	Not available.
Other information	
Density	10.28 g/cm3 estimated
Molecular formula	Mo
Molecular weight	95.94 g/mol

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Not available.
Possibility of hazardous reactions	Not available.
Conditions to avoid	None.
Incompatible materials	None.
Hazardous decomposition products	None.

11. Toxicological information

Respiratory or skin sensitization	
Respiratory sensitization	Not available.

12. Ecological information

Ecotoxicological data

Product	Species	Test Results
Molybdenum Product		
Aquatic		
Fish	LC50 Rainbow trout,donaldson trout (Oncorhynchus mykiss)	800 mg/l, 96 hours

Ecotoxicity	Not available.
Persistence and degradability	Not available.
Bioaccumulation	Not available.
Mobility in soil	Not available.
Hazardous to the ozone layer	Not available.

13. Disposal considerations

Not available.

14. Transport information

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

15. Regulatory information

Industrial Safety and Health Act

Notifiable substances

MOLYBDENUM AND MOLYBDENUM COMPOUNDS

Table 9 Ordinance No. 603

Labeling substances

MOLYBDENUM (POWDER)

MOLYBDENUM AND MOLYBDENUM COMPOUNDS

Poisonous and Deleterious Substances Control Act

Specified poisonous substances

Not regulated.

Poisonous substances

Not regulated.

Deleterious substances

Not regulated.

Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.

Class I specified chemical substances

Not regulated.

Class II specified chemical substances

Not regulated.

Monitoring chemical substances

Not regulated.

Priority Assessment Chemical Substances (PACs)

Not regulated.

Reporting Exempted Substances

Not regulated.

Law concerning Pollutant Release and Transfer Register

Specified class 1 substances (substance name, ordinance number and content)

Not regulated.

Class 1 substances (substance name, ordinance number and content)

MOLYBDENUM AND ITS COMPOUNDS Ordinance No. 453

Class 2 substances (substance name, ordinance number and content)

Not regulated.

Ship Safety Law, Dangerous Goods Marine Transport and Storage Rule

Not regulated.

Air Law, Enforcement Rule

Not regulated.

Explosives Control Act

Not regulated.

16. Other information

Not available.