Material Safety Data Sheet
acc. to OSHA and ANSI

1 Identification of substance:
Product details:
Product name: Uranium (VI) oxide

2 Composition/Data on components:
Chemical characterization:
Description (CAS#):
Uranium (VI) oxide (CAS# 1344-58-7): 100%
Identification number(s):
EINECS Number: 215-701-9
EU Number: 092-002-00-3

3 Hazards identification
Hazard description:
T+ Very toxic
N Dangerous for the environment

Information pertaining to particular dangers for man and environment:
R 26/28 Very toxic by inhalation and if swallowed.
R 33 Danger of cumulative effects.
R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Classification system
HMIS ratings (scale 0-4)
HEALTH 3 Health (acute effects) = 3
Flammability = 0
FIRE 0
Reactivity = 1
REACTIVITY 1

4 First aid measures
General information
Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing has been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation:
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.

After skin contact:
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.

After eye contact
Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing
Do not induce vomiting; immediately call for medical help.
Seek immediate medical advice.

5 Fire fighting measures
Suitable extinguishing agents
Product is not flammable. Use fire fighting measures that suit the surrounding fire.
Protective equipment:
Wear self-contained respirator.
Wear fully protective impervious suit.

6 Accidental release measures
Person-related safety precautions:
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Measures for environmental protection:
Do not allow material to be released to the environment without proper governmental permits.
Measures for cleaning/collecting:
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Additional information:
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage
Handling
Information for safe handling:
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.

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Product name: Uranium (VI) oxide
Open and handle container with care.
Information about protection against explosions and fires:
No special measures required.
The product is not flammable
Storage
Requirements to be met by storerooms and receptacles:
No special requirements.
Information about storage in one common storage facility:
Not required.
Further information about storage conditions:
Keep container tightly sealed.
Store under lock and key and with access restricted to technical experts or their assistants only.

8 Exposure controls and personal protection
Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Components with limit values that require monitoring at the workplace:

Uranium (natural), soluble and insoluble compounds, as U mg/m³
- ACGIH TLV 0.2; 0.6-STEL, A1
- Belgium TWA 0.2; 0.5-STEL
- Denmark TWA 0.2
- Finland TWA 0.2
- Germany MAK 0.25
- Ireland TWA 0.2; 0.8-STEL
- Netherlands MAC-TGG 0.2
- Norway TWA 0.2
- Poland TWA 0.015; 0.12-STEL
- Russia 0.015-STEL
- Switzerland MAK-W 0.2
- United Kingdom TWA 0.2; 0.6-STEL

Additional information: No data

General protective and hygienic measures
The usual precautionary measures for handling chemicals should be followed.
- Keep away from foodstuffs, beverages and feed.
- Remove all soiled and contaminated clothing immediately.
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Breathing equipment: Use suitable respirator when high concentrations are present.
- Protection of hands: Impervious gloves
- Eye protection: Safety glasses

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Body protection: Protective work clothing.

9 Physical and chemical properties:
General Information
- Form: Powder
- Color: Orange
- Odor: Odorless
- Change in condition
  - Melting point/Melting range: Not determined
  - Boiling point/Boiling range: Not determined
  - Sublimation temperature / start: Not determined
  - Flash point: Not applicable
  - Ignition temperature: Not determined
  - Decomposition temperature: Not determined
  - Danger of explosion: Product does not present an explosion hazard.
- Explosion limits:
  - Lower: Not determined
  - Upper: Not determined
- Vapor pressure: Not determined
- Density at 20°C (68°F): 7.29 g/cm³
- Solubility in / Miscibility with:
  - Water: Insoluble

10 Stability and reactivity
Thermal decomposition / conditions to be avoided:
Decomposition will not occur if used and stored according to specifications.
Materials to be avoided: No information known.
Dangerous reactions No dangerous reactions known
Dangerous products of decomposition: Metal oxide fume

11 Toxicological information
Acute toxicity:
Primary irritant effect:
on the skin: Irritant to skin and mucous membranes.
on the eye: Irritating effect.
Sensitization: No sensitizing effects known.
Subacute to chronic toxicity:
Uranium compounds may cause skin, eye or lung irritation. Cancers of the liver, kidney, lymphatic and blood forming tissues are possible. Necrotic arterial lesions are possible.

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Additional toxicological information:
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
ACGIH A1: Confirmed human carcinogen: Agent is carcinogenic to humans based on epidemiologic studies of, or convincing clinical evidence in, exposed humans.

12 Ecological information:
Ecotoxic effects:
Remark: Toxic for fish
General notes:
Also poisonous for fish and plankton in water bodies.
Do not allow material to be released to the environment without proper governmental permits.
Toxic for aquatic organisms

13 Disposal considerations
Product:
Recommendation
Consult state, local or national regulations to ensure proper disposal.
Not a solid waste by RCRA exclusion, see 40CFR261.4.(a).(4).
See 10CFR part 40 for disposal.
Uncleaned packagings:
Recommendation:
Disposal must be made according to official regulations.

14 Transport information
DOT regulations:
Hazard class: 7
Identification number: UN2910
Proper shipping name (technical name): RADIOACTIVE MATERIAL, EXCEPTE PACKAGE - LIMITED QUANTITY OF MATERIAL
Land transport ADR/RID (cross-border)

ADR/RID class: 7 Radioactive material
UN-Number: 2910
Packaging group:
Description of goods: RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL

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Maritime transport IMDG:
IMDG Class: 7
UN Number: 2910
Proper shipping name: RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL

Air transport ICAO-TI and IATA-DGR:
ICAO/IATA Class: 7
UN/ID Number: 2910
Proper shipping name: RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL

15 Regulations
Product related hazard informations:
Hazard symbols:
T+ Very toxic
N Dangerous for the environment
Risk phrases:
26/28 Very toxic by inhalation and if swallowed.
33 Danger of cumulative effects.
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
Safety phrases:
20/21 When using do not eat, drink or smoke.
45 In case of accident or if you feel unwell, seek medical advice immediately.
61 Avoid release to the environment. Refer to special instructions/Safety data sheets

National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

Information about limitation of use:
For use only by technically qualified individuals.
The radioactive content of uranium and uranium containing material is defined as its specific activity. The specific activity of depleted uranium is 0.00000005 curie/gram (18,500 Bq/gram) of contained uranium. This formula assumes a weight percent of 0.45% U235.

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