

Safety Data Sheet



1. Identification of the Substance/Mixture and the Supplier

Supplier : National Institute of Advanced Industrial Science and Technology (AIST)
 Address : 1-3-1 Kasumigaseki, Chiyoda, Tokyo, Japan
 Office in Charge : Reference Materials Office, Center for Quality Management of Metrology, National Metrology Institute of Japan
 Person in Charge : Certified Reference Material Staff
 Telephone No. : +81-29-861-4059 Fax No. : +81-29-861-4009
 Emergency Contact : Same as above

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Identity of Substance/Mixture : Certified reference material: NMIJ CRM 5808-a
 Molybdenum Film for Thermal Diffusivity Measurement (400 nm)
 Recommended Use : This CRM is intended for use in the calibration or confirmation of the validity of instruments for thermal diffusivity measurements.
 Restriction on Use : Do not use this reference material for other purposes than testing/research.

2. Hazards Identification

GHS classification : N/A
 GHS Label Element : Not assigned
 Signal Word : -
 Hazard and toxicity : -
 Precautionary Statement : [Precaution]
 Wear protective gloves when handling this reference material. Since this reference material is easy to be broken and if broken its fracture surface may cause incised wound or its fractions may scatter, care should be exercised not to drop etc. this reference material to protect it from excessive impact. [Action]
 If swallowed, drink a large amount of water to induce vomiting. Get medical advice/attention in case of abnormalities.
 [Storage]
 This CRM should be kept in a clean place at normal room temperature.
 [Disposal]
 Dispose of this reference material in accordance with applicable legislation and local government ordinance.
 Entrust disposal of this reference material to a professional waste disposal company licensed by prefectural governor.

The other hazards than the above do not result in classification or are not classifiable

3. Composition/Information on Ingredients

Substance/Mixture	: Mixture
Ingredient 1	: Quartz glass, Fused silica glass
Chemical Formula or Structural Formula	: SiO ₂
Molecular Weight	: 60.08
Content	: 99.9 % or over
Reference Number in Gazetted List in Japan	: Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. : (1)-548 Industrial Safety and Health Act :-
CAS No.	: 60676-86-0
Ingredient 2	: Molybdenum
Chemical Formula or Structural Formula	: Mo
Atomic weight	: 95.95
Content	: 0.1 % or less
Reference Number in Gazetted List in Japan	: Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. :- Industrial Safety and Health Act :-
CAS No.	: 7439-98-7

4. First-aid Measures

If in Eyes	: Rinse away thoroughly with clean water. Get medical advice/attention.
If on Skin	: Remove contaminated clothes, shoes, and garment. Rinse away thoroughly with plenty of clean water. If developing some symptoms, seek medical advice as needed.
If Inhaled	: Remove victim to fresh air and keep at rest. Get medical advice/attention.
If Ingested	: Make victim drink plenty of water to induce vomiting. Get medical advice/attention if there is any problem.
Predicted immediate and delayed symptoms	: This CRM causes a stimulatory effect in contact with eyes or mucous membranes.
Most important symptom/effect	: -
Protecting Personnel in emergency measures	: Use personal protective equipment. In the normal handling, risk is low.

5. Fire-fighting Measures

Extinguishing Media	: This material is incombustible, use a fire extinguishing agent
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- suitable for surrounding fire.
- Specific Hazards : This CRM is nonflammable. But powdered material is flammable, there is a possibility of dust explosion. For powdered material may react with water liberating flammable or explosive gases.
- Specific extinguishing measure : Remove any combustible sources from the seat of fire and extinguish using appropriate extinguishing agent. Transfer the movable container to a safe place promptly. If impossible to transfer, use water spray to cool the periphery.
- Protection of Fire-Fighters : Carry out fire-fighting from the windward in order to avoid breathing hazardous gas. Use personal protective equipment such as fire protection clothing, heat-resistant clothing, protective clothing, breathing apparatus, circulating oxygen respirator, rubber gloves, and rubber boots.

6. Accidental Release Measures

- Personal Precaution : Remove ignition source in the vicinity immediately. Prepare fire-fighting equipment for the possibility of fires.
- Protective equipment and emergency procedure : Ventilate the affected areas thoroughly, if it is in an indoor environment, until the clean-up operation is completed. Use appropriate personal protective equipment during the operation to avoid skin contact of splash etc. and inhalation of dust and gas.
- Environmental Precautions : Take precautions to prevent spillage from draining into rivers etc. to adversely impact the environment. Make it sure to appropriately treat contaminated wastewater in order to prevent untreated wastewater from being released into the surrounding environment.
- Recovery and Neutralization : Collect spillage in empty containers and close the containers tightly.
- Prevention of Secondary Disaster : Mark the restricted area with rope etc. to keep out unauthorized people. Carry out the clean-up operation from the windward and make people on the leeward side evacuate.

7. Handling and Storage Precautions

- Handling
- Engineering Precautions : N/A
- Local and General Ventilation : Use local ventilation system in indoor handling area.
- Precautions for Safe Handling : Avoid rough handling such as turning over, dropping, giving a shock to or dragging containers.
Prevent spill, overflow, and scattering, and avoid vapor generation.
Keep container tightly closed after using this reference material.
Wash hands, face etc. thoroughly and gargle after handling this reference material.

Do not bring gloves and other contaminated personal protective equipment into staff room.

Use appropriate personal protective equipment to avoid inhalation and contact with eyes, skin, and clothing.

Storage

- Appropriate Storage : This CRM should be stored in the sealed plastic bag at room temperature in a clean environment. Avoid direct sun light.
- Safe Container : Polypropylene wafer case
- Packaging Material

8. Exposure Controls/Personal Protection

Threshold Limit Value

- Not specified

Permissible Concentration (SiO₂)

- ACGIH TLV(s) : TWA 0.1 mg/m³
- Values recommended by Japan Society for Occupational Health : Not specified

Society for Occupational Health

- OSHA PEL : 8H TWA 10 mg/m³ (% resp SiO₂)

Permissible Concentration (Mo)

- ACGIH TLV(s) : TWA: 10 mg/m³ inhalable fraction
TWA: 3 mg/m³ respirable fraction
- Values recommended by Japan Society for Occupational Health : Not specified

Society for Occupational Health

- OSHA PEL : Not specified

Engineering Controls

Ventilation/Exhaust : Local ventilation system or General ventilation system

Safety Control/ Gas Detection : Measuring equipment, Detecting tube

Storage Precaution : -

Personal Protective Equipment (PPE)

Respiratory System : Gas mask for organic gases, Compressed air open-circuit self-contained breathing apparatus, if necessary.

Hands : Protective gloves

Eyes : Safety goggle

Skin and Body : Protective clothing, Face protection

Hygiene Controls

Handle this reference material in accordance with industrial health and safety standards.

9. Physical and Chemical Properties

- Appearance, etc. : Solid, disk with 38.1 mm (diameter) and 0.525 mm (thick)
- Color : Transparent and silver white
- Odor : No data
- pH : No data
- Melting point : No data

- Boiling point : No data
- Flashing point : No data
- Explosive range : No data
- Vapor pressure : No data
- Relative vapor density(Air=1) : No data
- Specific gravity or bulk specific gravity : No data
- Solubility : No data
- *n*-Octanol/water partition coefficient (Log Po/w) : No data
- Auto-ignition temperature : No data

10. Stability and Reactivity

- ◇Stability
 - Stable in normal conditions
- ◇Reactivity
 - No data
- ◇Conditions to Avoid
 - Sunlight, Heat, high humidity
- ◇Hazardous Decomposition Products
 - No data

11. Toxicological Information

Acute Toxicity	Oral Rat LD50 3160 mg/kg (RTECS)
	Abdominal cavity Rat LDLo 50 mg/kg (RTECS)
	Intravenous Rat LD50 15 mg/kg
	Intratracheal Rat LDLo 10 mg/kg
Carcinogenicity	IARC; group 3 (not specified for human Carcinogenicity)

12. Ecological Information

- Degradability, concentration
 - No data available
- Bioaccumulation
 - No data available
- Ecotoxicity
 - No data available

13. Disposal Considerations

- Residual Waste : Dispose of this reference material in accordance with applicable legislation and local government ordinance.
When the above-mentioned treatments are not possible, entrust disposal of residual waste to a professional waste disposal

Contaminated Container and Package : company licensed by prefectural governor.
: Dispose of containers after thoroughly removing their contents.

14. Transport Information

UN Number : N/A
UN : N/A
Classification
Material name : -
Container grade : -
Marine pollutant : N/A
Precautions : Transport this reference material carefully while keeping it away from direct sunlight and fire and preventing accidental release due to falling, overturning, etc.

15. Regulatory Information

- No applicable laws and regulations
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16. Other Information

Others

The information in this Safety Data Sheet is not intended to be exhaustive and is based on currently available information and data. The precautions given in this data sheet are applicable only to normal handling conditions. When handling this reference material under special conditions etc., it is recommended to take safety precautions appropriate to each specific application and context of use. This Safety Data Sheet (SDS) is intended to provide information and not intended to guarantee anything in handling the reference material.
