



Alfa Aesar
A Johnson Matthey Company

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Item Details

Material Safety Data Sheet

acc. to OSHA and ANSI

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1 Identification of substance:

- Product details:

- Product name: Bright Brushing Gold

LIQUID BRIGHT GOLD

- Stock number: 12943

- 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#)

Organo-chromium compound (CAS# proprietary), 0.1-5%
Organo-gold compound (CAS# proprietary), 8-10%
Cyclohexanol (CAS# 108-93-0), 5-10%
Perchloroethylene (CAS# 127-18-4), 10-20%
Turpentine (CAS# 8006-64-2), 0.1-5%
Xylenes (CAS# 1330-20-7), 0.1-5%
Proprietary solvents (CAS# proprietary), <20%
Proprietary resins (CAS# proprietary), Balance

3 Hazards identification

- Hazard description:

Xn Harmful
N Dangerous for the environment

- Information pertaining to particular dangers for man and environment

R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
R 37/38 Irritating to respiratory system and skin.
R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

- Classification system

- **HMIS ratings (scale 0-4)**

(Hazardous Materials Identification System)

Health (acute effects) = 1

Flammability = 1

Reactivity = 1

- **4 First aid measures**

- **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**

CO₂, extinguishing powder or water spray. Fight larger fires with water spray.

- **Special hazards caused by the material, its products of combustion or**

resulting gases:

In case of fire, the following can be released:

Carbon monoxide (CO)

- **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:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

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.

- **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.

- **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:

Chromium (III) compounds, as Cr

	mg/m3
ACGIH TLV	0.5; Not classified as a human carcinogen
Belgium TWA	0.5
Denmark TWA	0.5
Finland TWA	0.01
France VME	0.5
Japan OEL	0.5
Korea TLV	0.5
Netherlands MAC-TGG	0.5
Norway TWA	0.5
Poland TWA	0.5
Sweden NGV	0.5
United Kingdom TWA	0.5
USA PEL	1.0

Cyclohexanol

	ppm
ACGIH TLV	50 (skin)
Austria TWA	50
Belgium TWA	50
Denmark TWA	50
Finland TWA	50; 75-STEL
France TWA	50; 75-STEL
Germany TWA	50
Hungary TWA	20; 40-STEL (skin)
Ireland TWA	50
Netherlands TWA	0.25
Poland TWA	20
Russia TWA	25
Sweden TWA	50; 75-STEL
Switzerland TWA	50; 100-STEL
United Kingdom TWA	50
USA PEL	50

Tetrachloroethylene (Perchloroethylene)

	ppm
ACGIH TLV	25; 100-STEL, Confirmed animal carcinogen
Austria MAK	50; Suspected carcinogen
Belgium TWA	50; 200-STEL
Denmark TWA	10 (skin)
Finland TWA	50; 75-STEL (skin)
France VME	50; C3 carcinogen
Germany MAK	50; Carcinogen
Hungary	50-STEL (skin); Carcinogen
Japan OEL	50; 2B carcinogen
Korea TLV	25; 100-STEL, Confirmed animal carcinogen
Netherlands MAC-TGG	35 (skin)
Norway TWA	20
Poland TWA	60 mg/m3; 480 mg/m3-STEL

- **9 Physical and chemical properties:**

- **General Information**

- **Form:** Liquid
- **Color:** Dark brown
- **Odor:** Solvent-like

	<u>Value/Range</u>	<u>Unit</u>	<u>Method</u>
•			

- **Change in condition**
- **Melting point/Melting range:** Not determined
- **Boiling point/Boiling range:** Not determined
- **Sublimation temperature / start:** Not determined
- **Flash point:** 64 ° C
- **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:** Not miscible or difficult to mix

● **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
Ammonia
- **Dangerous reactions**
Gold can form explosive compounds with ammonia, ammonium hydroxide + aqua regia, and hydrogen peroxide.
- **Dangerous products of decomposition:**
Carbon monoxide and carbon dioxide
Metal oxide fume
Hydrogen chloride (HCl)

● **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.
- **Other information (about experimental toxicology):**
Mutagenic effects have been observed on tests with laboratory animals.
Reproductive effects have been observed on tests with laboratory animals.
Tumorigenic effects have been observed on tests with laboratory animals.
Carcinogenic effects have been observed on tests with laboratory animals.
- **Subacute to chronic toxicity:**

Xylenes are irritating to the eyes and skin. May be narcotic in high concentrations. Teratogenic, reproductive and mutagenic effects in laboratory animals have been reported. May damage liver, kidneys and blood. 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.

● **Subacute to chronic toxicity:**

Chromium powder, chromium (II) and chromium (III) compounds may cause nausea, diarrhea, vomiting, skin and eye irritation and pneumoconiosis. Although less likely than Cr(VI) compounds, the NTP considers all chromium to be potentially carcinogenic.

Tetrachloroethylene causes general anesthetic effects, hallucinations, distorted perceptions, coma and pulmonary changes. Experimental carcinogenic, teratogenic, mutagenic and reproductive effects have been reported.

Cyclohexanol causes severe eye irritation and narcotic effects. Causes damage to the liver, kidneys and blood vessels in experimental animals. Mutagenic and reproductive effects have been reported.

Turpentine causes narcotic effects, conjunctiva irritation and pulmonary and kidney changes. Tumorigenic effects have been reported.

● **Additional toxicological information:**

Danger through skin absorption.

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

IARC-2B: Possibly carcinogenic to humans: limited evidence in humans in the absence of sufficient evidence in experimental animals.

IARC-3: Not classifiable as to carcinogenicity to humans.

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

ACGIH A3: Animal carcinogen: Agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) not considered relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans.

Available evidence suggests that the agent is not likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.

● **12 Ecological information:**

● **Ecotoxicological 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.

● **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:**

Xn Harmful N Dangerous for the environment

- **Risk phrases:**

20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
37/38 Irritating to respiratory system and skin.
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

- **Safety phrases:**

23 Do not breathe fumes
24/25 Avoid contact with skin and eyes.
36/37 Wear suitable protective clothing and gloves.
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. 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 is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372. This product contains chromium 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