

SAFETY DATA SHEET

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SECTION 1. IDENTIFICATION

Product Identifier: Hafnium 2-Ethylhexoxide

Product Code: HF-2EHO-01-LIQ

CAS Number: 23488-26-8

Relevant identified uses of the substance: Scientific research and development

Supplier details:

American Elements
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SECTION 2. HAZARDS IDENTIFICATION

Skin corrosion/irritation Category 2 H315 Causes skin irritation

Serious eye damage/eye irritation Category 2 H319 Causes serious eye irritation

Hazard pictograms (GHS US)



Signal word (GHS US) : Warning

Hazard statements (GHS US) :

H315 - Causes skin irritation

H319 - Causes serious eye irritation

Precautionary statements (GHS US) :

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P264 - Wash hands thoroughly after handling.

P302+P352 - If on skin: Wash with plenty of soap and water

P332+P313 - If skin irritation occurs: Get medical advice/attention.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337+P313 - If eye irritation persists: Get medical advice/attention.

P321 - Specific treatment (see first aid instructions on this label)

P362+P364 - Take off contaminated clothing and wash it before reuse

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance type : Mono-constituent
Name : HAFNIUM 2-ETHYLHEXOXIDE, 95%
CAS-No. 23488-26-8

SECTION 4. FIRST AID MEASURES

First-aid measures general : Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek

medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Wash with plenty of soap and water. Get medical advice/attention.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Get medical advice/attention.

Symptoms/effects after inhalation : May cause irritation to the respiratory tract.

Symptoms/effects after skin contact : Causes skin irritation.

Symptoms/effects after eye contact : Causes serious eye irritation.

Symptoms/effects after ingestion : No information available.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water spray. Foam. Carbon dioxide. Dry chemical.

Unsuitable extinguishing media : Do not use straight streams.

Fire hazard : Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

Firefighting instructions : Exercise caution when fighting any chemical fire. Use water spray to cool exposed surfaces.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

Avoid all eye and skin contact and do not breathe vapor and mist

SECTION 6. ACCIDENTAL RELEASE MEASURES

Protective equipment : Wear protective equipment as described in Section 8.

Emergency procedures : Evacuate unnecessary personnel.

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with

proper protection. For further information refer to section 8: "Exposure controls/personal

protection".

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.
For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for cleaning up : Clean up any spills as soon as possible, using an absorbent material to collect it.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapor and mist.

Provide good ventilation in process area to prevent accumulation of vapors.

Hygiene measures : Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Storage conditions : Keep container tightly closed.

Storage area : Store in a well-ventilated place. Store away from heat.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Appropriate engineering controls : Provide local exhaust or general room ventilation.

Personal protective equipment:

Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Hand protection:

Neoprene or nitrile rubber gloves

Eye protection:

Chemical goggles. Contact lenses should not be worn

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified organic vapor (black cartridge) respirator.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : Liquid

Appearance : Viscous oil.

Molecular mass : 695.38 g/mol

Color : Orange.

Odor : Characteristic.

Odor threshold : No data available

Refractive index : No data available

pH : No data available

Relative evaporation rate (butyl acetate=1) : No data available

Melting point : No data available

Freezing point : No data available

Boiling point : > 300 °C @ 0.01 mm Hg

Flash point : > 110 °C

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Flammability (solid, gas) : No data available

Vapor pressure : 0.01 mm Hg @ 25°C
Relative vapor density at 20 °C : > 1
Relative density : > 1
% Volatiles : < 3 %
Solubility : Insoluble in water. Reacts with water.
Log Pow : No data available
Log Kow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidizing properties : No data available
Explosion limits : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity

No additional information available

Chemical stability

Stable.

Possibility of hazardous reactions

Material decomposes slowly in contact with air by reaction with water.

Conditions to avoid

No additional information available

Incompatible materials

No additional information available

Hazardous decomposition products

Organic acid vapors. Hafnium oxide fumes.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity : Not classified

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

None of the components in this product at concentrations >0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure: Not classified

Aspiration hazard : Not classified

Symptoms/effects after inhalation : May cause irritation to the respiratory tract.

Symptoms/effects after skin contact : Causes skin irritation.

Symptoms/effects after eye contact : Causes serious eye irritation.

Symptoms/effects after ingestion : No information available.

Reason for classification : Expert judgment

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

No additional information available

Persistence and degradability

No additional information available

Bioaccumulative potential

No additional information available

Mobility in soil

No additional information available

Other adverse effects

No additional information available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Sewage disposal recommendations : Do not dispose of waste into sewer.

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14. TRANSPORT INFORMATION

UN number

Not regulated for transport.

UN proper shipping name

Not applicable

Additional information

Other information : No supplementary information available.

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15. REGULATORY INFORMATION

US Federal regulations

HAFNIUM 2-ETHYLHEXOXIDE, 95% (not found)

TSCA Exemption/Exclusion CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a "technically qualified individual" as defined by 40 CFR 720.3(ee). The use of this material for "commercial purposes" as defined by 40 CFR 720.3(r) is not permitted in the United States.

Hafnium 2-ethylhexoxide (not found)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

No additional information available

US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or 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.