

Safety Data Sheet

According to Annex II to REACH - Regulation (EU) 2020/878

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: OR027701
Product name: AURICOR 302N
UFI: RCN0-W084-C007-ENF6

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use: Gold plating solution ready to use

Identified Uses	Industrial	Professional	Consumer
use	ERC: 2, 5, 8c. PROC: 4, 5. PC: 14. LCS: IS.	-	-

1.3. Details of the supplier of the safety data sheet

Name: BERKEM SRL
Full address: Via Della Provvidenza 63
District and Country: 35030 Rubano (Padova) Italia
Tel.: +390498978072
Fax: +39049635018
e-mail address of the competent person responsible for the Safety Data Sheet: quality@berkem.it

1.4. Emergency telephone number

For urgent inquiries refer to:

- MILANO: CAV Ospedale Niguarda Ca'Granda - Telefono (+39) 02 66101029
- PAVIA: CAV IRCCS Fondazione Maugeri - Telefono (+39) 0382 24444
- BERGAMO: CAV Ospedali Riuniti - Telefono (+39) 800 883300
- FIRENZA: CAV Ospedale Careggi - Telefono (+39) 055 794819
- ROMA: CAV Policlinico Gemeli - Telefono (+39) 06 3054343
- ROMA: CAV Policlinico Umberto - Telefono (+39) 06 49978000
- NAPOLI: CAV Ospedale Cardarelli - Telefono (+39) 081 7472870
- VERONA: CAV Ospedale Borgo Trento - Telefono (+39) 800 011058

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Acute toxicity, category 4	H302	Harmful if swallowed.
Acute toxicity, category 4	H332	Harmful if inhaled.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 2	H411	Toxic to aquatic life with long lasting effects.

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SECTION 2. Hazards identification ... / >>

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: Warning

Hazard statements:

H302+H332	Harmful if swallowed or if inhaled.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.
EUH032	Contact with acids liberates very toxic gas.

Precautionary statements:

P280	Wear protective gloves / eye protection / face protection.
P273	Avoid release to the environment.
P391	Collect spillage.
P261	Avoid breathing dust / fume / gas / mist / vapours / spray.
P312	Call a POISON CENTRE or a doctor if you feel unwell.
P362+P364	Take off contaminated clothing and wash it before reuse.

Contains: Potassium dicyanoaurate
Ethylenediamine Tetra Acetic Acid, Disodium Salt
Potassium dicyanocuprate

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.

The product does not contain substances with endocrine disrupting properties in concentration \geq 0.1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
Ethylenediamine Tetra Acetic Acid, Disodium Salt		
INDEX	$1 \leq x < 2,5$	Acute Tox. 4 H332, STOT RE 2 H373
EC	205-358-3	LC50 Inhalation mists/powders: >1 mg/l/6h
CAS	139-33-3	
REACH Reg.	01-2119486775-20	
Potassium dicyanoaurate		
INDEX	$1,02 \leq x < 2,5$	Met. Corr. 1 H290, Acute Tox. 2 H300, Acute Tox. 2 H330, Eye Dam. 1 H318, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1, EUH032
EC	237-748-4	ATE Oral: 5,001 mg/kg, ATE Inhalation mists/powders: 0,051 mg/l
CAS	13967-50-5	
Potassium dicyanocuprate		
INDEX	$0,15 \leq x < 0,25$	Acute Tox. 1 H310, Acute Tox. 2 H300, Acute Tox. 2 H330, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1, EUH032
EC	237-192-2	LD50 Oral: 8,35 mg/kg, ATE Dermal: 5 mg/kg, ATE Inhalation mists/powders: 0,051 mg/l
CAS	13682-73-0	

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SECTION 3. Composition/information on ingredients ... / >>

Potassium dicyanoargentate

INDEX

 $0,025 \leq x < 0,1$
 Met. Corr. 1 H290, Skin Corr. 1A H314, Eye Dam. 1 H318, Eye Dam. 1 H318,
 Aquatic Acute 1 H400 M=10, Aquatic Chronic 1 H410 M=100, EUH032

EC 208-047-0

CAS 506-61-6

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

General notes

Before any intervention, provide for one's own safety. The rescuers of the injured must be adequately protected (adequate self -resurrected, adequate clothing, antacid protective gloves, antacid suit).

Keep the person affected in the heat, stretched in a comfortable and covered position.

In case of loss of knowledge, but if the subject breathes, spread it on the side in a stable position.

In case of cardiac arrest, start a cardiopulmonary resuscitation immediately (CPR).

Do not leave people affected without surveillance.

Inhalation

In the case of aerosol formation, mists, powders or fumes, inhalation is possible.

Bring the person affected in the open air, outside the danger area.

If it is necessary to perform artificial respiration, be careful not to practice mouth mouth breathing (danger of poisoning for the rescuer!). Use a suitable respiratory device.

Keep the respiratory tract clean. In case of lack of air, administer oxygen.

Call a doctor immediately (key word: poisoning with cyanide / cyanide acid).

If the injured person has lost consciousness, if an antidote is arranged such as the nitrite of amile, pour the content of a vial (17 mg) on a cloth or a handkerchief and keep under the nose of the injured person for 15 seconds every minute, simultaneously practicing breathing artificial but not mouth for mouth.

Administer up to 3-4 amile nitrite vials each of which to be replaced after no more than 5 minutes that has been opened. Continue the artificial breathing up to the improvement of the general conditions and pending the arrival of the doctor.

Contact with the skin

Immediately remove the contaminated or impregnated clothes or shoes and put them in a safe place.

Wash the clothing, clean the shoes before reusing them.

In case of contact with the skin, wash with plenty of soap and water. Do not use solvents.

With symptoms of intoxication, immediately call a doctor (key word: poisoning from cyanide / cyanideous acid).

Contact with eyes

Rinse immediately and abundantly with water for at least 10 minutes, keeping the eyelids well open. Check if

The injured person brings contact lenses, and in this case removing them.

With symptoms of intoxication, immediately call a doctor (key word: poisoning from cyanide / cyanideous acid).

Ingestion

Do not cause vomiting.

If the person is conscious, rinse the mouth with water, make a lot of water drink immediately, being careful not to cause the vomit.

Call a doctor immediately (key word: poisoning with cyanide / cyanide acid).

Rescuer protection

Information not available

4.2. Most important symptoms and effects, both acute and delayed

Possible signs of poisoning: it seems appropriate to differentiate between two stages:

1. Light poisoning

2. severe intoxication

The following symptoms do not provide certain indications on the prognosis:

Central nervous system symptoms

- Initial stage: headache, dizziness, drowsiness, nausea.

- Advanced stage: convulsions, coma.

Lung symptoms:

- initial stage: dyspnea, tachipnea.

- Advanced stage: hypoventilation, cheyne-stakes breathing, apnea

Cardiovascular symptoms:

- initial stage: hypertonia, arrhythmia of the sinus node, arrhythmia of the AV node, bradycardia.

- Advanced stage: tachycardia, complex arrhythmias, cardiac arrest.

Skin symptoms:

- initial stage: red color.

- Advanced stage: cyanosis.

Effect on metabolism: acidosis from lactate to pH 7.1 and lactate levels up to 17 mmol/l have been described.

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SECTION 4. First aid measures ... / >>

4.3. Indication of any immediate medical attention and special treatment needed

Follow the information provided in paragraph 4.1. In all cases, consult a doctor immediately.

Treatment:

Ensure vital functions only without risk for people.

Rapid therapy with antidotes can save life and has precedence on the elimination of the poison.

Prevent reabsorption.

Therapy for slight intoxication:

100% artificial breathing with oxygen.

Based on the symptoms and clinical picture, meticulous reports of the reports are needed, a symptomatic treatment for rophylaxis pulmonary edema and diagnostic (radiography of the lung).

Antidote therapy:

For example, administration of 12.5 g sodium girls-100-500 mg/kg intravenous, according to the clinical find and symptoms.

ATTENTION: the dosage applies to an adult of 70 kg.

Each person poisoned by cyanide must be supervised continuously for many hours even if the patient feels good. In this way yes It wants to ensure that symptoms or precedents do not occur again.

Therapy for serious intoxication:

Artificial breathing with oxygen.

Immediate administration of antidote.

Medicines listed below can be used for antidote therapy:

Complex trainer:

1. Administer hydroxicobalamin (cyanokit®) intravenous 5G (70 mg/kg for adults) for an infusion period of 20-30 minutes. This dosage can be repeated, according to the severity of intoxication. The period of infusion, for repeated administration is 30 minutes up at 2 hours. Hydroxicobalamin can only be administered intravenously!

2. Editato dichobalto (Kelocyanor®) 300 mg (1 vial) for adults in 1-3 minutes, intravenously.

Metaemoglobin trainer:

1. 4-Dimetilaminopheneol, (4-dmap) sodium thozolfate: the antidote is administered in the following succession:

a. 4-DMAP, 250 mg (3-4 mg for each kg of body weight) in 5 ml IV (vial) followed by

b. 12.5 g sodium girl in 50 ml iv- infusion.

If the antidote has been administered and the diagnosis is not that of cyanide poisoning and you have methemoglobin > 30%, you can administer blue or blue blue of methylene, to suspend the effect of the antidote of cyanide. ATTENTION: this should be done with the utmost Caution and only in the hospital, due to the renewed emission of cyanide in the blood.

2. Sodium nitrite (Taylor, kit of Lilly antidotes or Pasadena Cianuri) 300 - 600 mg intravenously in 5 up to 15 minutes

After the ingestion:

Rinse your mouth with water (only if the injured person is conscious). First of all, the administration of antidote. Endoscopy immediate for the evaluation of any lesions of the mucous membrane in the esophagus and in the stomach. The effectiveness of the administration of coal.

Means to have available in the workplace for specific and immediate treatment

Information not available

SECTION 5. Firefighting measures

5.1. Extinguishing media

Suitable extinction means: Alkaline fire dust, Water, Foam

UNLIGHE EXTINCANCE MEANS: Acid fire dust, carbon dioxide (CO2)

5.2. Special hazards arising from the substance or mixture

In the event of a fire, cyanhydric acid can be freed.

Avoid breathing combustion products (cyanideous acid, carbon oxides, nitrogen oxides, metal oxides, pyrolysis products dangerous, etc.). Vapors can cause dizziness, fainting or suffocation.

The dispersion of the substance in the environment can be the cause of pollution.

5.3. Advice for firefighters

Exposure to combustion products can be a danger to health, not to intervene without adequate equipment

Protective (complete equipment, resistant acid clothing, self-employed).

Keep unprotected people away.

Contain the extinguishing waters of the fire, which must be collected and not dispersed in the environment through the exhaust in the sewers. Dispose of the shutdown waters and the residues of the fire in accordance with current regulations.

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SECTION 6. Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

For those who do not intervene directly:

Arrest the loss if the operation does not involve risks.

Distance the people who are not involved in the emergency intervention from the dangerous area.

Evacuate the area by going immediately in a safe place.

For those who intervene directly:

Intervene only after wearing protective equipment as described in section 8 and follow the advice for use and manipulation in Safety of section 7.

Distance unprotected people.

Do not breathe the vapors, the fumes, the mists.

Remove any sources of fireproof and ventilate the environment.

For the danger of skin absorption, avoid any contact with the skin.

6.2. Environmental precautions

Do not disperse the product in the environment. Prevent the discharge or dispersion of the product into the ground, in sewer, in superficial water bodies,

in the slope waters. In case of pollution, inform the competent authorities in accordance with local laws.

Drain waters and solutions with cyanuri must be made non -toxic before being downloaded in the sewer system or surface waters.

6.3. Methods and material for containment and cleaning up

Recovery:

In case of container losses, if possible interrupt the product leak as soon as possible.

Collect the material poured and store in clean and labeled containers.

Neutralization:

For the product's neutralisation, use oxidative non acidic substances (permanganate) or through reaction with Sodium hypochlorite.

Disposal:

Collect residues in clean and labeled containers. Dispose them in accordance with current legislation.

6.4. Reference to other sections

For more information refer to section 8 regarding individual protective equipment, in section 7 regarding the advice of use and manipulation, in section 13 regarding the disposal of waste.

SECTION 7. Handling and storage**7.1. Precautions for safe handling**

Protective measures:

Check the integrity of the containers before their handling. Handle the containers with particular caution.

Avoid strictly:

- contact with the skin and eyes

- inhalation of vapors and fumes

Manipulate the product with any precaution necessary to avoid inhalation of vapours.

Ensure good ventilation in work areas. The barrel must be opened in totally aspirated workstation (autonomous aspiration localized).

When the product is handled the use of protective equipment is compulsory and in case of need always have available breathing apparatus ready to use.

Before carrying out labor operations in other containers, make sure that there are no incompatible substances within the same packages.

Environmental protection measures:

Avoid the dispersion of the product in the environment.

Minimize through adequate procedural and plant interventions all the possible sources of loss of substance.

The accommodation of the storage area must be such as to prevent percolation in the soil of accidental escapes. Indications in Matter of hygiene of work:

Keep away from foods and drinks.

Do not eat drink or smoke during the use of the product, in work and storage areas.

Wash your hands after manipulation of the product, before the interval or at finished work.

Avoid contact with eyes and skin. Respect normal personal hygiene.

Avoid contaminating clothing with the product. Immediately remove contaminated clothing.

Remove any contaminated clothing and protective equipment before entering the canteen area.

Keep work clothes separately.

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SECTION 7. Handling and storage ... / >>

7.2. Conditions for safe storage, including any incompatibilities

Store the product in the original container, labeled.

Keep the containers well closed and in a ventilated and fresh place, protected by the heat and the rays of the sun.

Protect containers from physical damage, accidental impacts and falls.

Indications for storage together with other products:

Do not store near acids and acid salts.

Keep away from foods or feed and drinks.

Avoid contact with incompatible materials (see section 10).

Indications against fires and explosions:

See section 5. The product in itself does not burn.

In case of storage of significant quantities of product (e.g. manufacturers/distributors) it is recommended: the respiratory protective devices and the neutralizing necessary in the event of an accident are present.

7.3. Specific end use(s)

Information not available.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory references:

EU OEL EU Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.

Potassium dicyanoargentate

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,046	µg/L
Normal value in marine water	0,86	µg/L
Normal value for fresh water sediment	438,13	mg/kg/d
Normal value for marine water sediment	438,13	mg/kg/d
Normal value of STP microorganisms	0,025	mg/l
Normal value for the food chain (secondary poisoning)	NPI	
Normal value for the terrestrial compartment	1,05	mg/kg/d
Normal value for the atmosphere	NPI	

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral	NEA	NEA	NEA	NEA				
Inhalation	NEA	NEA	NEA	NEA	HIGH	NPI	HIGH	0,078 mg/m3
Skin	NEA	NEA	NEA	NEA	HIGH	NPI	HIGH	0,011 mg/kg/d

Ethylenediamine Tetra Acetic Acid, Disodium Salt

Predicted no-effect concentration - PNEC

Normal value in fresh water	2,2	mg/l
Normal value in marine water	0,22	mg/l
Normal value for fresh water sediment	2,2	mg/kg
Normal value for marine water sediment	0,22	mg/kg
Normal value for water, intermittent release	1,2	mg/l
Normal value of STP microorganisms	43	mg/l
Normal value for the terrestrial compartment	0,72	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				25 mg/kg/d				
Inhalation	1,2 mg/m3	1,2 mg/m3	0,6 mg/m3	0,6 mg/m3	3 mg/m3	3 mg/m3	1,5 mg/m3	1,5 mg/m3

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SECTION 8. Exposure controls/personal protection ... / >>

Potassium dicyanoaurate

Threshold Limit Value

Type	Country	TWA/8h	STEL/15min	Remarks / Observations			
		mg/m3	ppm	mg/m3	ppm		
OEL	EU	1	9	5	4,5	SKIN	Ref. HCN

Predicted no-effect concentration - PNEC

Normal value for marine water sediment	0,033	mg/kg
Normal value for the terrestrial compartment	0,067	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute	Acute	Chronic	Chronic	Acute local	Acute	Chronic	Chronic
	local	systemic	local	systemic		systemic	local	systemic
Inhalation								0,071 mg/m3
Skin								0,1 mg/kg bw/d

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

If the product may or must come into contact or react with acids, suitable technical and/or organisational measures should be taken to prevent the development of toxic and/or inflammable gases.

HAND PROTECTION

Protect hands with category III work gloves.

The following should be considered when choosing work glove material (see standard EN 374): compatibility, degradation, permeability time.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

Protect your hands with gloves of the following type:

Material: Nitrile rubber (NBR)

The indicated material is a possible choice; other materials can be adequate, depending on the specifications indicated by the manufacturer.

Thickness: 0,11 mm

Glove thickness must be selected based on the minimum required breakthrough time.

Breakthrough time: > 480 min

Glove resistance depends on various elements, such as temperature and other environmental factors.

Material: Nitrile rubber (NBR)

In the case of mixtures, work glove resistance to chemical agents must be verified before use, as it is not predictable. Gloves have a wear time that depends on use type and duration.

Thickness: 0,4 mm

Glove thickness must be selected based on the minimum required breakthrough time.

Breakthrough time: > 480 min

Glove resistance depends on various elements, such as temperature and other environmental factors.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (see standard EN ISO 16321).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

Respiratory protection

To the presentation of hydrocyanic acid: wearing an autonomous respiratory appliance and follow the maximum use of the use of protection respiratory (respirator with combined B-P3 breathing filter).

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

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SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	Temperature: 25 °C
Colour	light blue	Temperature: 25 °C
Odour	odourless	
Melting point / freezing point	0 °C	
Initial boiling point	100 °C	
Flammability	not flammable	
Lower explosive limit	not applicable	
Upper explosive limit	not applicable	
Flash point	not applicable	
Auto-ignition temperature	not applicable	
Decomposition temperature	not applicable	
pH	10,0-11,0	Temperature: 25 °C
Kinematic viscosity	not determined	
Solubility	miscible	
Partition coefficient: n-octanol/water	not determined	
Vapour pressure	not determined	
Density and/or relative density	1,030-1,040 g/cm3	Temperature: 25 °C
Relative vapour density	not determined	
Particle characteristics	not applicable	

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

Information not available

SECTION 10. Stability and reactivity

10.1. Reactivity

The product does not decompose if used according to the rules.

Ethylenediamine Tetra Acetic Acid, Disodium Salt

The aqueous solutions act as: acids.

Attack metals developing hydrogen and carbonates developing CO₂.

10.2. Chemical stability

The product is stable in the recommended employment and storage.

10.3. Possibility of hazardous reactions

It reacts with acids, acid salts, strong oxidant, carbon dioxide developing hydrocyanic acid.

hydrocyanic acid is flammable and together with the air it can form explosive gaseous mixtures (in large concentrations).

hydrocyanic acid is highly toxic and can cause all levels of poisoning

Ethylenediamine Tetra Acetic Acid, Disodium Salt

Possibility of explosion.

10.4. Conditions to avoid

Avoid contact with acids, acid salts, water, carbon dioxide, strong oxidants.

Ethylenediamine Tetra Acetic Acid, Disodium Salt

Avoid exposure to: moisture, electrostatic discharges, ignition sources.

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SECTION 10. Stability and reactivity ... / >>

10.5. Incompatible materials

Under the action of acids (also of carbon dioxide) it is freed hydrocyanic acid, which is flammable and together with the air it can form explosive gaseous mixtures. Keep away from acid salts.

Ethylenediamine Tetra Acetic Acid, Disodium Salt

Avoid contact with: light metals.

10.6. Hazardous decomposition products

The decomposition for heating produces toxic fumes containing hydrocyanic acid, flammable and highly toxic gas.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

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

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Ethylenediamine Tetra Acetic Acid, Disodium Salt

Due to its slightly acidic properties, it could be irritating for the eyes and also for the skin.

Interactive effects

Information not available

ACUTE TOXICITY

ATE (Inhalation - mists / powders) of the mixture:	2,9 mg/l
ATE (Oral) of the mixture:	310,13 mg/kg
ATE (Dermal) of the mixture:	>2000 mg/kg

Ethylenediamine Tetra Acetic Acid, Disodium Salt

LD50 (Oral): > 2000 mg/kg Rats

LC50 (Inhalation mists/powders): > 1 mg/l/6h Rats

Potassium dicyanoaurate

LD50 (Dermal): > 2000 mg/kg bw Rats

LD50 (Oral): 29,2 mg/kg bw Rats

ATE (Oral): 5,001 mg/kg estimate from table 3.1.2 of Annex I of the CLP
(figure used for calculation of the acute toxicity estimate of the mixture)

Potassium dicyanocuprate

ATE (Dermal): 5 mg/kg estimate from table 3.1.2 of Annex I of the CLP

(figure used for calculation of the acute toxicity estimate of the mixture)
8,35 mg/kg Rats - Ref. Copper cyanide

LD50 (Oral):

Potassium dicyanoargentate

LD50 (Dermal): 5 mg/kg Human - Ref Silver Cyanide

LD50 (Oral): 175 mg/kg Rats - Ref Silver Cyanide

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

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SECTION 11. Toxicological information ... / >>

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

11.2. Information on other hazards

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

SECTION 12. Ecological information

This product is dangerous for the environment and is toxic for aquatic organisms. In the long term, it has negative effects on the aquatic environment.

12.1. Toxicity

Ethylenediamine Tetra Acetic Acid, Disodium Salt

LC50 - for Fish	> 100 mg/l/96h <i>Lepomis macrochirus</i>
EC50 - for Crustacea	> 100 mg/l/48h <i>Daphnia magna</i>
EC50 - for Algae / Aquatic Plants	> 100 mg/l/72h <i>Scenedesmus subspicatus</i>
Chronic NOEC for Fish	> 36,9 mg/l <i>Brachydanio rerio</i>

Potassium dicyanoaurate

LC50 - for Fish	5,7 mg/l/96h
EC50 - for Crustacea	0,2 mg/l/48h <i>Daphnia Magna</i>
EC50 - for Algae / Aquatic Plants	30 mg/l/72h
EC10 for Algae / Aquatic Plants	6,4 mg/l/72h

Potassium dicyanoargentate

LC50 - for Fish	3,3 mg/l/96h <i>Pimephales promelas</i>
EC50 - for Crustacea	0,022 mg/l/48h <i>Daphnia magna</i>
EC50 - for Algae / Aquatic Plants	> 100 mg/l/72h
Chronic NOEC for Fish	130 µg/L <i>Menidia beryllina</i>
Chronic NOEC for Algae / Aquatic Plants	12 mg/kg Ag 10 days - <i>Hyalella azteca</i>

12.2. Persistence and degradability

Ethylenediamine Tetra Acetic Acid, Disodium Salt

Solubility in water	108000 mg/l
NOT rapidly degradable	

Potassium dicyanoaurate

Solubility in water	143000 mg/l
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SECTION 12. Ecological information ... / >>

Potassium dicyanoargentate
Solubility in water 142800 mg/l

12.3. Bioaccumulative potential

Ethylenediamine Tetra Acetic Acid, Disodium Salt
Partition coefficient: n-octanol/water -4,3
BCF 1,1

12.4. Mobility in soil

Information not available

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.

12.6. Endocrine disrupting properties

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

12.7. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

Waste transportation may be subject to ADR restrictions.

The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety regulations. See section 8 for possible need for PPE.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

As according to regulation, the product's CLP classification is elaborated considering the highest value in the range of concentration defined at section 3 of the present sheet; the ADR classification instead is calculated considering the effective percentage of substance that contributes to the product classification.

As a consequence, after calculating the DL50 value, related to the concentration of toxic substance, even though according to the CLP regulation the product has to be associated with the acute toxicity number 3, for what concerns the ADR regulation the formulation must not be considered as belonging to the 6.1 class.

14.1. UN number or ID number

ADR / RID, IMDG, IATA: UN 3082

ADR / RID: In accordance with Special Provision 375, this product, when is packed in receptacles of a capacity \leq 5Kg or 5L, is not submitted to ADR provisions.

IMDG: In accordance with Section 2.10.2.7 of IMDG Code, this product, when is packed in receptacles of a capacity \leq 5Kg or 5L, is not submitted to IMDG Code provisions.

IATA: In accordance with SP A197, this product, when is packed in receptacles of a capacity \leq 5Kg or 5L, is not submitted to IATA dangerous goods regulations.

14.2. UN proper shipping name

ADR / RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Potassium dicyanoaurate; Potassium dicyanocuprate)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Potassium dicyanoaurate; Potassium

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SECTION 14. Transport information ... / >>

IATA: dicyanocuprate)
 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Potassium dicyanoaurate; Potassium dicyanocuprate)

14.3. Transport hazard class(es)

ADR / RID: Class: 9 Label: 9



IMDG: Class: 9 Label: 9



IATA: Class: 9 Label: 9



14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



IATA: Environmentally Hazardous



14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 90	Limited Quantities: 5 lt	Tunnel restriction code: (-)
	Special provision: 274, 335, 375, 601, 650		
IMDG:	EMS: F-A, S-F	Limited Quantities: 5 lt	
IATA:	Cargo:	Maximum quantity: 450 L	Packaging instructions: 964
	Passengers:	Maximum quantity: 450 L	Packaging instructions: 964
	Special provision:	A97, A158, A197, A215	

14.7. Maritime transport in bulk according to IMO instruments

Information not relevant

SECTION 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EU: E2

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product

Point 3

Contained substance

Point 75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors
 not applicable

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage \geq than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

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SECTION 15. Regulatory information ... / >>

None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Met. Corr. 1	Substance or mixture corrosive to metals, category 1
Acute Tox. 1	Acute toxicity, category 1
Acute Tox. 2	Acute toxicity, category 2
Acute Tox. 4	Acute toxicity, category 4
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Skin Corr. 1A	Skin corrosion, category 1A
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
Skin Sens. 1	Skin sensitization, category 1
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
H290	May be corrosive to metals.
H310	Fatal in contact with skin.
H300	Fatal if swallowed.
H330	Fatal if inhaled.
H302+H332	Harmful if swallowed or if inhaled.
H332	Harmful if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH032	Contact with acids liberates very toxic gas.

Use descriptor system:

ERC	2	Formulation into mixture
ERC	5	Use at industrial site leading to inclusion into/onto article
ERC	8c	Widespread use leading to inclusion into/onto article (indoor)
LCS	IS	Use at industrial sites
PC	14	Metal surface treatment products
PROC	4	Chemical production where opportunity for exposure arises
PROC	5	Mixing or blending in batch processes

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)

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SECTION 16. Other information ... / >>

- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent, bioaccumulative and toxic
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PMT: Persistent, mobile and toxic
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very persistent and very bioaccumulative
- vPvM: Very persistent and very mobile
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

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 2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
 3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
 4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
 5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
 6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
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 - IFA GESTIS website
 - ECHA website
 - Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

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SECTION 16. Other information ... / >>

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

01 / 02 / 03 / 04 / 08 / 10 / 11 / 12 / 13 / 14 / 15 / 16.