SECTION 1. IDENTIFICATION

**Product Name:** Gold(I) Potassium Cyanide

**Product Number:** All applicable American Elements product codes, e.g. AU1-KCY-02 02, AU1-KCY-025 025, AU1-KCY-03 03, AU1-KCY-035 035, AU1-KCY-04 04, AU1-KCY-05 05

**CAS #:** 13967-50-5

**Relevant identified uses of the substance:** Scientific research and development

**Supplier details:**
American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
Fax: +1 310-208-0351

**Emergency telephone number:**
+1 800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)

GHS06 Skull and crossbones
Acute Tox. 1 H300 Fatal if swallowed.
Acute Tox. 1 H310 Fatal in contact with skin.
Acute Tox. 1 H330 Fatal if inhaled.

GHS05 Corrosion
Met. Corr. 1
H290 May be corrosive to metals.
Eye Dam. 1 H318 Causes serious eye damage.

GHS07
Skin Irrit. 2
H315 Causes skin irritation.
Hazards not otherwise classified
No information known.

Label elements
GHS label elements
The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)
Hazard pictograms
GHS05
GHS06
Signal word
Danger
Hazard statements
H290
May be corrosive to metals.
H300+H310+H330 Fatal if swallowed, in contact with skin or if inhaled.
H315
Causes skin irritation.
H318
Causes serious eye damage.
Precautionary statements
P260
Do not breathe dust/fume/gas/mist/vapors/spray.
P301+P310
IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P320
Specific treatment is urgent (see on this label).
P405
Store locked up.
P501
Dispose of contents/container in accordance with local/regional/national/international regulations.
WHMIS classification
D1A - Very toxic material causing immediate and serious toxic effects
D2B - Toxic material causing other toxic effects
Classification system
HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)
Health (acute effects) = 3
Flammability = 0
Physical Hazard = 1
Other hazards
Results of PBT and vPvB assessment
PBT:
Not applicable.
vPvB:
Not applicable.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization: Substances
CAS# Description:
13967-50-5 Gold(I) potassium cyanide
Concentration:
≤100%
Identification number(s):
EC number:
SECTION 4. FIRST AID MEASURES

Description of 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.

Information for doctor
Most important symptoms and effects, both acute and delayed
Causes skin irritation.
Fatal if inhaled.
Fatal in contact with skin.
Fatal if swallowed.
Causes serious eye damage.

Indication of any immediate medical attention and special treatment needed
No further relevant information available.

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media
Suitable extinguishing agents
Product is not flammable. Use fire-fighting measures that suit the surrounding fire.
Special hazards arising from the substance or mixture
If this product is involved in a fire, the following can be released:
Carbon monoxide and carbon dioxide
Hydrogen cyanide (HCN)
Nitrogen oxides (NOx)
Potassium oxide
Gold oxide

Advice for firefighters
Protective equipment:
Wear self-contained respirator.
Wear fully protective impervious suit.
SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Environmental precautions:
Do not allow material to be released to the environment without proper governmental permits.
Methods and material for containment and cleaning up:
Dispose of contaminated material as waste according to section 13.
Ensure adequate ventilation.
Prevention of secondary hazards:
No special measures required.
Reference to other sections
See Section 7 for information on safe handling
See Section 8 for information
on personal protection equipment.
See Section 13 for disposal information.
Protective Action Criteria for Chemicals
PAC-1:
Substance is not listed.
PAC-2:
Substance is not listed.
PAC-3:
Substance is not listed.

SECTION 7. HANDLING AND STORAGE

Handling
Precautions 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.
Only handle and refill product in closed systems.
Information about protection against explosions and fires:
The product is not flammable
Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and receptacles:
No special requirements.
Information about storage in one common storage facility:
Do not store together with acids.
Store away from oxidizing agents.
Store away from metals.
Further information about storage conditions:
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Specific end use(s)
No further relevant information available.
SECTION 8. EXPOSURE CONTROLS/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.

Control parameters
Components with limit values that require monitoring at the workplace:
13967-50-5 Gold(I) potassium cyanide (100.0%)
PEL (USA) Long-term value: 5 mg/m³ as CN; Skin
REL (USA) Ceiling limit value: 5* mg/m³, 4.7* ppm as CN; *10-min
TLV (USA) Ceiling limit value: 5 mg/m³, 4.7 ppm as CN; Skin
Additional information:
No data
Exposure controls
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.
Avoid contact with the eyes and skin.
Maintain an ergonomically appropriate working environment.

Breathing equipment:
Use self-contained respiratory protective device in emergency situations.
Recommended filter device for short term use:
Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls.
Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.

Protection of hands:
Impervious gloves
Check protective gloves prior to each use for their proper condition.
The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

Material of gloves
Nitrile rubber, NBR
Penetration time of glove material (in minutes)
480
Glove thickness:
0.11 mm

Eye protection:
Tightly sealed goggles

Safety glasses with side shields / NIOSH (US) or EN 166(EU)

Body protection:
Protective work clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties
General Information
Appearance:
Form:
Crystalline powder
Odor:
Odorless
Odor threshold:
Not determined.
pH-value:
Not applicable.
Change in condition
Melting point/Melting range:
Decomposes
Boiling point/Boiling range:
Not determined
Sublimation temperature / start:
Not determined
Flammability (solid, gaseous)
Not determined.
Ignition temperature:
Not determined
Decomposition temperature:
Not determined
Auto igniting:
Not determined.
Danger of explosion:
Not determined.
Explosion limits:
Lower:
Not determined
Upper:
Not determined
Vapor pressure:
Not applicable.
Density at 20 °C (68 °F):
3.45 g/cm³ (28.79 lbs/gal)
Relative density
Not determined.
Vapor density
Not applicable.
Evaporation rate
Not applicable.
Solubility in / Miscibility with
Water:
Soluble
Partition coefficient (n-octanol/water):
Not determined.
Viscosity:
dynamic:
Not applicable.
kinematic:
Not applicable.
Other information
No further relevant information available.
SECTION 10. STABILITY AND REACTIVITY

Reactivity
Contact with acids liberates very toxic gas.
Chemical stability
Stable under recommended storage conditions.
Thermal decomposition / conditions to be avoided:
Decomposition will not occur if used and stored according to specifications.
Possibility of hazardous reactions
Reacts with strong oxidizing agents
Contact with acids liberates very toxic gas.
Conditions to avoid
No further relevant information available.
Incompatible materials:
Oxidizing agents
Metals
Acids
Hazardous decomposition products:
Hydrogen cyanide
Nitrogen oxides
Potassium oxide
Carbon monoxide and carbon dioxide
Gold oxide

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity:
Fatal in contact with skin.
Fatal if swallowed.
Fatal if inhaled.
Danger through skin absorption.
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.
LD/LC50 values that are relevant for classification:
No data
Skin irritation or corrosion:
Causes skin irritation.
Eye irritation or corrosion:
Causes serious eye damage.
Sensitization:
No sensitizing effects known.
Germ cell mutagenicity:
No effects known.
Carcinogenicity:
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity:
No effects known.
Specific target organ system toxicity - repeated exposure:
No effects known.
Specific target organ system toxicity - single exposure:
No effects known.
Aspiration hazard:
No effects known.
Subacute to chronic toxicity:
No effects known.
Additional toxicological information:
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity
Aquatic toxicity:
No further relevant information available.
Persistence and degradability
No further relevant information available.
Bioaccumulative potential
No further relevant information available.
Mobility in soil
No further relevant information available.
Ecotoxicological effects:
Remark:
Very toxic for aquatic organisms
Additional ecological information:
General notes:
Do not allow material to be released to the environment without proper governmental permits.
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
May cause long lasting harmful effects to aquatic life.
Avoid transfer into the environment.
Very toxic for aquatic organisms
Results of PBT and vPvB assessment
PBT:
Not applicable.
vPvB:
Not applicable.
Other adverse effects
No further relevant information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Recommendation
Consult state, local or national regulations to ensure proper disposal.
Uncleaned packagings:
Recommendation:
Disposal must be made according to official regulations.
Recommended cleansing agent:
Water, if necessary with cleansing agents.
SECTION 14. TRANSPORT INFORMATION

UN-Number
DOT, IMDG, IATA
UN1588
UN proper shipping name
DOT
Cyanides, inorganic, solid, n.o.s.
ADR
1588 Cyanides, inorganic, solid, n.o.s.
(Gold(I) potassium cyanide)
IMDG
CYANIDES, INORGANIC, SOLID, N.O.S. (Gold(I) potassium cyanide), MARINE POLLUTANT
IATA
CYANIDES, INORGANIC, SOLID, N.O.S. (Gold(I) potassium cyanide)
Transport hazard class(es)
DOT
Class
6.1 Toxic substances
Label
6.1
ADR
Class
6.1 (T5) Toxic substances
Label
6.1
IMDG
Class
6.1 Toxic substances
Label
6.1
IATA
Class
6.1 Toxic substances
Label
6.1
Packing group
DOT, ADR, IMDG, IATA
1
Environmental hazards:
Marine pollutant (IMDG):
Yes (DOT)
Symbol (fish and tree)
Special precautions for user
Warning: Toxic substances
EMS Number:
F-A,S-A
Segregation groups
Cyanides
Stowage Category
A
Segregation Code
SG35 Stow "separated from" acids.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.
Transport/Additional information:
DOT
Quantity limitations
On passenger aircraft/rail: 5 kg
On cargo aircraft only: 50 kg
Hazardous substance:
10 lbs, 4.54 kg
Marine Pollutant (DOT):
No
Remarks:
Special marking with the symbol (fish and tree).
IMDG
Limited quantities (LQ)

Excepted quantities (EQ)
Code: E5
Maximum net quantity per inner packaging: 1 g
Maximum net quantity per outer packaging: 300 g
UN "Model Regulation":
UN 1588 CYANIDES, INORGANIC, SOLID, N.O.S. (GOLD(I) POTASSIUM CYANIDE), 6.1, I

SECTION 15. REGULATORY INFORMATION
Safety, health and environmental regulations/legislation specific for the substance or mixture
GHS label elements
The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)
Hazard pictograms
GHS05
GHS06
Signal word
Danger
Hazard statements
H290
May be corrosive to metals.
H300+H310+H330 Fatal if swallowed, in contact with skin or if inhaled.
H315
Causes skin irritation.
H318
Causes serious eye damage.
Precautionary statements
P260
Do not breathe dust/fume/gas/mist/vapors/spray.
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IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P320
Specific treatment is urgent (see on this label).
P405
Store locked up.
P501
Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
All components of this product are listed on the Canadian Domestic Substances List (DSL).
SARA Section 313 (specific toxic chemical listings)
13967-50-5 Gold(I) potassium cyanide
California Proposition 65
Prop 65 - Chemicals known to cause cancer
Substance is not listed.
Prop 65 - Developmental toxicity
Substance is not listed.
Prop 65 - Developmental toxicity, female
Substance is not listed.
Prop 65 - Developmental toxicity, male
13967-50-5 Gold(I) potassium cyanide
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.
Other regulations, limitations and prohibitive regulations
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed. Substance is not listed.
Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.
Chemical safety assessment:
A Chemical Safety Assessment has not been carried out.

SECTION 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 1997-2019 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.