

Safety Data Sheet



GP1-1N - READY TO USE GOLD PEN PLATING SOLUTION 1G/100ML GOLD 1N COLOR

Safety Data Sheet dated 6/16/2021 version 1

Compliant with regulation (CE) n. 1907/2006 REACH, Annex II, and subsequent amendments introduced by Commission Regulation (EU) no. 2015/830

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

1.1. Product identifier

Mixture identification: Trade name: GP1-1N - READY TO USE GOLD PEN PLATING SOLUTION 1G/100ML GOLD 1N COLOR Trade code: GP1-1N

Product type and use: SL

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

Recommended use: N.A.

Uses advised against: N.A.

1.3. Details of the supplier of the safety data sheet

Company: LEGOR GROUP S.p.A. Via del Lavoro, 1 36050 Bressanvido (VI)

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Competent person responsible for the safety data sheet: info@legor.com

1.4. Emergency telephone number

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SECTION 2: Hazards identification



2.1. Classification of the substance or mixture

Regulation (EC) n. 1272/2008 (CLP)

Acute Tox. 3	Toxic if swallowed.
Acute Tox. 4	Harmful in contact with skin.
Acute Tox. 3	Toxic if inhaled.
Eye Irrit. 2	Causes serious eye irritation.
Skin Sens. 1	May cause an allergic skin reaction.
Aquatic Chronic 2	Toxic to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Regulation (EC) No 1272/2008 (CLP):

Pictograms and Signal Words



Hazard statements

H301	Toxic if swallowed.
H312	Harmful in contact with skin.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P391	Collect spillage.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/
P273	Avoid release to the environment.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.

Contains Potassium dicyanoaurate (I) Potassium cyanide EDTA bisodic salt Copper iodide May produce an allergic reaction. Special provisions according to Annex XVII of REACH and subsequent amendments: None 2.3. Other hazards No PBT Ingredients are present Other Hazards: No other hazards SECTION 3: Composition/information on ingredients 3.1. Substances N.A. 3.2. Mixtures Mixture identification: GP1-1N - READY TO USE GOLD PEN PLATING SOLUTION 1G/100ML GOLD 1N COLOR Hazardous components within the meaning of the CLP regulation and related classification: Qty Name Ident. Numb. Classification **Registration Number** < 5% Potassium dicyanoaurate (I) CAS:13967-50-5 Met. Corr. 1, H290; Acute Tox. 2, EC:237-748-4 H330; Acute Tox. 2, H300; Aquatic Chronic 1, H410; Skin Irrit. 2, H315; Eye Dam. 1, H318; Skin Sens. 1, H317, EUH032 < 5% EDTA bisodic salt CAS:6381-92-6 Acute Tox. 4, H332; STOT RE 2, EC:205-358-3 H373 < 5% Potassium cyanide CAS:151-50-8 Met. Corr. 1, H290; Acute Tox. 1, 01-2119486407-29-0000 H310; Acute Tox. 1, H330; Acute Tox. 1, H300; STOT RE 1, H372; Aquatic Acute 1, H400; Aquatic Chronic 1, H410, M:10 < 5% Silver oxide CAS:20667-12-3 Ox. Sol. 1, H271; Eye Dam. 1, Index:2439571 H318; Aquatic Acute 1, H400; Aquatic Chronic 1, H410 < 5% Copper iodide CAS:7681-65-4 Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Dam. 1, H318; Skin Sens. 1A, H317; STOT RE 1, H372; Aquatic Acute 1, H400; Aquatic Chronic 2, H411, M-Chronic:1, M:10

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.

Wash thoroughly the body (shower or bath).

Remove contaminated clothing immediatley and dispose off safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an opthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Give nothing to eat or drink.

In case of Inhalation:

If breathing is irregular or stopped, administer artificial respiration.

In case of inhalation, consult a doctor immediately and show him packing or label.

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

Eye damages

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO2).

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

5.3. Advice for firefighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Provide adequate ventilation.

Use appropriate respiratory protection.

See protective measures under point 7 and 8.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up

Suitable material for taking up: absorbing material, organic, sand

Wash with plenty of water. **6.4. Reference to other sections**

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhaltion of vapours and mists.

Use localized ventilation system.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contamined clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Always keep in a well ventilated place.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Cool and adequately ventilated.

7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Community Occupational Exposure Limits (OEL)

Component	OEL Type	Country	Ceiling	Long Tern mg/m3	n Long Term ppm	Short Term mg/m3	Short Term ppm	Behaviour	Notes
Potassium cyanide	EU	NNN		1		5			Skin
	ACGIH	NNN	С			5			Skin - URT irr, headache, nausea, thyroid eff
Copper iodide	NATION AL	I SWITZERLA ND	N	0,1		0,2			

8.2. Exposure controls

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection: Use adequate protective respiratory equipment.

Thermal Hazards:

N.A.

Environmental exposure controls:

N.A.

9.2.

Hygienic and Technical measures

N.A.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

information on basic physical and chemical properties
Physical State Liquid
Appearance and colour: Colourless liquid
Odour: Odourless
Odour threshold: N.A.
pH: 8,00
Melting point / freezing point: N.A.
Initial boiling point and boiling range: N.A.
Flash point: N.A.
Evaporation rate: N.A.
Upper/lower flammability or explosive limits: N.A.
Vapour density: n/a
Vapour pressure: N.A.
Relative density: 1,01 g/cm3
Solubility in water: Total
Solubility in oil: N.A.
Partition coefficient (n-octanol/water): N.A.
Auto-ignition temperature: N.A.
Decomposition temperature: N.A.
Viscosity: N.A.
Explosive properties: n/a
Oxidizing properties: n/a
Solid/gas flammability: n/a
Other information
VOC N.A.
Substance Groups relevant properties N.A.
Miscibility: N.A.
Conductivity: N.A.

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Data not Available.

10.3. Possibility of hazardous reactions None.

10.4. Conditions to avoid

Stable under normal conditions.

10.5. Incompatible materials

None in particular.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological Information of the Preparation

a) acute toxic	ity	The product is classified: Acute Tox. 3(H301), Acute Tox. 4(H312), Acute Tox. 3(H331)				
b) skin corrosion/irritation		Not classified				
		Based on available data, the classification criteria are not met				
c) serious eye	damage/irritation	The product is classified: Eye Irrit. 2(H319)				
d) respiratory	or skin sensitisation	The product is classified: Skin Sens. 1(H317)				
e) germ cell n	nutagenicity	Not classified				
		Based on available data, the classification criteria are not met				
f) carcinogeni	city	Not classified				
		Based on available data, the classification criteria are not met				
g) reproductiv	ve toxicity	Not classified				
		Based on available data, the classification criteria are not met				
h) STOT-single exposurei) STOT-repeated exposurej) aspiration hazard		Not classified				
		Based on available data, the classification criteria are not met				
		Not classified				
		Based on available data, the classification criteria are not met				
		Not classified				
		Based on available data, the classification criteria are not met				
Toxicological inform	ation on main com	ponents of the mixture:				
Potassium cyanide	a) acute toxicity	LD50 Oral Rat = 7,49 mg/kg				
		LC50 Inhalation Rat = 63 Ppm 1h				
		LD50 Skin Rabbit = 11,3 mg/kg				
Copper iodide	a) acute toxicity	LD50 Oral = 300 mg/kg				
		LD50 Skin > 2000 mg/kg				

SECTION 12: Ecological information

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment. Eco-Toxicological Information:

Toxic to aquatic life with long lasting effects.

List of Eco-Toxicological properties of the product

The product is classified: Aquatic Chronic 2(H411)

List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
Potassium cyanide	CAS: 151-50-8	a) Aquatic acute toxicity : LC50 Fish = 0,045 mg/l 96
		a) Aquatic acute toxicity : EC50 Daphnia = 0,083 mg/l 48
		a) Aquatic acute toxicity : EC10 Algae = 0,158 mg/l 72

a) Aquatic acute toxicity : EC50 Algae = 0,13 mg/l 72

12.2. Persistence and degradability

N.A.

12.3. Bioaccumulative potential

N.A.

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

No PBT Ingredients are present

12.6. Other adverse effects

N.A.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information



14.1. UN number

1935

14.2. UN proper shipping name

ADR-Shipping Name: CYANIDE SOLUTION, N.O.S. (Potassium cyanide - Potassium dicyanoaurate(I)) IATA-Technical name: CYANIDE SOLUTION, N.O.S. (Potassium cyanide, Potassium dicyanoaurate (I)) IMDG-Technical name: CYANIDE SOLUTION, N.O.S. (Potassium cyanide, Potassium dicyanoaurate (I))

14.3. Transport hazard class(es)

ADR-Class: 6.1 IATA-Class: 6.1 IMDG-Class: 6.1

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14.4. Packing group

ADR-Packing Group: II

IATA-Packing group: II

IMDG-Packing group: II

14.5. Environmental hazards

Yes

Environmental Pollutant: Yes

14.6. Special precautions for user

Road and Rail (ADR-RID) :

ADR-Label: 6.1

ADR - Hazard identification number: 60

ADR-Special Provisions: 274 525

ADR-Transport category (Tunnel restriction code): 2 (D/E)

Air (IATA):

IATA-Passenger Aircraft: 654 IATA-Cargo Aircraft: 661 IATA-Label: 6.1 IATA-Subsidiary hazards: - IATA-Erg: 6L

IATA-Special Provisioning: A3

Sea (IMDG) :

IMDG-Stowage Code: Category A SW2 IMDG-Stowage Note: SG35 SGG6 IMDG-Subsidiary hazards: -

IMDG-Special Provisioning: 274 IMDG-EMS: F-A, S-A

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

N.A.

SECTION 15: Regulatory information

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

Dir. 98/24/EC (Risks related to chemical agents at work) Dir. 2000/39/EC (Occupational exposure limit values) Regulation (EC) n. 1907/2006 (REACH) Regulation (EC) n. 1272/2008 (CLP) Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013 Regulation (EU) n. 286/2011 (ATP 2 CLP) Regulation (EU) n. 618/2012 (ATP 3 CLP) Regulation (EU) n. 487/2013 (ATP 4 CLP) Regulation (EU) n. 944/2013 (ATP 5 CLP) Regulation (EU) n. 605/2014 (ATP 6 CLP) Regulation (EU) n. 2015/1221 (ATP 7 CLP) Regulation (EU) n. 2016/918 (ATP 8 CLP) Regulation (EU) n. 2016/1179 (ATP 9 CLP) Regulation (EU) n. 2017/776 (ATP 10 CLP) Regulation (EU) n. 2018/669 (ATP 11 CLP) Regulation (EU) n. 2018/1480 (ATP 13 CLP) Regulation (EU) n. 2019/521 (ATP 12 CLP) Regulation (EU) 2015/830

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product: 3

Restrictions related to the substances contained: None

Provisions related to directive EU 2012/18 (Seveso III):

N.A.

Regulation (EU) No 649/2012 (PIC regulation)

No substances listed

German Water Hazard Class.

Class 3: extremely hazardous.

SVHC Substances:

No data available

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

SECTION 16: Other information

Code	Description
EUH032	Contact with acids liberates very toxic gas.
H271	May cause fire or explosion; strong oxidiser.
H290	May be corrosive to metals.
H300	Fatal if swallowed.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H312	Harmful in contact with skin.

H315	Causes skin irritation.				
H317	May cause an allergic skin reaction.				
H318	Causes serious eye damage.				
H319	Causes serious eye irritation.				
H330	Fatal if inhaled.				
H331	Toxic if inhaled.				
H332	Harmful if inhaled.				
H372	Causes damage to organs through prolong	ed or repeated exposure .			
H372	Causes damage to organs through prolong	ed or repeated exposure if swallowed.			
H373	May cause damage to organs through prole	onged or repeated exposure .			
H400	Very toxic to aquatic life.				
H410	Very toxic to aquatic life with long lasting e	effects.			
H411	Toxic to aquatic life with long lasting effect				
Code	Hazard class and hazard category	Description			
2.14/1	Ox. Sol. 1	Oxidising solid, Category 1			
2.16/1	Met. Corr. 1	Substance or mixture corrosive to metals, Category 1			
3.1/1/Dermal	Acute Tox. 1	Acute toxicity (dermal), Category 1			
3.1/1/Inhal	Acute Tox. 1	Acute toxicity (inhalation), Category 1			
3.1/1/Oral	Acute Tox. 1	Acute toxicity (oral), Category 1			
3.1/2/Inhal	Acute Tox. 2	Acute toxicity (inhalation), Category 2			
3.1/2/Oral	Acute Tox. 2	Acute toxicity (oral), Category 2			
3.1/3/Inhal	Acute Tox. 3	Acute toxicity (inhalation), Category 3			
3.1/3/Oral	Acute Tox. 3	Acute toxicity (oral), Category 3			
3.1/4/Dermal	Acute Tox. 4	Acute toxicity (dermal), Category 4			
3.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), Category 4			
3.1/4/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4			
3.2/2	Skin Irrit. 2	Skin irritation, Category 2			
3.3/1	Eye Dam. 1	Serious eye damage, Category 1			
3.3/2	Eye Irrit. 2	Eye irritation, Category 2			
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1			
3.4.2/1A	Skin Sens. 1A	Skin Sensitisation, Category 1A			
3.9/1	STOT RE 1	Specific target organ toxicity $-$ repeated exposure, Category 1			
3.9/2	STOT RE 2	Specific target organ toxicity $-$ repeated exposure, Category 2			
4.1/A1	Aquatic Acute 1	Acute aquatic hazard, category 1			
4.1/C1	Aquatic Chronic 1	Chronic (long term) aquatic hazard, category 1			
4.1/C2	Aquatic Chronic 2	Chronic (long term) aquatic hazard, category 2			

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
3.1/3/Oral	Calculation method
3.1/4/Dermal	Calculation method
3.1/3/Inhal	Calculation method
3.3/2	Calculation method
3.4.2/1	Calculation method
4.1/C2	Calculation method

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended. This MSDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road. AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways ATE: Acute Toxicity Estimate ATEmix: Acute toxicity Estimate (Mixtures) BCF: Biological Concentration Factor BEI: Biological Exposure Index BOD: Biochemical Oxygen Demand CAS: Chemical Abstracts Service (division of the American Chemical Society). CAV: Poison Center CE: European Community CLP: Classification, Labeling, Packaging. CMR: Carcinogenic, Mutagenic and Reprotoxic COD: Chemical Oxygen Demand COV: Volatile Organic Compound CSA: Chemical Safety Assessment CSR: Chemical Safety Report DMEL: Derived Minimal Effect Level DNEL: Derived No Effect Level. **DPD:** Dangerous Preparations Directive DSD: Dangerous Substances Directive EC50: Half Maximal Effective Concentration ECHA: European Chemicals Agency EINECS: European Inventory of Existing Commercial Chemical Substances. ES: Exposure Scenario GefStoffVO: Ordinance on Hazardous Substances, Germany. GHS: Globally Harmonized System of Classification and Labeling of Chemicals. IARC: International Agency for Research on Cancer IATA: International Air Transport Association. IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA). IC50: half maximal inhibitory concentration ICAO: International Civil Aviation Organization. ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO). IMDG: International Maritime Code for Dangerous Goods. INCI: International Nomenclature of Cosmetic Ingredients. IRCCS: Scientific Institute for Research, Hospitalization and Health Care KAFH: KAFH KSt: Explosion coefficient. LC50: Lethal concentration, for 50 percent of test population. LD50: Lethal dose, for 50 percent of test population. LDLo: Leathal Dose Low N.A.: Not Applicable N/A: Not Applicable N/D: Not defined/ Not available NA: Not available NIOSH: National Institute for Occupational Safety and Health NOAEL: No Observed Adverse Effect Level OSHA: Occupational Safety and Health Administration. PBT: Persistent, Bioaccumulative and Toxic PGK: Packaging Instruction PNEC: Predicted No Effect Concentration. **PSG:** Passengers RID: Regulation Concerning the International Transport of Dangerous Goods by Rail. STEL: Short Term Exposure limit. STOT: Specific Target Organ Toxicity. TLV: Threshold Limiting Value. TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard). vPvB: Very Persistent, Very Bioaccumulative. WGK: German Water Hazard Class.