

**Material Safety Data Sheet**

acc. to OSHA and ANSI

Printing date 02/03/2006

Reviewed on 04/24/2005

**1 Identification of substance:****Product details:****Product name:** Uranium powder**Stock number:** 12810**Manufacturer/Supplier:**

Alfa Aesar, A Johnson Matthey Company  
 Johnson Matthey Catalog Company, Inc.  
 30 Bond Street  
 Ward Hill, MA 01835-8099  
 Emergency Phone: (978) 521-6300  
 CHEMTREC: (800) 424-9300  
 Web Site: www.alfa.com

**Information Department:** Health, Safety and Environmental Department**Emergency information:**

During normal hours the Health, Safety and Environmental Department.  
 After normal hours call Chemtrec at (800) 424-9300.

**2 Composition/Data on components:****Chemical characterization:****Description: (CAS#)**

Uranium (CAS# 7440-61-1), 100%

**Identification number(s):****EINECS Number:** 231-170-6**EU Number:** 092-001-00-8**3 Hazards identification****Hazard description:**

T+ Very toxic

F Highly flammable

**Information pertaining to particular dangers for man and environment**

R 17 Spontaneously flammable in air.

R 26/28 Very toxic by inhalation and if swallowed.

R 33 Danger of cumulative effects.

R 53 May cause long-term adverse effects in the aquatic environment.

**Classification system****HMIS ratings (scale 0-4)****(Hazardous Materials Identification System)**

HEALTH	2
FIRE	3
REACTIVITY	1

Health (acute effects) = 2

Flammability = 3

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.

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**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**

Special powder for metal fires. Do not use water.

**For safety reasons unsuitable extinguishing agents** Water

**Special hazards caused by the material, its products of combustion or resulting gases:**

In case of fire, the following can be released:

Toxic metal oxide fume

**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

Keep away from ignition sources

**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.

Keep away from ignition sources.

**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:**

Handle under dry protective gas.

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Open and handle container with care.

**Information about protection against explosions and fires:**

Keep ignition sources away.

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Substance/product is self ignitable.

**Storage****Requirements to be met by storerooms and receptacles:**

No special requirements.

**Information about storage in one common storage facility:**

Store away from air.

Store away from halogens.

**Further information about storage conditions:**

Store under dry inert gas.

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

**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/m<sup>3</sup>

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; 0.6-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**Personal protective equipment****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

Full face protection

**Body protection:** Protective work clothing.

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**9 Physical and chemical properties:**

<b>General Information</b>	
<b>Form:</b>	Powder
<b>Color:</b>	Silver grey
<b>Odor:</b>	Odorless
<b>Change in condition</b>	
<b>Melting point/Melting range:</b>	1132°C (2070°F)
<b>Boiling point/Boiling range:</b>	3818°C (6904°F)
<b>Sublimation temperature / start:</b>	Not determined
<b>Flash point:</b>	Not applicable
<b>Ignition temperature:</b>	Not determined
<b>Decomposition temperature:</b>	Not determined
<b>Auto igniting:</b>	Spontaneously flammable in air.
<b>Explosion limits:</b>	
<b>Lower:</b>	Not determined
<b>Upper:</b>	Not determined
<b>Vapor pressure:</b>	Not determined
<b>Density at 20°C (68°F):</b>	19.07 g/cm <sup>3</sup>
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	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:**

Air  
Ammonia  
Halogens  
Interhalogens  
Halocarbons

**Dangerous reactions** Spontaneously flammable in air.

**Dangerous products of decomposition:** Toxic 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.

**Additional toxicological information:**

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

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ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.

**12 Ecological information:****General notes:**

Do not allow material to be released to the environment without proper governmental permits.

**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:**

<b>Hazard class:</b>	7
<b>Identification number:</b>	UN2979
<b>Proper shipping name (technical name):</b>	URANIUM-METAL, PYROPHORIC
<b>Label</b>	7+4.2

**Land transport ADR/RID (cross-border)****UN-Number:****Packaging group:**

-

**15 Regulations****Product related hazard informations:****Hazard symbols:**

T+ Very toxic

F Highly flammable

**Risk phrases:**

17 Spontaneously flammable in air.

26/28 Very toxic by inhalation and if swallowed.

33 Danger of cumulative effects.

53 May cause long-term adverse effects in the aquatic environment.

**Safety phrases:**

9 Keep container in a well-ventilated place.

20/21 When using do not eat, drink or smoke.

45 In case of accident or if you feel unwell, seek medical advice immediately.

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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 it's specific activity. The specific activity of depleted uranium is 0.0000005 curie/gram (18,500 Bq/gram) of contained uranium. This formula assumes a weight percent of 0.45% U235.

**16 Other information:**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing MSDS:** Health, Safety and Environmental Department.

**Contact:** Darrell R. Sanders

USA