

Nano Gold — MSDS

MSDS (Material Safety Data Sheet)

Product name: Nano Gold

Brand: Plant Vitales

Manufacturer: Kroon De Jager S.L.

In accordance with Regulation (EU) 2020/878 – Annex II (REACH)

UFI Number: RV77-UAK2-F20V-6FHY

Version: 1.0

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1. Identification of the substance or mixture and of the company/undertaking
 - Product identification: Nano Gold – Plant Vitales
 - Use of the substance or mixture: Liquid biostimulant based on colloidal gold nanoparticles for professional use in agriculture and horticulture.

• Details of the manufacturer / supplier:

Kroon De Jager S.L.

Pol. Ind. Bajo Sombra 18

03688 Hondón de las Nieves, Alicante, Spain

CIF: B67426049

✉ info@kroondejager.com

☎ +34 934 18 35 30

• Emergency number: 112

2. Hazard identification

• Classification according to Regulation (EC) 1272/2008 [CLP]:

o Skin Irrit. 2 – H315

o Eye Dam. 1 – H318

Signal word: Danger

• Hazard pictograms:

GHS05

• Hazard statements:

o H315: Causes skin irritation

o H318: Causes serious eye damage

• Precautionary statements:



o P280: Wear protective gloves/eye protection

o P305+P351+P338: If in eyes: rinse cautiously with water

o P301+P312: If swallowed: if feeling unwell, seek medical advice

o P310: Immediately call a poison center or doctor

• Other hazards:

Not persistent/bioaccumulative. Not PBT/vPvB. Low pH (± 1.5)

3. Composition / information on ingredients

Mixture: aqueous solution of gold nanoparticles, PEG-400 and trace minerals

Component CAS Function REACH Registration Number

Gold nanoparticles (AuNPs) — Biostimulant agent —

PEG-400 25322-68-3 Stabilizer 01-2119490225-39-0000

Iron (Fe) 7439-89-6 Trace element 01-2119480401-53-0000

Molybdenum (Mo) 7439-98-7 Trace element 01-2119471975-22-0000

Sulfuric acid 7664-93-9 pH adjustment 01-2119458838-20-0006

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4. First aid measures

- General: In case of doubt or if symptoms persist, consult a doctor.
 - Inhalation: Fresh air, rest. Consult a doctor if symptoms occur.
 - Eye contact: Rinse immediately with plenty of water, keep eyes open, seek medical help.
 - Skin contact: Rinse with water, remove contaminated clothing.
 - Ingestion: Rinse mouth. DO NOT induce vomiting. Seek medical help immediately.
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5. Firefighting measures

- Suitable extinguishing media: Water mist, CO₂, foam
 - Unsuitable: Direct water jet
 - Hazardous combustion products: Metal oxides, sulfur oxides
 - Personal protection: Full breathing apparatus, chemical suit
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6. Accidental release measures

- Personal precautions: Use PPE (gloves, goggles)
 - Environmental precautions: Prevent release into soil or water
 - Clean-up method: Absorb with inert material (sand, vermiculite), dispose of according to section 13
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7. Handling and storage

- Precautions for safe handling:
 - o Avoid contact with skin, eyes, and clothing
 - o Do not eat, drink, or smoke during use
 - o Ensure good ventilation
 - Storage conditions:
 - o Store in a cool, dry, well-ventilated area
 - o Keep frost-free
 - o Store in original, tightly closed container
 - o Keep separate from acids
 - Specific end use:
 - o Biostimulant for professional agricultural and horticultural use
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8. Exposure controls / personal protection

- Exposure limits: No legal limits established for the mixture; follow general guidelines for components
- Personal protective equipment (PPE):
 - o Eye protection: Safety goggles according to EN 166
 - o Hand protection: Nitrile gloves according to EN 374
 - o Respiratory protection: Not required under normal use. If aerosol is formed: P2 filter
 - o Skin protection: Suitable work clothing
- Hygiene measures:
 - o Wash hands after use
 - o Remove and clean contaminated clothing immediately

9. Physical and chemical properties

Property	Value
Physical state	Liquid
Color	Light clear red
Odor	Odorless
pH	±1.5
Density	Approx. 1.2 g/cm ³
Solubility	Fully miscible with water
Flash point	Non-flammable
Explosion limits	Not applicable
Oxidizing properties	None

10. Stability and reactivity

- Chemical stability: Stable under normal storage and use conditions
- Conditions to avoid: Heat, direct sunlight, contact with acids and oxidizing agents
- Hazardous reactions: Reacts with acids forming heat and gases
- Hazardous decomposition products: Sulfur oxides (SO_x), metal oxides, silicon fumes

11. Toxicological information

- Skin corrosion/irritation (H315): Irritating to the skin
- Serious eye damage/eye irritation (H318): Causes serious eye damage
- Sensitization: No sensitizing effects known
- Chronic effects: No known data on carcinogenicity, mutagenicity, or reproductive toxicity

12. Ecological information

- Aquatic toxicity: Harmful to aquatic life with long-lasting effects
- Mobility in soil: Water-soluble; may leach into soil and surface water
- Persistence and degradability: Contains biodegradable components; metals remain present
- Bioaccumulative potential: Low for most components; metals may accumulate in sediment
- Results of PBT and vPvB assessment: Mixture not classified as PBT or vPvB

13. Disposal considerations

- Product waste disposal: Dispose of residues as hazardous waste via certified collection point per local regulations
- Packaging: Rinse empty containers thoroughly and dispose of via authorized waste handler

Possible EWC code: 06 10 02* (waste from fertilizers)

- Additional information: Do not discharge into sewer or environment
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14. Transport information

Transport class Information

ADR/RID Not classified as dangerous

IMDG Not applicable

IATA Not classified

UN number Not applicable

Shipping name Not applicable

Packaging group Not applicable

Environmental risks None under transport criteria

Special precautions None required

15. Regulatory information

- REACH (EC 1907/2006): Mixture exempt from registration; components listed in section 3 are REACH registered.

- CLP (EC 1272/2008): Classified based on components (H315, H318)

- Label elements (CLP):

- o Signal word: Danger

- o Hazard pictograms: GHS05

- o Hazard statements:

- ♣ H315: Causes skin irritation

- ♣ H318: Causes serious eye damage

- o Precautionary statements: P280, P305+P351+P338, P301+P312, P310

- Seveso Directive (EU): Not applicable

- Other legislation: Compliant with fertilizer legislation for agricultural use
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16. Other information

- Sources of data: Safety data sheets of raw materials, REACH dossiers, CLP regulation

- Training: For professional users only with basic knowledge of handling fertilizers

- Full H-statements:

- o H315: Causes skin irritation

- o H318: Causes serious eye damage

- Abbreviations and explanations:

- o PBT: Persistent, Bioaccumulative, Toxic

- o vPvB: very Persistent, very Bioaccumulative

- o CAS: Chemical Abstracts Service

- o EWC: European Waste Catalogue

- o PPE: Personal Protective Equipment

- o REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals

- o CLP: Classification, Labelling and Packaging
- Revision date: First version – 22 July 2025
- Reason for revision: Initial release
- Disclaimer: Information compiled to the best of our knowledge. The user is responsible for correct application.

17. Transport documentation information

- Not applicable — product is not classified under ADR/IATA/IMDG
- No hazard class required on transport documents
- Listing as fertilizer or agricultural product permitted

18. Packaging information

- Primary packaging: HDPE or plastic can
- Volume sizes: 1 L, 5 L, 10 L, 20 L, 1000 L
- Labeling: in accordance with CLP + agricultural labeling as per national legislation
- Cap: childproof cap not required (not a consumer product)
- Security: must be sealed, store frost-free

19. Physicochemical compatibility

- Compatible with:
 - o Water
 - o Other liquid fertilizers (if pH-compatible)
- Do not mix with:
 - o Acids
 - o Strong oxidizing agents
 - o Aluminum/zinc tanks

20. Customs/export information

- HS code: 3105.90 (Fertilizers – other)
- Country of origin: Spain
- Customs document: CE-compliant agricultural fertilizer
- REACH status: Not applicable to mixture; all components are registered

21. Application information

- Use:
 - o Foliar fertilizer and soil improver
 - o To be applied via boom sprayer, drip irrigation, or direct foliar spraying
 - o Dosage depends on crop and application (see label advice)

22. Legal status by region

- | Region | Status |
|--------|---------------------------------|
| EU | Agricultural fertilizer |
| NL | Authorized for professional use |

DE, FR, ES Released under EU fertilizer regulation
Export –

23. Shelf life information

- Shelf life: Minimum 2 years if stored frost-free
 - Batch number: Indicated on packaging
 - Production date: See packaging or certificate
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24. Certification

- Product manufactured in accordance with:
 - o EU 2020/878 (REACH Annex II)
 - o Internal quality control procedure (ISO level where applicable)
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25. Storage information for customer

- Store between 5–25°C
 - Keep out of direct sunlight
 - Do not store in metal containers
 - Keep safety pictograms visible
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26. Contact point for technical questions

- Name: Technical Department – Kroon De Jager S.L.
- Email: info@kroondejager.com
- Languages: Dutch, English, Spanish
- Availability: Mon–Fri 09:00–17:00
- Emergency number: +34 934 18 35 30