SAFETY DATA SHEET

Date Printed: 04/24/2024
Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifier: (4N) 99.99% Molybdenum(VI) Fluoride

Product Code: MO6-F-04

CAS Number: 7783-77-9

Relevant identified uses of the substance: Scientific research and development

Supplier details:

American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
Fax: +1 310-208-0351
Emergency telephone number:
+1 800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Skin corrosion(Category 1B), H314
Serious eye damage(Category 1), H318

GHS Label elements, including precautionary statements
Pictogram

Signal word
Danger
Hazard statement(s)
H314
Causes severe skin burns and eye damage.
Precautionary statement(s)
P264
Wash skin thoroughly after handling.
P280
Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P330 + P331
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340
IF INHALED: Remove victim to fresh air and keep at rest in a position
comfortable for breathing.
P305 + P351 + P338
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310
Immediately call a POISON CENTER or doctor/ physician.
P321
Specific treatment (see supplemental first aid instructions on this label).
P363
Wash contaminated clothing before reuse.
P405
Store locked up.
P501
Dispose of contents/ container to an approved waste disposal plant.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances
Synonyms: Molybdenum hexafluoride
Formula: F6Mo
Molecular weight: 209.93 g/mol
CAS-No.: 7783-77-9
EC-No.: 232-026-5
Component
Molybdenum hexafluoride
Classification
Skin Corr.1B; Eye Dam.1; H314
Concentration
<=100%

SECTION 4. FIRST AID MEASURES

Description of 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
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.
In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Continue rinsing eyes during transport to hospital.
If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11
Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Special hazards arising from the substance or mixture
Hydrogen fluoride, Molybdenum oxides
Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.
Further information
No data available

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing Vapors, mist or gas. Ensure adequate ventilation.
Evacuate personnel to safe areas.
For personal protection see section 8.
Environmental precautions
Do not let product enter drains.
Methods and materials for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.
Reference to other sections
For disposal see section 13.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling
Avoid inhalation of Vapor or mist.
Normal measures for preventive fire protection.
For precautions see section 2.
Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Hydrolyses readily.
Specific end use(s)
Apart from the uses mentioned in section 1 no other specific uses are stipulated

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
Components with workplace control parameters
Component
CAS-No.
Value
Control parameters
Basis
Molybdenum hexafluoride
7783-77-9
TWA
2.5 mg/m3
USA. Occupational Exposure Limits(OSHA)-Table Z-1 Limits for Air Contaminants
Remarks
CAS number varies with compound
TWA
2.5 mg/m3
USA. Occupational Exposure Limits(OSHA)-Table Z2Z37.28-1969 TWA
2.5 mg/m3
USA. ACGIH Threshold Limit Values(TLV)
Bone damage
Fluorosis
Substances for which there is a Biological Exposure Index or Indices(see BEI® section) Not classifiable as a human carcinogen varies
TWA
2.5 mg/m3
USA. OSHA-TABLE Z-1 Limits for Air Contaminants-1910.1000
Biological occupational exposure limits
Component
CAS-No.
Parameters
Value
Biological specimen
Basis
Molybdenum hexafluoride
7783-77-9
Fluorides
3 mg/g
In urine
ACGIH-BiologicalExposure Indices(BEI)
Remarks
Prior to shift (16 hours after exposure ceases)
Fluorides
10 mg/g
In urine
ACGIH-Biological Exposure Indices(BEI)
End of shift (As soon as possible after exposure ceases)
Exposure controls
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Personal protective equipment

Eye/face protection
Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Body Protection
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full
-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) 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).
Control of environmental exposure
Do not let product enter drains

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties
Appearance
Form:
liquid
Odor
no data available
Odor Threshold
no data available
pH
no data available
Melting point/freezing point
Melting point/range:
17.5 °C (63.5 °F)-lit.
Initial boiling point and boiling range
37 °C (99 °F)-lit.
Flash point
not applicable
EVaporation rate
no data available
Flammability (solid, gas)
no data available
Upper/lower flammability or explosive limits
no data available
Vapor pressure
no data available
Vapor density
no data available
Relative density
2.3 g/cm3 at 25 °C (77 °F)
Water solubility
no data available

Partition coefficient: n-octanol/water
no data available
Auto-ignition temperature
no data available
Decomposition temperature
no data available
Viscosity
no data available
Explosive properties
no data available
Oxidizing properties
no data available
Other safety information
no data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity
no data available
Chemical stability
Stable under recommended storage conditions.
Possibility of hazardous reactions
no data available
Conditions to avoid
no data available
Incompatible materials
acids, Strong bases
Hazardous decomposition products
Other decomposition products
-no data available
In the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity
LC50 Inhalation-rat-333 mg/m3
Remarks:
Lungs, Thorax, or Respiration:Structural or functional change in trachea or bronchi. Lungs, Thorax, or Respiration:Respiratory obstruction. Blood: Hemorrhage.
LC50 Inhalation-mouse-339 mg/m3
Remarks:
Lungs, Thorax, or Respiration:Structural or functional change in trachea or bronchi. Lungs, Thorax, or Respiration:Respiratory obstruction. Blood: Hemorrhage.
Dermal:
no data available
no data available
Skin corrosion/irritation
Extremely corrosive and destructive to tissue.
Serious eye damage/eye irritation
no data available

Respiratory or skin sensitisation
no data available
Germ cell mutagenicity
no data available
Carcinogenicity
IARC:
3-Group 3: Not classifiable as to its carcinogenicity to humans (Molybdenum hexafluoride)
NTP:
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA:
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive toxicity
no data available
no data available
Specific target organ toxicity-single exposure
no data available
Specific target organ toxicity-repeated exposure
no data available
Aspiration hazard
no data available
Additional Information
RTECS: QA4681450
Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.,
Cough, Shortness of breath, Headache, Nausea
Stomach-Irregularities-Based on Human Evidence
Stomach-Irregularities-Based on Human Evidence

SECTION 12. ECOLOGICAL INFORMATION

Toxicity
no data available
Persistence and degradability
no data available
Bioaccumulative potential
no data available
Mobility in soil
no data available
Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
Other adverse effects
no data available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company.
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.

SECTION 14. TRANSPORT INFORMATION

DOT (US)
UN number:
3264
Class:
8
Packing group:
II
Proper shipping name:
Corrosive liquid, acidic, inorganic, n.o.s.(Molybdenum hexafluoride)
Marine pollutant:
No
Poison Inhalation Hazard:
No
IMDG
UN number:
3264
Class:
8
Packing group:
II
EMS-No:
F-A,S-B
Proper shipping name:
CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(Molybdenum hexafluoride)
Marine pollutant:
No
IATA
UN number:
3264
Class:
8
Packing group:
II
Proper shipping name:
Corrosive liquid, acidic, inorganic, n.o.s.(Molybdenum hexafluoride)

SECTION 15. REGULATORY INFORMATION

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard
Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act.
Pennsylvania Right To Know Components
Molybdenum hexafluoride
CAS-No. 7783-77-9
Revision Date
2008-06-01
New Jersey Right To Know Components
Molybdenum hexafluoride
CAS-No. 7783-77-9
Revision Date
2008-06-01
California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.