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Item Details

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Material Safety Data Sheet

acc. to OSHA and ANSI

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• **1 Identification of substance:**

• Product details:

• Product name: **Gold Beryllium slug**

• Stock number: 40515

• 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#)

Gold (CAS# 7440-57-5): 99%

Beryllium (CAS# 7440-41-7): 1%

• **3 Hazards identification**

• Hazard description: T Toxic

• Information pertaining to particular dangers for man and environment

R 49 May cause cancer by inhalation.

R 43 May cause sensitization by skin contact.

R 48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation.

• Classification system

• HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

Health (acute effects) = 1

Flammability = 0

Reactivity = 0

• **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** 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

- **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.

Open and handle container with care.

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

No special measures required.

- **Storage**

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

No special requirements.

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

Store away from oxidizing agents.

- **Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

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:

Beryllium and compounds, as Be

	mg/m3
ACGIH TLV	0.002; 0.01-STEL, Confirmed human carcinogen
Austria	Carcinogen
Belgium TWA	0.002; Carcinogen
Denmark TWA	0.001; Carcinogen
Finland TWA	0.002; 0.006-STEL, Carcinogen
France VME	0.002; C2 Carcinogen
Germany	Carcinogen
Hungary	0.001-STEL; Carcinogen
Japan OEL	0.002; 2A Carcinogen
Korea TLV	0.002; 0.01-STEL, Confirmed human carcinogen
Netherlands MAC-TGG	0.002; Carcinogen
Norway TWA	0.001
Poland TWA	0.001; 0.003-STEL
Russia	0.001-STEL; Carcinogen
Sweden NGV	0.002; Carcinogen
Switzerland MAK-W	0.002; Carcinogen
United Kingdom TWA	0.002; Carcinogen
USA PEL	0.002

- **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

Check protective gloves prior to each use for their proper condition.

- **Material of gloves**

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

- **Eye protection:** Safety glasses

- **Body protection:** Protective work clothing.

- **9 Physical and chemical properties:**

- **General Information**

- **Form:** Slug

- **Color:** Gold colored

- **Odor:** Odorless

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Value/Range	Unit	Method
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- **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:** Not determined

- **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:** Oxidizing agents

- **Dangerous reactions**

Gold can form explosive compounds with ammonia, ammonium hydroxide + aqua regia, and hydrogen peroxide.

- **Dangerous products of decomposition:** Toxic metal oxide fume

• **11 Toxicological information**

- **Acute toxicity:**

- **Primary irritant effect:**

- **on the skin:** Generally the product does not irritate the skin.

- **on the eye:** No irritating effect.

- **Sensitization:** Sensitization possible through skin contact.

- **Subacute to chronic toxicity:**

Acute exposure to beryllium may cause dermatitis, chronic skin ulcers, rhinitis, nasopharyngitis, epistaxis, bronchitis, pneumonitis possibly fatal, fever, rales, dyspnea and substernal pain. Chronic exposure causes a delayed form of lung disease which may be delayed for five years or more after exposure stops. Symptoms include coughing, shortness of breath, loss of appetite, weight loss and fatigue. Cyanosis is common with elevated pulse and respiratory rates. This disease may progress to death from cardiac or respiratory failure.

Gold compounds may cause irritation to the eyes and respiratory tract. Aplastic anemia may result from damage to the blood forming organs. Gold has caused tumors and reproductive effects in laboratory animals via implant, intraperitoneal and subcutaneous routes.

- **Additional toxicological information:**

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

EPA-B1: Probable human carcinogen, limited evidence of carcinogenicity from epidemiologic studies.

IARC-1: Carcinogenic to humans: sufficient evidence of carcinogenicity.

NTP-2: Reasonably anticipated to be a carcinogen: limited evidence from studies in humans or sufficient evidence from studies in experimental animals.

ACGIH A1: Confirmed human carcinogen: Agent is carcinogenic to humans based on epidemiologic studies of, or convincing clinical evidence in, exposed humans.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for components in this product.

- **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.

- **Uncleaned packagings:**

- **Recommendation:**

Disposal must be made according to official regulations.

- **14 Transport information**

Not a hazardous material for transportation.

- **DOT regulations:**

- **Hazard class:** None

- **Land transport ADR/RID (cross-border)**

- **ADR/RID class:** None

- **Maritime transport IMDG:**

- **IMDG Class:** None

- **Air transport ICAO-TI and IATA-DGR:**

- **ICAO/IATA Class:** None

- **Transport/Additional information:**

Not dangerous according to the above specifications.

- **15 Regulations**

- **Product related hazard informations:**

- **Hazard symbols:** T Toxic

- **Risk phrases:**

49 May cause cancer by inhalation.

43 May cause sensitization by skin contact.

48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation.

- **Safety phrases:**

53 Avoid exposure - obtain special instructions before use.

4 Keep away from living quarters.

9 Keep container in a well-ventilated place.

20 When using do not eat or drink.

37 Wear suitable gloves.

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

- **National regulations**

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

This product contains a chemical known to the state of California to cause cancer or reproductive toxicity.

- **Information about limitation of use:**

For use only by technically qualified individuals.

This product contains beryllium and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

- **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