SAFETY DATA SHEET
According to Regulation n. 1907/2006 and Regulation 878/2020

Potassium dicyanoaurate (Au 68% - 68,2% -68,3%)

Rev n. XIV – 04.09.2024
Replaces rev n XIII – 01.08.2024

1. IDENTIFICATION OF THE SUBSTANCE AND COMPANY

1.1 Product Identifier

Chemical denomination	Potassium dicyanoaurate
C.A.S. Registry Number	13967-50-5
EC number	237-748-4
Molecolar Weight	288,0986
Raw formula	$[KAu(CN)_2]$
Trade Name	Product code
Double salt AU-K 68%	01 – 1001 (COC)
Double salt AU-K 68,2%	172
Double salt AU-K 68,3%	167 – 1167 (COC)
REACH Registration number	01-2120130777-52-0004

1.2 Substance or Mixture Identified pertinent uses and suggested uses:

Intended uses: Production, formulation, electroforming, electroplating and surface treatment of metals. Industrial use.

Environmental release category

ERC1	***MANUFACTURE OF THE SUBSTANCE***
Process category	
PROC2	*Production or refining of chemicals in a closed or continuous process, with occasional controlled exposure or processes with equivalent containment conditions*
PROC3	*Manufacture or formulation of chemicals in closed batch processes, with occasional controlled exposure or processes with equivalent containment conditions*
PROC4	*Production of chemicals with the possibility of exposure*
PROC8a	*Transfer of substance or preparation (loading / unloading) to non-dedicated facilities*
PROC8b	*Transfer of the substance or a preparation (loading / unloading) in dedicated facilities*
PROC9	*Transfer of substance or preparation into small containers (dedicated filling line including weighing)*
PROC26	*Handling of inorganic substances at room temperature*
ERC2	***FORMULATION IN A MIXTURE***
PROC4	*Production of chemicals with the possibility of exposure*
PROC5	*Mixing or blending in batch process*
PROC8a	*Transfer of substance or preparation (loading/unloading) to non-dedicated facilities*
PROC8b	*Transfer of the substance or a preparation (loading/unloading) in dedicated facilities*
PROC9	*Transfer of substance or preparation into small containers (dedicated filling line including weighing)*
PROC26	*Handling of inorganic substances at room temperature*

Products categories

PC14	*Metal surface treatment products, including electroplating and electroplating products*

Environmental release category

ERC5	***USE IN INDUSTRIAL PROPCESSES THAT LEAD TO INCLUSION WITHIN OR ABOVE AN ARTICLE***
PROC1	*Production or refining of chemicals in a closed process, without occasional controlled exposure or processes with equivalent containment conditions*
PROC2	*Production or refining of chemicals in a closed or continuous process, with occasional controlled exposure or processes with equivalent containment conditions*
PROC3	*Manufacture or formulation of chemicals in closed batch processes, with occasional controlled exposure or processes with equivalent containment conditions*
PROC4	*Production of chemicals with the possibility of exposure*
PROC5	*Mixing in batch processes*
PROC7	*Industrial spray application*
PROC8a	*Transfer of substance or preparation (loading / unloading) to non-dedicated facilities*
PROC8b	*Transfer of the substance or a preparation (loading / unloading) in dedicated facilities*
PROC9	*Transfer of substance or preparation into small containers (dedicated filling line including weighing)*
PROC13	*Treatment of articles by dipping*

PROC15 *Use as a laboratory reagent*
PROC26 *Handling of inorganic substances at room temperature*

Product category

PC14 *Metal surface treatment products, including electroplating and electroplating products*

Use industry

SU16 *Computers production, electronic and optical products, electrical equipment production*

Environmental release category

ERC8c ***USE DISPERSED IN CLOSED ENVIRONMENTS THAT LEADS TO INCLUSION ON OR INTO AN ITEM***

PROC4 *Production of chemicals with the possibility of exposure*
PROC8b *Transfer of the substance or a preparation (loading / unloading) in dedicated facilities*
PROC9 *Transfer of substance or preparation into small containers (dedicated filling line including weighing)*
PROC13 *Treatment of articles by immersion*
PROC26 *Handling of inorganic substances at room temperature*

Product category

PC14 *Metal surface treatment products, including electroplating and electroplating products*

Use sector:

SU16 *Production of computers, electronic and optical products, electrical equipment*

Advised against uses: None in particular

1.3 Safety data sheet supplier information

Name	FAGGI ENRICO S.P.A.
Address	Via Majorana, 101/103 50019 Sesto Fiorentino FI
Telephone number	055311861
Fax number	055311791
Persona compente responsabile della scheda dati di sicurezza	lorenzo.magaldi@faggi.it

1.4 Emergency Telephone Number: 111 - Medical helpline operating in England, in Scotland (NHS 24) and in Wales (NHS Direct Wales)

2. HAZARDS IDENTIFICATION

2.1 Mixture classification

Classification according to Regulation (EC) No. 1272/2008:

Hazard Classes	Categories Codes	Hazard codes
Met. Corr.	1	H290 May be corrosive to metals.
Acute toxicity -Oral	2	H300 Fatal if swallowed.
Skin irrit.	2	H315 Causes skin irritation.
Skin sens.	1	H317 May cause an allergic skin reaction.
Eye damage	1	H318 Causes serious eye damage
Aquatic acute	1	H400 Very toxic to aquatic life.
Aquatic chronic	1	H410 Very toxic to aquatic life with long lasting effects

2.2 Label elements

Pictograms:

Signal word **DANGER**

Hazard statements H290 May be corrosive to metals

		H300	Fatal if swallowed.
		H315	Causes skin irritation
		H317	May cause an allergic skin reaction
		H318	Cause serious eye damage
		H410	Very toxic to aquatic life with long lasting effects
	Additional hazard statements / identification elements (EU)	EUH032	Contact with acids liberates very toxic gas.
	Safety advices	P234	Keep only in original packaging.
		P273	Avoid release to the environment.
		P280	Wear protective gloves/protective clothing/eye protection/face protection.
		P302+P352	IF ON SKIN: Wash with plenty of water
		P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or 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

2.3 Other hazards

Hydrogen cyanide can cause all levels of poisoning.
Under the action of acids (including carbon dioxide) hydrogen cyanide is released, which is flammable and together with the air can form explosive gas mixtures.
Avoid contact with acids, air humidity, water.
It does NOT contain PBT / vPvB substances according to Regulation (EC) 1907/2006, annex XIII.
It does NOT contain substances that interfere with the endocrine system in accordance with Regulation (EC) 1907/2006 art.59 paragraph 1 and in accordance with the criteria established in Regulation (EU) 2017/2100 and Regulation (EU) 2018/605.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substance

Potassium dicyanoaurate

CAS Number	13967-50-5
CE Number	237-748-4
INDEX Number	Not available
ATE	LD50 (oral): 24.4 - 36.1 mg/kg bw (rat) Inhalation: scientifically unjustified studies LD50 (dermal): > 2000 mg/kg bw
M factor (acute)	1
M factor (chronic)	1

4. First aid measures

4.1 First aid measures description

General advices	Take yourself out of the dangerous air. Immediate medical attention is required. Show the safety data sheet to healthcare personnel. Bring the injured person to fresh air and keep him at rest in a position that allows easy breathing. Undo tight clothing such as collars, ties, belts. In case of difficulty in breathing or respiratory arrest, give artificial respiration or supply oxygen by trained personnel. Don't leave the victim unsupervised. The following recommendations on first aid and the necessary therapies should be made available to all first aid workers and doctors who may be called to provide help before the work with cyanide or hydrocyanic acid begins. Adverse effects may also include the following: headache, dizziness, lightheadedness, nausea, vomiting, fits, fainting, shortness of breath or difficulty in breathing, cardiac arrest or heart attack. Remove all contaminated clothing immediately. If breathing is difficult, serve oxygen. If victim is not breathing, provide artificial respiration. Do not practice mouth-to-mouth or mouth-to-nose resuscitation. Use the AMBU bag or respirator. Keep the victim warm and at rest. If unconscious place him in the safety position and immediately provide medical attention.
Protection of first aid personnel	No action should be taken involving personal risk or without suitable training. If toxic fumes are suspected to still be present, rescuers should wear an appropriate mask or isolated breathing apparatus. It may be dangerous for rescuers to practice mouth-to-mouth resuscitation. Wash contaminated clothes with plenty of water before removing them or putting on gloves.
Inhalation	Call a physician immediately. (KEY WORD. CYANIDE / HYDRAULIC ACID POISONING). If the victim is unconscious, place him in the safety position and call a doctor immediately. If the decomposition products caused by a fire are inhaled, symptoms may be delayed.
Ingestion	Clean mouth with water and drink plenty of water. Call a physician immediately. (KEY WORD. CYANIDE / HYDRAULIC ACID POISONING). Keep the respiratory tract clear. DO NOT INDUCE VOMITING. Rinse your mouth with water. Do not give anything by mouth to an unconscious person. Immediately take the injured person to the hospital.
Skin contact	Immediately take the injured person to the hospital. Wash contaminated clothing before re-use. Immediately remove the substance from the skin. If the substance is on the skin, wash it repeatedly with water. Flush contaminated skin with large amounts of water.

Recommendations:

- **Need to see a doctor immediately** **YES**
- **Possibility of delayed effects following exposure** **YES**
- **Move the exposed individual from the place of exposure to the open air** **YES**
- **Remove clothing and shoes of the exposed individual** **YES**
- **How to handle contaminated clothing** **With gloves**
- **For those providing first aid, wear PPE** **YES**

4.2 Most important symptoms and effects, both acute and delayed

Possible signs of poisoning: It seems appropriate to differentiate between two stages:
1. Slight poisoning
2. Severe poisoning

The following symptoms do not provide reliable information about prognosis.
Symptoms of central nervous system
Early stage: headache, dizziness, drowsiness, nausea.
advanced stage: convulsions, coma.
pulmonary symptoms
Early stage: dyspnea, tachypnea.
advanced stage: hypoventilation, Cheyne-Stokes respiration, apnea
cardiovascular symptoms
Early stage: Hypertonia, arrhythmia sinus node, AV nodal arrhythmia, bradycardia.
advanced stage: tachycardia, complex arrhythmias, cardiac arrest.
skin symptoms
Early stage: Colorful red.
Advanced stage: cyanosis.
Effect on the metabolism: to pH 7.1 by lactate acidosis and lactate levels up to 17 mm / liter have been described.

4.3 Indication of any need to immediately consult a doctor and special treatments

Therapy: Prevent reabsorption and ensure vital functions, strictly adhering to self-protection measures. Rapid antidote therapy can be life-saving and takes precedence over elimination of poison.
Therapy: Slight intoxication. 100% artificial respiration with oxygen. Based on the symptoms and clinical picture, detailed examinations of the reports, symptomatic treatment for pulmonary edema prophylaxis and diagnostics (lung radiography) are required.
Antidote therapy: for example, administration of sodium thiosulfate 12.5 g - 100-500 mg / kg intravenously, according to the clinical findings and symptoms. Attention! The dosage applies to an adult of 70 kg. Any person poisoned by cyanide must be monitored continuously for many hours even if the patient feels well. This is to ensure that no new symptoms or previous ones remain.
Therapy: severe intoxication.
Artificial respiration with oxygen. Immediate administration of antidote.
The medicines listed below can be used for antidote therapy:
Complex trainer

1. Administer intravenous hydroxocobalamin (Cyanokit®) 5g (70 mg / kg for adults) over an infusion period of 20-30 minutes. This dosage can be repeated, according to the severity of the intoxication. The infusion period for repeated administration is 30 minutes up to 2 hours. Hydroxocobalamin can only be administered intravenously.
2. Dicobalt edetate (Kelocyanor®) 300 mg (1 vial) for adults in 1-3 minutes, intravenously.
Methemoglobin trainer:
1. 4-dimethylaminophenol, (4-Dmap) sodium thiosulfate: the antidote is administered in the following sequence:
to. 4-DMAP, 250 mg (3-4 mg for each kg of body weight) in 5 ml IV (vial) followed by
b. sodium thiosulfate 12.5 g in 50 ml IV- infusion.
If the antidote has been administered and the diagnosis is not that of cyanide intoxication and you have methemoglobin> 30%, you can administer toluidine blue or methylene blue, to suspend the effect of the cyanide antidote. WARNING: this should be done with the utmost caution and only in the hospital, due to the renewed emission of cyanide in the blood.

5. FIRE FIGHTING MEASURES

5.1 Fire fighting media

Suitable extinguishing media	alkaline fire fighting powder.
Unsuitable extinguishing media	water, carbon dioxide (CO2), foam, acid fire fighting material, acid fire fighting powders.

5.2 Special hazards arising from the substance or mixture

Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products: metal oxides, nitrogen oxides, hydrogen cyanide

Special recommendations for firefighters

5.3	General information	Prevent the water used to extinguish the fire from flowing into the sewer, groundwater or surface water. Collect the water used during the extinguishing of the fire separately. This must not be discharged into the sewers. Fire residues and contaminated water must be disposed of in accordance with applicable laws.
	Equipment	If necessary, wear isolated breathing apparatus for firefighting.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and procedures in case of emergency

6.1.1. **For non-emergency personnel**

Move away from the contaminated area and keep upwind.

6.1.2. **For emergency responders**

Wear protective equipment. avoid the formation of dust. avoid breathing dust.
Semi-face masks with ABEK2P3 filters compliant with the EN14387: 2004 standard
Chemical risk gloves compliant with all EN420 and EN374 standards
Splash goggles compliant with Directive 89/686 / EEC and standard EN166: 2001
Complete clothing compliant with the UNI EN 13034: 2006 type 6 standard

6.2 Environmental precautions:

Prevent the product from reaching the following compartments:
•ground
•ground water
• sewer

In case of pollution of rivers, lakes or sewers, inform the competent authorities in accordance with local laws.

6.3 Methods and materials for containment and cleaning up

6.3.1. Recommendations on how to contain a spill

Close (if possible) or cover the drains

6.3.2. Recommendations on how to clean up a spill

1. Solid substance:
   Collect mechanically. Collect in suitable containers. The collected material must be reused or disposed of according to regulations. To absorb the spilled substance, it is recommended to use an approved industrial vacuum cleaner.
2. Solution:
   Absorb with liquid-retaining material, for example: inert absorbent medium, diatomaceous earth or acid absorbent. Collect mechanically. Collect in suitable containers. The collected material must be reused or disposed of according to regulations.

6.3.3. Other informations:

The substance, the packaging, the fire extinguishing water and the remains of any fire must be sent to an appropriate disposal facility, in compliance with waste regulations.

6.4 Reference to other sections:

Refer to sections 8 and 13 for further information.

7. HANDLING AND STORAGE

7.1. Precautions for Safe Handling

7.1.1. Recommendations that allow the substance or mixture to be handled safely, such as containment and prevention measures for fires and for the formation of aerosols and dusts

Avoid the formation of dust and keep away from incompatible materials (acids, acid salts, aluminum). Do not breathe dust and vapors. Avoid contact with eyes and skin. Use only under a suction hood. Keep fire extinguishers and containment means such as inert absorbent media, diatomaceous earth or absorbent for acids nearby.
Provide for the disposal of waste water in accordance with local and national laws.
Post appropriate signs against the risk of fire and / or explosion.

7.1.2. Generic recommendations on occupational hygiene

Do not eat, drink and smoke in work areas. Wash your hands after use. Remove contaminated clothing and protective equipment before entering eating areas

7.2. Conditions for safe storage, including any incompatibilities

7.2.1. Management of risks associated with explosive atmospheres, corrosive conditions, flammability hazards, incompatible substances and mixtures, evaporation conditions, potential sources of ignition

The product itself does not burn but if involved in a fire it can release toxic gases.
Suitable containers: plastic.
In case of release of hydrogen cyanide: The formation of flammable or explosive dust / air mixtures is possible.
Keep suitable fire extinguishers and plenty of water near the substance.
Open the containers under suction and close them immediately after use.

7.2.2. ***Containment of the effects of weather conditions, pressure, temperature, sunlight, humidity and vibrations***
Keep in a locked and ventilated room. Protect against solar radiation and the action of heat.

7.2.3. ***Conditions for keeping substances / mixtures intact***
Store in original containers. Keep the containers tightly closed and store them in a dry and well ventilated, clean, dry, closable place.

7.2.4. ***Provisions relating to ventilation, specific design of storage rooms or containers, quantitative limits in storage conditions, compatibility of packaging***
Do not store near: acids and acid salts.
Keep the substances in a locked deposit with forced ventilation.
Use ADR approved packaging

7.3. **Specific end uses**
Industrial use. Additive for electroplating.

8. **EXPOSURE CONTROL / PERSONAL PROTECTION**

8.1. **Control parameters**
Since no control parameters have been defined for the substance itself, values relating to potassium cyanide are reported (CAS 151-50-8 CE 205-792-3)
Control parameters:
TLV (ceiling value): 5 mg/m^3 as STEL (skin)
EU-OEL: 1 mg/m^3 as TWA
Control parameters: Skin designation: (OEL (IT))
It can be absorbed through the epidermis.
Suitable measurement procedures are:
Potassium cyanide: OSHA method ID120
NIOSH method 7904
Hydrogen cyanide: OSHA method ID120

DNEL: (potassium dicyanoaurate)
Systemic effects for long term exposure - inhalation: 0.071 mg / m^3
Systemic effects for acute long-term exposure - dermal: 0.1 mg / kg bw / day

PNEC: (potassium dicyanoaurate)
Fresh water: 0.2 µg / L
Fresh water (intermittent release): 2 µg / L
Sea water: 0.02 µg / L
STP: 6 mg / L
Sediment (fresh water): 0.33 mg / kg dry weight
Sediment (sea water): 0.033 mg / kg dry weight
Soil: 0.067 mg / kg dry weight

8.2. **Exposure controls**
Provide for appropriate air extraction / evacuation in the workplace and on the operating machine.
Provide for the installation of an emergency shower and an eye shower.

8.2.1. ***Appropriate technical controls***
Use only in rooms equipped with air extraction

8.2.2. Individual protection measures, such as personal protective equipment

Eye / face protection	Goggles with side shields compliant with Directive 89/686 / EEC and EN166: 2001 standard
Skin protection (hands)	Gloves compliant with EN 374 Glove material: Nitrile rubber Thickness 0.40 mm Breakthrough time > 30 minutes
Skin (body) protection	Complete clothing compliant with the UNI EN 13034: 2006 type 6 standard When cleaning: rubber or plastic boots
Respiratory protection	When hydrogen cyanide occurs: Wear self-contained breathing apparatus. Observe the maximum times of use of respiratory protection. In case of dust / aerosol: Respirator with combined filter B-P3 Respirator with combined filter ABEK-P3
Thermal hazards	The substance does not present a thermal hazard

8.2.3. Environmental exposure controls

Prevent the spillage of solutions containing cyanide in groundwater, soil, sewers. Provide for closing the manholes while moving the solutions. Do not store in areas with sewage drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	Crystalline solid
Color	White
Odour	None when dry. Almond if moist
Melting point / freezing point	It decomposes at 383 ° C and 101.3 kPa
Boiling point or initial boiling point and boiling range	Not applicable
Flammability	Not flammable
Lower and upper explosive limits	Not explosive
Flash point	Not applicable
Self-ignition temperature	Not flammable
Decomposition temperature	383 °C
pH	11 (100 g/l in water)
Kinematic viscosity	Not applicable
Solubility	143 g/l in water at 20°C
Partition coefficient n-octanol / water (logarithmic value)	Not applicable

Vapor pressure	Not applicable
Density and / or relative density	3,6 g/cm^3 (20° +/-0.5 °C)
Relative vapor density	Not applicable
Characteristics of the particles	Fraction < 100 µm: 17.6 %

9.2. **Other information:** none

10. STABILITY AND REACTIVITY

10.1 **Reactivity**

May be corrosive to metals

Danger of hydrocyanic acid formation in contact with acids, carbon dioxide, air humidity.

10.2 **Chemical stability**

The product is stable under normal conditions of storage and use.

10.3 **Possibility of hazardous reactions**

Contact with acids liberates a very toxic gas

If involved in a large fire there is the possibility of hydrogen cyanide formation.

10.4 **Conditions to avoid**

Under the action of acids (including carbon dioxide) hydrogen cyanide is released, which is flammable and together with the air can form explosive gas mixtures. Keep away from acid salts.

10.5 **Incompatible materials**

Acids, acid salts. Over time, even the air can lead to the formation of hydrogen cyanide in a confined environment or in containers that are not hermetically closed.

10.6 **Hazardous decomposition products**

HCN hydrogen cyanide

11 TOXICOLOGICAL INFORMATION

11.1 **Information on the hazard classes defined in Regulation (EC) No. 1272/2008**

Acute toxicity	LD50 (oral): 29.2 mg/kg bw (rat) Inhalation: scientifically unjustified studies LD50 (dermal): >2000 mg/kg bw (rat)
Skin corrosion/irritation	If brought into contact with the skin, the product causes significant inflammation with erythema, scabs or edema. (OECD Guideline 439)
Serious eye damage/irritation	If brought into contact with the eyes, the product causes serious eye damage, such as opacification of the cornea or injury to the iris. (In Vitro Irritancy Score 171.5)
Respiratory or skin sensitization	If brought into contact with the skin, the product may cause skin sensitization. (OECD Guideline 429)
Germ cell mutagenicity	Based on available data, the classification criteria are not met NOAEL : 3 mg/kg bw/ day (rat)
Carcinogenicity	Based on available data, the classification criteria are not met
Reproductive toxicity	Based on available data, the classification criteria are not met NOAEL : 10 mg/kg bw/ day (rat)

STOT – single exposure	Based on available data, the classification criteria are not met
STOT – repeated exposure	Based on available data, the classification criteria are not met

11.2 **Information on other hazards**

Inhalation (about 200 ppm HCN in atmospheric air is enough) or ingestion (about 200 - 300 mg KCN) can cause immediate loss of consciousness and death.
In case of long-term exposure (15 ppm) single cases of thyroid function disorders have been reported.
It can be absorbed into the skin, particularly if the skin is sweaty or injured.
Symptoms related to the physical, chemical, and toxicological characteristics: Respiratory fatigue, loss of consciousness
Relating to substance: hydrogen cyanide Epidemiological studies with exposed workers (1-3 ppm) did not show negative effects on health.

12. ECOLOGICAL INFORMATION

The product is dangerous for the environment as it is very toxic to aquatic organisms
The product is dangerous for the environment as it is very toxic to aquatic life with long lasting effects.

12.1 Toxicity:

Toxicity to fish - Short term effects

Method	**Results**
Oncorhynchus mykiss - according to EOCD guideline 203 (test for short-term toxicity in fish)	LC50 (24h): 12 mg/l LC50 (48h): 5.7 mg/l LC50 (72h): 5.7 mg/l LC50 (96h): 5.7 mg/l NOEC (96h): 3.2 mg/l LOEC (96h): 10 mg/l

Toxicity to invertebrates - Short term effects

Method	**Results**
Daphnia Magna *In accordance with OECD 202 guideline (Daphnia sp. Acute immobilisiation Test)*	EC50 (24h): 0.76 mg/l EC50 (48h): 0.20 mg/l NOEC (48h): 0.094 mg/ LOEC(48H): 0.21 mg/l

Toxicity to algae and plants - Short term effects

Method	**Results**
Pseudokirchneriella subcapitata *In accordance with OECD 201 guideline*	EC50 (72h) :14 mg/l (biomass) EC50 (72h): 30 mg/l (growth) NOEC (72h): 6.4 mg/l (biomass) NOEC (72h): 6.4 mg/l (growth) LOEC (72h): 16 mg/l (biomass) LOEC (72h): 16 mg/l (growth) EC10 (72h): 4.4 mg/l (biomass) EC10 (72h): 11 mg/l (growth) EC20 (72h): 8 mg/l (biomass) EC20 (72h): 17 mg/l (growth)

12.2 Persistence and degradability

Not applicable

12.3 Bioaccumulation potential

No data available

12.4 Mobility in soil

Koc at 20 °C: 16648.7

12.5 Results of PBT and vPvB assessment

Not applicable

12.6 Properties of interference with the endocrine system

No known effect

12.7 Other adverse effects

No known effect

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

This product and its packaging must be disposed of in authorized facilities. An CER code of hazardous waste must be assigned on the basis of the provisions of Directive 2008/98 / EC and subsequent amendments and additions.
The packaging and labeling of waste must be identical to that of the pure product. Do not remove the labels from the packaging until their final destination.
Do not reuse empty containers.
Cyanide waste can only be treated and decontaminated by authorized companies with: Hydrogen peroxide and pH value 11).

14. TRANSPORT INFORMATION

14.1	**UN number or ID number**	UN3290
14.2	**Official UN shipping name**	
	ADR/RID/ADN/IMDG/ICAO-IATA	TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S. (potassium dicyanoaurate(I))
14.3	**Transport hazard class**	
	ADR/RID/ADN/IMDG/ICAO-IATA: Class	6.1 + 8
	ADR/RID/ADN/IMDG/ICAO-IATA: Label	6.1 + 8 + Mark environmental hazard
	ADR: Tunnel restriction code	D / E
	IMDG - EmS	F-A, S-B
14.4	**Packing group**	II
14.5	**Dangers for the environment**	
	ADR/RID/ADN/ICAO-IATA:	Product dangerous for the environment
	IMDG: Marine Contaminant:	Yes

14.6 Special precautions for users

The transport must be carried out by vehicles authorized to transport dangerous goods according to the prescriptions of the current edition of the A.D.R. and applicable national provisions. Transport must be carried out in the original packaging and, in any case, in packaging that is made up of materials that cannot be attacked by the content and are not likely to generate dangerous reactions with this. The persons in charge of loading and unloading dangerous goods must have received appropriate training on the risks presented by the preparation and on any procedures to be adopted in case of emergency situations

14.7 Maritime transport in bulk according to IMO instruments

Transport in bulk is not foreseen

15. REGULATORY INFORMATION

15.1	**Health, safety and environmental legislation and regulations specific to the substance or mixture**	**Applicability**
	Reg. (CE) 1907/2006/CE Reach	YES
	Reg. (EC) 1272/2008 CLP and following changes and additions	YES
	Reg. (CE) 2037/2000 "Substances that deplete the ozone layer"	NO
	Reg. (EC) 850/2004 "Persistent organic pollutants"	NO
	Reg. (EC) 689/2008 "export and import of dangerous chemicals"	NO
	Substance listed in Annex I of Dir. 2012/18 / EU so-called Seveso	YES
	Legislative Decree 81/2008 Consolidated Law on health and safety at work	YES
	Directive 2014/103 / EU "Adr"	YES
	R.D. 09/01/1927 "Gas tossici" R.D. 09/01/1927 "Toxic gases"	NO
	Reg. (CE) 1907/2006/CE Reach art. 59 – Candidate List of Substances of Very High Concern (SVHC)	NO
	Reg. (CE) 1907/2006/CE Reach - Annex XIV – Authorisation List	NO
	Reg. (CE) 1907/2006/CE Reach - Annex XVII – Restriction List	Restricted use
	https://echa.europa.eu/it/substances-restricted-under-reach	Item 75 (see link)

15.2 **Chemical safety assessment**

Chemical safety assessment has been carried out

16. OTHER INFORMATION

Changes compared to the previous edition

Modified sections: 14

Key to abbreviations and acronyms

ADR: European agreement concerning the international transport of dangerous goods by road
GHS: Globally Harmonized System of Classification and Labeling of Substances
EINECS: European Inventory of Chemical Substances
CAS: Chemical Abstract Service
Met. Corr: metal corrosive
Skin irrit. : skin irritation
Skin sens.: skin sensitisation
ATE: estimated acute toxicity
PBT: Persistent, Bioaccumulative, Toxic
vPvB: very persistent, very bioaccumulative
LD: lethal dose
PNEC: predicted no effect concentration
DNEL: derived no effect level
TLV (ceiling value): threshold limit value
STEL: short term exposition level
EU-OEL: European occupational exposure limit
TWA: time weighted average
EC: effective concentration
NOAEL: no observed adverse effect level
LC: lethal concentration

NOEC: no observed effect concentration
LOEC: lowest observed effect concentration
Koc: organic carbon-water partition co-efficient

Main bibliographic references and data sources

ECHA database on registered substances and those under registration:
http://echa.europa.eu/web/guest/information-on-chemicals/registered-substances

Adequate training for workers to ensure the protection of human health and the environment

- Training on Chemical Risk pursuant to Legislative Decree 81/08 Title IX dangerous substances
- PPE training
- Training for obtaining a license for handling toxic gases