


Rhenium(VI) Fluoride		Pricing >
Linear Formula	ReF ₆	
Pubchem CID	66231	
MDL Number	MFCD00042538	
EC No.	233-172-2	
IUPAC Name	hexafluororhenium	
Beilstein/Reaxys No.	N/A	
SMILES	F[Re](F)(F)(F)(F)F	
Inchl Identifier	InChI=1S/6FH.Re/h6*1H;/q;++++;+6/p-6	
Inchl Key	YUCDNKHFHNORTO-UHFFFAOYSA-H	
Signal Word	Danger	
Hazard Statements	H314	
Hazard Codes	C	
Precautionary Statements	P260-P280-P303 + P361 + P353-P304 + P340 + P310-P305 + P351 + P338	
Flash Point	Not applicable	
Risk Codes	R14,R23/24/25,R29,R32,R34,R41	
Safety Statements	S9,S22,S23,S24/25,S26,S27,S30,S36/37/39,S45	
RTECS Number	N/A	
Transport Information	UN 3390 8(6.1) / PG I	
WGK Germany	3	
GHS Pictograms	GHS05 Corrosive 	

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SAFETY DATA SHEET

Date Accessed: 05/16/2024

Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifiers: All applicable American Elements product codes for CAS #10049-17-9

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:

Domestic, North America +1 800-424-9300

International +1 703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910
(OSHA HCS)

Skin corrosion(Category 1A), 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/doctor.

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.

Hazards not otherwise classified (HNOC) or not covered by GHS

Strong hydrogen fluoride-releaser

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Formula: F6Re

Molecular weight: 300.20 g/mol

CAS-No.: 10049-17-9

EC-No.: 233-172-2

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.

Hydrofluoric (HF) acid burns require immediate and specialized first aid and medical treatment. Symptoms may be delayed up to 24 hours depending on the concentration of HF. After decontamination with

water, further damage can occur due to

penetration/absorption of the

fluoride ion. Treatment should be directed toward

binding the fluoride ion as well as the effects of

exposure. Skin exposures can be treated with a 2.5% calcium gluconate gel repeated until burning ceases.

More serious skin exposures may require

subcutaneous calcium gluconate except for digital

areas unless the physician is experienced in this

technique, due to the potential for tissue injury from

increased pressure. Absorption can readily occur

through the subungual areas and should be

considered when undergoing decontamination.

Prevention of absorption of the fluoride

ion in cases of ingestion can be obtained by giving

milk, chewable calcium carbonate tablets or Milk of

Magnesia to conscious victims. Conditions such as hypocalcemia, hypomagnesemia and cardiac arrhythmias should be monitored for, since they can occur after exposure.

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.
First treatment with calcium gluconate paste.

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
No data available

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.
Handle under inert gas. Protect from moisture.
Air sensitive.
Hydrolyses readily.
Do not store in glass
Specific end use(s)
Apart from the uses mentioned in section 1 no other specific uses are stipulated

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Colour: yellow

Odor

No data available

Odor Threshold

No data available

pH

No data available

Melting point/freezing point

Melting point/range: 18.8 °C (65.8 °F)

Initial boiling point and boiling range

47.6 °C (117.7 °F) at 1,013 hPa (760 mmHg)

Flash point

N/A

Evaporation rate

No data available

Flammability (solid, gas)

No data available

Upper/lower flammability or explosive limits

No data available

Vapor pressure

727 hPa (545 mmHg) at 25 °C (77 °F)

Vapor density

No data available

Relative density

6.000 g/cm³

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
Do not allow water to enter container because of violent reaction. Air
Reacts dangerously with glass.
Incompatible materials
Strong oxidizing agents
Strong acids
glass
Hazardous decomposition products
Hazardous decomposition products formed under fire conditions.-Hydrogen fluoride, rhenium oxides
Reacts with water to form:-Warning: Hydrolyzes to form hydrofluoric acid! Do not store in glass!
In the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity
No data available
Inhalation: No data available
Dermal: No data available
No data available
Skin corrosion/irritation
No data available
Serious eye damage/eye irritation

No data available
Respiratory or skin sensitisation
No data available
Germ cell mutagenicity
No data available
Carcinogenicity
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.
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: Not available
Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia.
Salivation, Nausea, Abdominal pain, Vomiting, Fever, Rapid respiration, Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia., Material reacts with moisture on the skin, eyes, and mucous membranes to generate hydrogen fluoride. Hydrogen fluoride is extremely destructive and may cause deep progressive burns that induce subcutaneous tissues to become blanched and bloodless resulting in lesions of dead tissue that are slow to heal.

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.
Contaminated packaging
Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

DOT (US)
UN number: 3390
Class: 6.1(8)
Packing group: I
Proper shipping name: Toxic by inhalation liquid,
corrosive, n.o.s.(Rhenium hexafluoride)
Poison Inhalation Hazard: Hazard zone B
IMDG
UN number: 3390
Class: 6.1(8)
Packing group: I
EMS-No: F-A, S-B
Proper shipping name: TOXIC BY INHALATION
LIQUID, CORROSIVE, N.O.S.(Rhenium hexafluoride)
IATA
UN number: 3390
Class: 6.1(8)
Proper shipping name: Toxic by inhalation liquid,
corrosive, n.o.s.(Rhenium hexafluoride)
IATA Passenger:
Not permitted for transport
IATA Cargo:
Not permitted for transport

SECTION 15. REGULATORY INFORMATION

SARA 302 Components
No chemicals in this material are subject to the
reporting requirements of SARA Title III, Section 302.
SARA 313 Components
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
Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act.
Pennsylvania Right To Know Components
Rhenium hexafluoride
CAS-No.
10049-17-9
Revision Date
2008-06-01
New Jersey Right To Know Components
Rhenium hexafluoride
CAS-No.
10049-17-9
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.

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. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.
