



MATERIAL SAFETY DATA SHEET (MSDS)

According to Regulation (EC) No.
1907/2006

Revision Date	01
Date of Issue	30.09.2025
Version Number	001
Form No.	001.01 EN

OrganoPlantis ZinSil

LIQUID NK ORGANOMINERAL FERTILIZER

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/ MIXTURE AND THE COMPANY/ UNDERTAKING

1.1. PRODUCT IDENTIFIER

Product trade name	OrganoPlantis ZinSil
Product form	Organic + mineral based liquid NK organomineral fertilizer enriched with Si, Zn and free amino acids.
Product Use	Specially developed for rice (paddy) cultivation to replenish silicon removed from soil, increase crop resilience against pests and diseases, and improve stem strength, grain filling, and shelf life. Also applicable to other cereals (wheat, barley, maize, sorghum) to enhance lodging resistance and yield stability.

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Field	Content
Identified Uses	Professional agricultural use as a liquid NK organomineral fertilizer for cereals and rice, improving stress tolerance, productivity, and product quality.
Uses Advised Against	Not intended for human or animal consumption. Not to be used in food or feed manufacturing. Do not mix with acidic products or strongly acid solutions (e.g., phosphoric or nitric acid).

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Field	Content
Company Name	Ecobigen Gübre Tarım Sanayi Tic.Ltd.Şti
Address	Alparslan Mah. Samsun 1. Sok. No:13, Bafra, Samsun, Türkiye
Phone	+90 362 544 21 02
Web Site	https://agrobigen.com.tr/
E-Mail	info@ agrobigen.com.tr

1.4. EMERGENCY PHONE NUMBER

Field	Content
Country	TURKIYE
Organisation/ Company	Ulusal Zehir Merkezi (UZEM) Refik Saydam Hıfzıssıhha Merkezi Başkanlığı
Address	Cemal Gürsel Cd. No: 18 Sıhhiye Çankaya 06590 Ankara
Emergency Call Center	114
Comment	Information is provided to the public and medical personnel on poisoning incidents via 114.

SECTION 2. HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

According to Regulation (EC) No 1272/2008 [CLP]:

- Oxidizing Solid, Category 2 - H272: May intensify fire; oxidizer
- Skin Irritation, Category 2 - H315: Causes skin irritation
- Eye Irritation, Category 2 - H319: Causes serious eye irritation

2.2 LABEL ELEMENTS



HAZARD STATEMENTS (H)

- H315 - Causes skin irritation
- H319 - Causes serious eye irritation

PRECAUTIONARY STATEMENTS (P)

- P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P220 - Keep/store away from combustible materials.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337+P313 - If eye irritation persists: Get medical advice/attention.
- P501 - Dispose of contents/container in accordance with local/regional/national regulations.

2.3 OTHER HAZARDS

This product does not contain any substances classified as PBT or vPvB.

If exposed to high temperatures or fire, product may release nitrogen oxides (NO_x), boron oxides, and other irritating gases.

SECTION 3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 SUBSTANCES

Not applicable - this product is a mixture.

3.2 MIXTURES

The product is a liquid organomineral fertilizer composed of the following components:

Component	CAS Number	EC Number	Concentration (% w/v)	Classification (Reg. EC 1272/2008)
Organic Slurry / Post-Fermentation Sludge	—	—	>50%	Not classified

Urea	57-13-6	200-315-5	>6%	Eye Irrit. 2 (H319)
Potassium Silicate (K₂SiO₃)	1312-76-1	215-199-1	>12%	Skin Corr. 1B (H314), Eye Dam. 1 (H318)
Potassium Hydroxide (KOH)	1310-58-3	215-181-3	>3%	Acute Tox. 4 (H302), Skin Corr. 1A (H314)
Zinc Sulphate (ZnSO₄·H₂O)	7446-19-7	231-793-3	<1%	Eye Irrit. 2 (H319), Aquatic Chronic 2 (H411)

SECTION 4. FIRST-AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES

General Advice	In case of any adverse effects or if symptoms persist, seek medical attention immediately. Show this Safety Data Sheet (SDS) to the attending physician.
Eye Contact	Rinse cautiously with clean, lukewarm water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice if irritation persists or vision is affected.
Skin Contact	Remove contaminated clothing. Wash the affected area thoroughly with soap and plenty of water. If irritation, redness, or a burning sensation occurs, consult a physician. Wash contaminated clothing before reuse.
Inhalation	Remove person to fresh air. Keep warm and at rest. If coughing, wheezing, or shortness of breath develops, seek medical attention.
Ingestion	Rinse mouth thoroughly with water. Do NOT induce vomiting unless instructed by medical personnel. If the person feels unwell, contact a Poison Center or doctor. Never give anything by mouth to an unconscious person.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

- Eyes: May cause redness, pain, burning sensation, and temporary vision disturbances.
- Skin: May cause irritation, dryness, or mild chemical burns on prolonged contact.
- Inhalation: Mist or aerosols may cause irritation of the respiratory tract, coughing, or throat discomfort.
- Ingestion: May lead to nausea, vomiting, or abdominal pain. High ingestion volumes may affect electrolyte balance.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

- No specific antidote known. Treatment should be supportive and based on the patient's symptoms.
- Maintain airway, monitor vital signs, and administer oxygen if required.
- In severe exposures, consider monitoring for electrolyte imbalance or caustic injury due to alkali content.

SECTION 5. FIREFIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing agents appropriate for surrounding materials: Water spray (cooling), Alcohol-resistant foam, Carbon dioxide (CO ₂), Dry chemical powder
Unsuitable Extinguishing Media	High-pressure water jets (may spread material or increase vaporization) No other specific limitations known under normal use conditions.
Special Hazards Arising from the Substance or Mixture	The product may support combustion due to the presence of oxidizing components (e.g., potassium silicate and zinc compounds in alkaline environment). When heated or burned, the product may release toxic and irritating gases, including: Nitrogen oxides (NO _x), Potassium oxides (K ₂ O), Ammonia (NH ₃), Sulfur oxides (SO _x) if zinc sulfate decomposes. Sealed containers may rupture under heat due to pressure build-up.
Advice for Firefighters	Use full protective gear and a self-contained breathing apparatus (SCBA) in positive pressure mode. Avoid inhalation of combustion gases. Prevent extinguishing water or runoff from entering soil, drains, or watercourses. Use water spray to cool closed containers exposed to fire.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures	Ensure adequate ventilation in the area. Avoid direct contact with skin, eyes, and clothing. <ul style="list-style-type: none"> • Wear appropriate personal protective equipment (PPE): • Chemical-resistant gloves (nitrile, neoprene), • Safety goggles or face shield, • Protective clothing (long sleeves, apron), • Respiratory protection if airborne concentrations exceed recommended limits. In case of large spill, eliminate all ignition sources if oxidizing agents (e.g., KOH) may contribute to combustion risk.
--	--

Environmental Precautions	Evacuate non-essential personnel from the area.
	<p>Prevent release into drains, surface water, and soil.</p> <p>Dike or contain spill with non-reactive absorbent barriers.</p> <p>Notify environmental authorities in case of contamination of water bodies or large-scale spill.</p> <p>Avoid runoff into natural waterways, especially due to presence of zinc compounds, which are aquatic toxicants.</p>
Methods and Material for Containment and Cleaning Up	<p>Stop the source of leakage only if it can be done safely.</p> <p>Absorb spill using inert, non-combustible materials such as:</p> <p>Dry sand, vermiculite, or earth.</p> <p>Avoid use of sawdust or other combustible absorbents due to presence of oxidizers (e.g., KOH).</p> <p>Collect the material into labelled, sealable containers for proper disposal.</p> <p>Clean the affected area with dilute water, avoiding high-pressure washing to prevent aerosol formation or spreading.</p> <p>Neutralize final residues, if required, with weak acid solution (only by trained personnel).</p>
Reference to Other Sections	<p>For protective measures, refer to Section 8 - Exposure Controls/Personal Protection.</p> <p>For disposal considerations, see Section 13 - Disposal Considerations.</p>

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling	<p>Avoid contact with skin, eyes, and clothing.</p> <p>Do not breathe vapors, mist, or aerosols.</p> <p>Ensure adequate ventilation or use local exhaust during handling.</p> <p>Wear appropriate personal protective equipment (PPE):</p> <ul style="list-style-type: none"> • Chemical-resistant gloves (nitrile or neoprene), • Protective eyewear (goggles or face shield), • Lab coat or chemical-resistant clothing. <p>Do not eat, drink, or smoke while handling this product.</p> <p>Wash hands and exposed areas thoroughly after use.</p> <p>Prevent contact with acids, flammable materials, or oxidizing agents.</p> <p>Avoid aerosol generation and splashing when diluting or mixing.</p>
--------------------------------------	---

Conditions for Safe Storage, Including Any Incompatibilities	For dilution: always add the product to water, never the reverse.
	<p>Store in a cool (5-30°C), dry, well-ventilated area.</p> <p>Keep container tightly closed when not in use.</p> <p>Do not store near:</p> <ul style="list-style-type: none"> • Acids (due to violent reaction with alkalis), • Flammable materials, • Reactive metals (e.g., aluminum). <p>Protect from direct sunlight, frost, and excessive heat.</p> <p>Avoid long-term storage in unlined metal containers.</p> <p>Do not store in unlabeled, leaking, or damaged containers.</p>
Specific End Use(s)	<p>This product is intended solely for use as a liquid organomineral fertilizer in agricultural applications (soil or foliar).</p> <p>Any other use is not advised unless reviewed and approved by the manufacturer or supplier.</p>

SECTION 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1. CONTROL PARAMETERS

Occupational Exposure Limits (OEL):

No exposure limits have been established for the mixture as a whole.
However, some components have national or EU indicative limit values:

Substance	CAS No.	OEL – TWA	Note
Potassium Hydroxide	1310-58-3	2 mg/m ³ (ceiling)	EU IOELV
Zinc Sulphate (as Zn)	7446-19-7	1 mg/m ³ (inhalable)	ACGIH TLV (Zn compound)
Urea	57-13-6	Not established	N/A
Potassium Silicate	1312-76-1	Not established	Handle as irritant dust

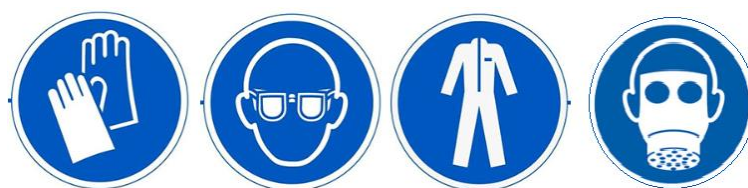
Consult national regulations for additional applicable limits.

8.2. EXPOSURE CONTROLS

Appropriate Engineering Controls	<p>Ensure adequate general ventilation during handling, transfer, or mixing.</p> <p>In confined or poorly ventilated areas, consider local exhaust ventilation (LEV).</p> <p>Avoid the generation of aerosols or mists, especially during dilution or spraying.</p> <p>Emergency eyewash stations and safety showers should be readily accessible.</p>
---	--

8.3. PERSONAL PROTECTIVE EQUIPMENT (PPE)

Eye Protection	Use safety goggles (EN 166) or face shield in case of splash risk.
Skin Protection	Wear chemical-resistant gloves (e.g., nitrile or neoprene, EN 374), long sleeves.
Respiratory Protection	Not required under normal conditions. If mist/aerosol forms: P2/P3 filter mask.
Body Protection	Wear protective work clothing to avoid skin contact. Remove contaminated garments.
Hygiene Measures	Wash hands and exposed areas with soap and water after use. Do not eat, drink, or smoke while handling the product. Contaminated work clothing should not be allowed out of the workplace.



SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Brownish liquid
Odor	Mild organic/alkaline odor
pH (20°C)	7.0–9.0
Density	~1.20 g/cm ³
Boiling Point	>100°C (aqueous solution)
Freezing Point	~0°C
Solubility	Fully water-soluble
Viscosity	~50–200 cP
Oxidizing Properties	Not classified as oxidizing (no strong oxidizers like nitrate salts in formulation)

9.2 OTHER INFORMATION (NUTRIENT COMPOSITION)

Organic matter	20%
Organic carbon	9%
Free Aminoacids	1%
Total Nitrogen (N)	4%
- Urea Nitrogen (CO(NH ₂) ₂)	3%
- Organic Nitrogen	1%
Water Soluble Potassium Oxide (K ₂ O)	4%
Water-Soluble Silicon Dioxide (SiO ₂)	4%

Water-Soluble Zinc (Zn)	1%
Maximum Chloride (Cl)	<1%

SECTION 10. STABILITY AND REACTIVITY

Reactivity	The product contains alkaline and silicate compounds. It may react with strong acids and generate heat. It does not contain oxidizing agents like potassium nitrate.
Chemical Stability	Stable under normal handling and recommended storage conditions (see Section 7). No decomposition occurs if used and stored as intended.
Possibility of Hazardous Reactions	No hazardous polymerization expected under normal conditions. Reacts with strong acids to release heat and potentially irritant fumes (e.g., SiO ₂ and KOH neutralization).
Conditions to Avoid	Excessive heat, freezing, direct sunlight. Contact with strong acids, aluminum or zinc metal (due to KOH).
Incompatible Materials	Strong acids (e.g., HCl, H ₂ SO ₄) Aluminum, Zinc, and other amphoteric metals (due to reaction with KOH and possible hydrogen gas release) Reactive organic chemicals
Hazardous Decomposition Products	Ammonia (NH ₃) (from urea degradation) Silicon dioxide (SiO ₂) fumes under fire Zinc oxides (ZnO) Potassium oxides (K ₂ O) Irritating alkaline vapors

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Endpoint	Assessment
Acute Toxicity (Oral)	Estimated LD ₅₀ (rat) > 2000 mg/kg body weight. Not classified as acutely toxic according to CLP.
Skin Corrosion/Irritation	May cause mild to moderate irritation with prolonged or repeated contact. Contains potassium hydroxide (alkaline, corrosive at high concentrations) and urea, which can irritate sensitive skin.
Serious Eye Damage/Irritation	Causes eye irritation (Category 2, H319). Potassium hydroxide and zinc sulfate may cause stinging, redness, and tearing.

Respiratory or Skin Sensitisation	Not expected to be a sensitiser under normal handling conditions. Product does not contain known sensitising agents.
Germ Cell Mutagenicity	Not classified. No data available to suggest mutagenic effects of the formulation or its components.
Carcinogenicity	Not classified. None of the components (including zinc sulfate, potassium silicate, or urea) are listed as carcinogenic by IARC, NTP, or OSHA.
Reproductive Toxicity	Not classified. No ingredient is known to impair fertility or fetal development at concentrations used.
STOT – Single Exposure	Not expected to cause organ toxicity after a single exposure during normal use.
STOT – Repeated Exposure	Not classified. Repeated agricultural exposure under recommended conditions is unlikely to cause systemic toxicity.
Aspiration Hazard	Not applicable. Product is a non-volatile aqueous liquid and does not present an aspiration hazard.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity	<p>Zinc Sulphate ($\text{ZnSO}_4 \cdot \text{H}_2\text{O}$):</p> <ul style="list-style-type: none"> LC₅₀ (96h, fish): ~1.1 mg/L (acute aquatic toxicity possible at high concentrations) EC₅₀ (72h, algae): ~0.3 mg/L (very toxic to aquatic life in concentrated forms) <p>Potassium Silicate (K_2SiO_3) and Potassium Hydroxide (KOH) are not classified as acutely toxic to aquatic life at the concentrations used in this product, but may affect water pH if released in large quantities.</p> <p>Urea:</p> <ul style="list-style-type: none"> LC₅₀ (96h, fish): > 10,000 mg/L (low acute aquatic toxicity) <p>Overall Assessment: The product is not expected to pose acute aquatic toxicity under normal agronomic use. However, due to the presence of zinc sulfate (albeit <1%), direct release into surface waters should be avoided.</p>
Persistence and Degradability	<p>Organic matter is expected to be readily biodegradable.</p> <p>Inorganic nutrients (e.g., urea-derived nitrogen, potassium, silicates) are environmentally mobile and may contribute to nutrient enrichment (eutrophication) in surface water ecosystems.</p>
Bioaccumulative Potential	Urea, silicates, and potassium salts have low bioaccumulation potential.

	<p>Zinc (as Zn²⁺) may accumulate in sediments or organisms at high concentrations but is used here at agronomically safe levels.</p> <p>Overall, bioaccumulation risk is low under intended use.</p>
Mobility in Soil	<p>Product is fully water-soluble and may move with soil water.</p> <p>Avoid application near water bodies or on saturated soils prone to runoff.</p>
Results of PBT and vPvB Assessment	<p>The mixture does not contain any substances classified as Persistent, Bioaccumulative and Toxic (PBT) or very Persistent and very Bioaccumulative (vPvB) under current EU criteria.</p>
Other Adverse Effects	<p>None known under recommended use.</p> <p>Avoid direct discharge into aquatic environments due to the risk of nutrient loading and eutrophication.</p>

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. WASTE TREATMENT METHODS

Product Waste Disposal	<p>Dispose of unused product in accordance with local, regional, and national environmental regulations.</p> <p>Prevent any release into surface waters, soil, or drainage systems.</p> <p>If disposal via sewage is being considered, consult relevant local authorities before proceeding.</p> <p>Recommended Waste Code (European Waste Catalogue – EWC):</p> <p>0610 99* – Wastes not otherwise specified from the manufacture, formulation, supply, and use (MFSU) of agricultural chemicals.</p>
Packaging Disposal	<p>Empty containers should be triple-rinsed with clean water prior to disposal.</p> <p>Rinse water can be reused in the application tank during the next use.</p> <p>After proper rinsing, containers can be:</p> <ul style="list-style-type: none"> • Recycled, if permitted by local regulations, or • Disposed of as non-hazardous plastic waste. <p>Do not reuse empty containers for any other purpose.</p>

13.2 ADDITIONAL NOTES

- Do not incinerate sealed or pressurized containers.
- Avoid uncontrolled dumping or landfill without proper authorization.
- Whenever possible, product residues and packaging waste should be handled by licensed hazardous waste contractors.

SECTION 14. TRANSPORT INFORMATION

Parameter	Details
UN Number	3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s. (contains Zinc Sulphate)
Transport Hazard Class	9 - Miscellaneous Dangerous Substances and Articles
Packing Group	III - Low Danger
Label(s)	Class 9 (Miscellaneous); Environmentally Hazardous Substance symbol as required
Marine Pollutant (IMDG)	Yes - due to zinc compound (harmful to aquatic life)
Environmentally Hazardous	Yes - classified as hazardous to the aquatic environment (Aquatic Chronic 2, H411)
Transport in Bulk (MARPOL/IBC)	Not applicable - Not intended for bulk transport via marine vessels
Special Precautions	Avoid heat, flame, direct sunlight; keep away from incompatible materials (e.g., acids, oxidizers)
Remarks	Label according to ADR/IMDG/IATA rules for substances hazardous to the aquatic environment (due to zinc content)

SECTION 15. REGULATORY INFORMATION

15.1. EU AND INTERNATIONAL REGULATIONS

CLP Regulation (EC) No 1272/2008	This product is classified and labelled in accordance with the CLP Regulation. Based on the zinc sulphate content, it is considered hazardous to the aquatic environment (Aquatic Chronic 2, H411) and eye irritant (Eye Irrit. 2, H319). Relevant hazard and precautionary statements are applied accordingly.
REACH Regulation (EC) No 1907/2006	All intentionally added ingredients are either: Registered or pre-registered under REACH, or Exempt from registration (e.g., naturally occurring organic matter such as post-fermentation slurry).
Transport Regulation	Subject to classification under UN 3082 per ADR/IMDG/IATA transport rules (see Section 14), due to presence of zinc compound hazardous to aquatic environments.
Seveso III Directive (Directive 2012/18/EU)	Not applicable - the product does not fall under the categories requiring Seveso reporting.
Other Regulatory Listings	Components such as Potassium Hydroxide, Zinc Sulphate, and Urea are listed in national inventories (e.g., EINECS/ELINCS). No ingredient is listed as SVHC.

15.2 LOCAL AND NATIONAL REGULATIONS

TR Türkiye	<ul style="list-style-type: none">Complies with the "Organik ve Organomineral Gübreler Yönetmeliği" (Regulation on Organic and Organomineral Fertilizers) issued by the Turkish Ministry of Agriculture and Forestry.Product must be registered and approved by the Ministry prior to commercialization.For components classified as hazardous, compliance with the "Kimyasalların Envanteri ve Kontrolü Hakkında Yönetmelik" (Regulation on Inventory and Control of Chemicals) is required.
AZ Azerbaijan	<ul style="list-style-type: none">Must comply with the fertilizer registration, labeling, and safety requirements of the Republic of Azerbaijan.Regulated under "Azərbaycan Respublikasının Gübrələrin Qeydiyyatı və Təhlükəsiz İstifadəsi Qaydaları" (Rules on Registration and Safe Use of Fertilizers).Importation, distribution, and use are subject to oversight by the State Phytosanitary Control Service and other relevant authorities.

SECTION 16. OTHER INFORMATION

Prepared by	AGROBİGEN R&D Department
Issue Date	2025-09-30
Version	1.0

Key to Abbreviations and Acronyms

- CAS: Chemical Abstracts Service Registry Number
- EC Number: European Community Number
- CLP: Classification, Labelling and Packaging Regulation (EC) No 1272/2008
- REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
- SDS: Safety Data Sheet
- LD₅₀: Median lethal dose
- LC₅₀: Median lethal concentration

Relevant Hazard Statements (H-Statements)

- H272 - May intensify fire; oxidizer
- H315 - Causes skin irritation
- H319 - Causes serious eye irritation

Disclaimer	<p>The information contained in this Safety Data Sheet is provided to the best of our knowledge as of the issue date. It is based on current legislation, scientific evidence, and reliable data sources.</p> <p>However, ORGANOPLANTIS make no warranties, express or implied, and assume no legal responsibility for the accuracy, completeness, or use of this data.</p> <p>The user is responsible for determining the suitability of the product for any particular use and for ensuring compliance with all applicable laws and regulations in Türkiye, Azerbaijan, and other jurisdictions where the product may be marketed or applied.</p>
------------	---