

MATERIAL SAFETY DATA SHEET (MSDS)

According to Regulation (EC) No. 1907/2006

Revision Date	01	
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Form No.	001.01 EN	

OrganoPlantis NafixKalsi

SOIL AMENDMENT - ORGANIC + MINERAL BASED LIQUID SOIL AMENDMENT (pH REDUCER - LIME AND SALT REMOVER)

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

1.1. PRODUCT IDENTIFIER

Product trade name	ORGANOPLANTIS NAFIXKALSI		
Product form	Soil Amendment - Organic + Mineral Based Liquid Soil Amendment (pH Reducer - Lime and Salt Remover)		
Product Use	Highly acidic (pH $<$ 2) organic + mineral based liquid soil amendment designed to neutralize alkalinity, reduce excessive lime (CaCO ₃) and sodium-induced salinity in agricultural soils. Improves nutrient availability by displacing sodium (Na ⁺) with potassium (K ⁺) and magnesium (Mg ²⁺), enhancing soil fertility and crop productivity.		

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

Field	Content
Identified	Professional agricultural use as a soil conditioner to
Uses	reduce alkalinity and salinity, lower pH, and improve
	nutrient uptake in calcareous, alkaline, and sodic soils.
Uses Advised	Not intended for human or animal consumption. Not suitable
Against	for foliar application except as a water acidifier (pH
	correction). Do not mix with calcium-based compounds.

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]:

- Skin Irritation, Category 2 H315: Causes skin irritation
- Eye Irritation, Category 2 H319: Causes serious eye irritation
- Corrosive to Metals, Category 1 H290: May be corrosive to meta

2.2 LABEL ELEMENTS



HAZARD STATEMENTS (H)

- H290 May be corrosive to metals
- H315 Causes skin irritation
- H319 Causes serious eye irritation

PRECAUTIONARY STATEMENTS (P)

- P264 Wash hands thoroughly after handling
- P280 Wear protective gloves/protective clothing/eye protection/face protection
- P302+P352 IF ON SKIN: Wash with plenty of water
- 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 substances classified as PBT (Persistent, Bioaccumulative and Toxic) or vPvB (very Persistent and very Bioaccumulative) under current EU criteria.

When exposed to heat or fire, the mixture may emit irritating acidic vapors, including nitrogen oxides (NO_x) and other corrosive gases.

May be corrosive to certain metals (e.g., aluminum, zinc). Store only in compatible containers (e.g., HDPE, acid-resistant plastic).

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 pH regulator composed of the following components:

Component	CAS	EC	Concentration	Classification
	Number	Number	(% w/v)	(Reg. EC 1272/2008)

Organic Slurry / Post-Fermentation Sludge	_	-	>20%	Not classified
Nitric acid	7697-37-2	231-714-2	>5%	Ox. Liq. 3 (H272), Skin Corr. 1A (H314)
Sulphiric acid	7664-93-9	231-639-5	>2%	Skin Corr. 1A (H314)
Phosphoric acid	7664-38-2	231-633-2	>1%	Skin Corr. 1B (H314), Eye Dam. 1 (H318)
Citric acid	77-92-9	201-069-1	>2%	Eye Irrit. 2 (H319)
Lactic acid	50-21-5	200-018-0	<1%	Skin Irrit. 2 (H315), Eye Dam. 1 (H318)
Formic acid	64-18-6	200-579-1	<1%	Acute Tox. 4 (H302), Skin Corr. 1A (H314)
Potassium nitrate	7757-79-1	231-818-8	>2%	Ox. Sol. 3 (H272), Eye Irrit. 2 (H319) (if relevant threshold reached)
Magnesium sulphate	7487-88-9	231-298-2	>2%	Not classified (based on common agricultural grade use)

SECTION 4. FIRST-AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES

Exposure Route	Recommended Action	
General Advice	Remove exposed person from contaminated area. If symptoms persist, seek immediate medical attention. Present this SDS to the attending physician.	
Eye Contact	Rinse eyes cautiously with lukewarm water for at least 15 minutes, keeping eyelids open. Remove contact lenses if easy to do. Continue rinsing. Get immediate medical help.	
Skin Contact	Wash skin thoroughly with water and mild soap. Remove contaminated clothing. Seek medical attention if irritation or chemical burns appear.	
Inhalation	Move person to fresh air. If breathing difficulty, cough, or throat irritation occurs, seek medical attention immediately.	
Ingestion	Do not induce vomiting. Rinse mouth with water. If conscious, offer small sips of water. Seek	

medical attention immediately. Do not give anything orally to an unconscious person.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

- Eye Contact: Redness, pain, blurred vision, risk of permanent damage with prolonged exposure.
- Skin Contact: Burning, redness, irritation or chemical burns depending on exposure time.
- Inhalation: Coughing, throat irritation, and respiratory discomfort from acid vapors or mist.
- Ingestion: Burning of mouth, throat, and stomach; nausea and vomiting possible due to acidic components.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

- Antidote: No specific antidote available.
- Treatment: Symptomatic and supportive care.
- Critical Measures: Prompt eye flushing, airway management if inhaled, and monitoring for acid-base or electrolyte imbalance in case of ingestion.
- Severe Exposure: Monitor for systemic effects due to acidic and nitrate components.

SECTION 5. FIREFIGHTING MEASURES

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Suitable Extinguishing Media	Use one or more of the following based on the surrounding fire type: Water spray (mist), Alcohol-resistant foam, Dry chemical powder, Carbon dioxide (CO ₂) Note: Select the extinguishing media according to			
	the nature of the surrounding fire and materials involved.			
Unsuitable	Do not use high-pressure water jets as they may:			
Extinguishing Media	Spread the corrosive product			
	Splash hazardous material			
	Avoid excessive water use if there's a risk of runoff into surface water or drains.			
Special Hazards	The product contains oxidizing and acidic			
Arising from the Substance or Mixture	components (e.g., nitric acid), which may intensify fire in contact with flammable materials.			
	Heating can result in pressure buildup and potential container rupture.			
	Hazardous decomposition products during fire include: Nitrogen oxides (NO $_{\rm x}$), Sulfur oxides (SO $_{\rm x}$), Phosphorus oxides (e.g., P $_{\rm 2}$ O $_{\rm 5}$ fumes), Ammonia (NH $_{\rm 3}$) - trace amounts			
	Carbon monoxide (CO) and carbon dioxide (CO $_{ m 2}$)			
Advice for Firefighters	Wear full protective firefighting gear and a self-contained breathing apparatus (SCBA) with positive pressure mode.			

Avoid inhalation of combustion fumes and acid vapors.

Prevent firefighting water from entering drains or water bodies.

Use water spray to cool sealed containers near the fire to prevent rupture.

Maintain a safe distance and ensure escape route access.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures Ensure adequate ventilation in the affected area to prevent vapor accumulation.

Avoid direct contact with skin, eyes, and clothing.

In case of large spills or significant vapor exposure:

- Evacuate non-essential personnel.
- Restrict access to the spill zone.

Eliminate sources of ignition even though the product is not classified as flammable, due to oxidizing ingredients (e.g., nitric acid).

Use appropriate Personal Protective Equipment (PPE):

- Chemical-resistant gloves (e.g., nitrile, neoprene)
- Protective goggles or face shield
- Acid-resistant protective clothing
- Respiratory protection (e.g., acid gas cartridge mask) if ventilation is inadequate

Environmental Precautions

Prevent product from entering drains, waterways, or soil.

Contain spills promptly to minimize groundwater contamination or eutrophication risk.

Notify local authorities if significant quantities enter surface water.

Acidic nature may alter soil pH and damage microbial populations.

Methods and Material for Containment and Cleaning Up Stop the leak only if safe to do so.

For small spills:

Absorb with inert material such as dry sand, vermiculite, or diatomaceous earth.

For large spills:

Construct temporary dikes using earth or absorbent booms.

Collect contaminated material into acid-resistant containers for disposal.

Reference to Other Sections

For PPE specifications, see Section 8.

For disposal information, refer to Section 13.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid direct contact with skin, eyes, and clothing.

Do not inhale vapors, mists, or aerosols. Avoid generating airborne droplets during handling or transfer.

Ensure adequate ventilation in all handling and processing areas.

Use only with appropriate personal protective equipment (PPE) as outlined in Section 8:

- Acid-resistant gloves (e.g., nitrile, neoprene)
- Splash-proof safety goggles or face shield
- Chemical-resistant protective clothing
- Respiratory protection (e.g., acid vapor cartridge mask), if airborne concentration exceeds safe limits
- Do not eat, drink, or smoke during product handling.

Wash hands, face, and exposed skin thoroughly after handling.

Keep away from:

- Sources of heat, open flame, and sparks
- Combustible materials product may intensify fire due to oxidizing components

Transfer and mix only with materials compatible with strong acids.

Conditions for Safe Storage, Including Any Incompatibilities Store in original, tightly closed, acid-resistant containers.

Storage environment must be:

- Cool and dry
- Well-ventilated
- Protected from direct sunlight
- Away from extreme temperatures, especially freezing

Recommended storage temperature: 5°C to 25°C Keep away from:

- Alkaline substances, strong bases, or strong oxidizing agents
- Reactive metals such as aluminum or zinc (due to corrosion risk)
- Food, drink, and animal feed

Ensure spill containment is in place and neutralizing agents (e.g., lime or soda ash) are available near storage area.

Do not stack containers in a way that could cause deformation or rupture.

Specific End Use(s)

Product is intended solely as a soil-applied organomineral pH regulator for agricultural applications.

Not suitable for foliar spraying, human or animal consumption, or industrial chemical use.

Any alternative use must be evaluated and approved by the manufacturer or qualified professionals.

SECTION 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1. CONTROL PARAMETERS

There are no established occupational exposure limits (OELs) for the product as a whole. However, several individual hazardous ingredients have known exposure limits under EU and national regulations:

Substance	CAS Number	OEL (8h-TWA)	STEL	Remarks
Nitric acid	7697-37-2	2 ppm (5.2 mg/m³)	4 ppm (10 mg/m³)	Corrosive, oxidizing agent
Sulfuric acid	7664-93-9	0.05 mg/m³ (thoracic fraction)	_	Carcinogen Cat.1A (mist)
Phosphoric acid	7664-38-2	1 mg/m³	2 mg/m³	Skin and eye irritant
Formic acid	64-18-6	5 ppm (9.5 mg/m³)	10 ppm (19 mg/m³)	Skin/eye irritant; corrosive
Citric acid	77-92-9	Not established	_	Low hazard at dilute concentrations
Lactic acid	50-21-5	Not established	_	Mild irritant at high doses
Potassium nitrate (KNO ₃)	7757-79-1	231-818-8	>2%	Ox. Sol. 3 (H272), Eye Irrit. 2 (H319)
Magnesium sulphate (MgSO ₄)	7487-88-9	231-298-2	>2%	Not classified (at this concentration); may cause mild eye irritation (unclassified)

Note: Always consult national exposure limit legislation (e.g., EU SCOEL, Türkiye OEL) for latest compliance and workplace safety guidelines.

8.2. EXPOSURE CONTROLS

Appropriate Engineering Controls	Ensure operations take place in well-ventilated areas.		
	For indoor or enclosed use, provide local exhaust ventilation to control acid mist or vapor formation.		
	Prevent aerosol generation during mixing, dilution, or application processes.		

8.3. PERSONAL PROTECTIVE EQUIPMENT (PPE)

PPE Type	Recommendation	
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Eye Protection	Safety goggles or face shield (EN 166 compliant)
Skin Protection	Long-sleeved acid-resistant clothing and gloves (e.g., nitrile or PVC)
Respiratory	Not required under normal use. Use half-mask respirator with P2 or P3 filter in poorly ventilated areas or during large-scale applications
Foot Protection	Rubber boots or chemical-resistant safety shoes

Hygiene Measures

- Wash hands and face thoroughly after handling.
- Do not eat, drink, or smoke during product handling.
- Remove and wash contaminated clothing before reuse.
- Ensure emergency eyewash and safety showers are easily accessible.



SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Brownish liquid
Odor	Mild organic odor
рН (20°C)	<2.0
Density	~1.10 g/cm³
Boiling Point	>100°C (aqueous solution)
Freezing Point	~0°C
Solubility	Fully water-soluble
Viscosity	~50-200 cP
Oxidizing Properties	Classified as oxidizing (due to nitrate and acidic components)

Note: Due to its low pH and the presence of oxidizing acids (e.g., nitric acid), the product must be handled using appropriate personal protective equipment and under ventilated conditions, as outlined in Sections 2 and 8.

9.2 OTHER INFORMATION (NUTRIENT COMPOSITION)

Organic matter	10%
Water Soluble Potassium Oxide (K_2O)	1%
Water Soluble Magnesium Oxide (MgO)	0,5%

SECTION 10. STABILITY AND REACTIVITY

Reactivity	Contains oxidizing components (e.g., nitric acid) that may intensify fire when in contact with combustible or flammable materials.
Chemical Stability	Stable under normal handling and storage conditions as described in Section 7. No significant degradation if used as recommended.
Possibility of Hazardous Reactions	No hazardous polymerization is expected under standard usage. However, may react vigorously with strong reducing agents or incompatible substances.
Conditions to Avoid	Excessive heat or open flames Direct sunlight Contact with flammable or combustible substances Mixing with strong acids or bases
Incompatible Materials	 Strong reducing agents (e.g., metal powders, hydrides) Combustible organic matter (e.g., wood dust, paper, textiles) Strong acids or alkalis
Hazardous Decomposition Products	May produce the following upon combustion or thermal decomposition: Nitrogen oxides (NO $_{\rm x}$), Potassium oxides (K $_{\rm 2}$ O), Sulphur oxides (SO $_{\rm x}$), Phosphorus oxides (P $_{\rm 2}$ O $_{\rm 5}$)

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 under CLP Regulation (EC) No 1272/2008.
Skin Corrosion/Irritation	May cause mild to moderate irritation upon prolonged or repeated contact. Product contains acidic components (e.g., nitric, citric, and sulphuric acids).
Serious Eye Damage/Irritation	Causes eye irritation (Category 2, H319). Contact may result in redness, tearing, or temporary visual impairment.
Respiratory or Skin Sensitisation	Not expected to be a sensitiser under normal handling. No known sensitising agents are present in the formulation.
Germ Cell Mutagenicity	Not classified. No evidence available suggesting mutagenic potential.
Carcinogenicity	Not classified. No ingredients are listed as carcinogens by IARC, NTP, OSHA, or EU regulations.
Reproductive Toxicity	Not classified. No known components associated with reproductive or developmental toxicity.
STOT - Single Exposure	Not expected to cause specific target organ toxicity following single exposure.

STOT - Repeated Exposure Not classified. Repeated use under standard agricultural conditions is not expected to pose organ-specific toxicity risks.

Aspiration Hazard

Not applicable. Product is aqueous, non-volatile, and does not contain hydrocarbon solvents.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity The product contains both organic and inorganic acids commonly used for soil pH regulation. While not classified as acutely toxic to the environment, certain components may have ecological impacts at high concentrations: Nitric acid LC₅₀ (96h, fish): ~72 mg/L Potential to acidify aquatic systems, affecting

- Sulfuric acid
- LC_{50} (96h, fish): ~42 mg/L

pH-sensitive organisms.

• Strongly corrosive to aquatic organisms in undiluted or highly concentrated states.

Note: At recommended agricultural application rates, the product is not expected to cause acute aquatic toxicity. However, uncontrolled runoff or improper disposal into water bodies must be strictly avoided due to its acidifying nature.

Persistence and Degradability

Organic matter in the formulation is readily biodegradable.

Inorganic acids (e.g., nitric, phosphoric, sulfuric) are highly water-soluble and will persist in ionic form in soil or water.

These substances do not undergo significant abiotic degradation but are neutralized through natural buffering in soil.

Bioaccumulative Potential

None of the major components are considered to have bioaccumulative properties.

Constituents such as nitrate (NO_3^-), phosphate (PO_4^{3-}), and sulfate (SO_4^{2-}) are naturally occurring ions and are metabolized or immobilized in soil.

Mobility in Soil

Product is fully water-soluble, with high mobility in moist soils.

Risk of leaching exists especially in sandy or low-Cation Exchange Capacity (CEC) soils.

Potential for downward migration into groundwater if over-applied or applied under heavy irrigation.

Results of PBT and vPvB Assessment

The product does not contain substances classified as PBT (Persistent, Bioaccumulative and Toxic) or vPvB (very Persistent and very Bioaccumulative) under current EU REACH regulations.

Other Adverse Effects

Overuse or poor agronomic practices may result in: Soil acidification, Increased nutrient leaching, Disturbance of microbial balance in sensitive soils.

Entry into surface waters may contribute to eutrophication and pH imbalances, particularly in enclosed water bodies.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. WASTE TREATMENT METHODS

Product	Waste
Disposal	L

Product Waste Disposal

Dispose of this product in accordance with local, regional, and national regulations.

Do not discharge unused or excess product into:

- Surface water
- Soil or agricultural drains
- Municipal sewer systems (without prior permission from local authorities)

If disposal via wastewater systems is being considered, consult local environmental authorities or licensed waste treatment contractors.

Packaging Disposal

Empty containers must be triple-rinsed with clean water.

Rinse water can be reused in subsequent application batches.

After rinsing:

- Containers may be recycled as non-hazardous plastic waste, if permitted by local legislation.
- Otherwise, dispose of as industrial or hazardous waste through licensed facilities.

Do not reuse empty containers for food, beverage, or household purposes.

13.2 ADDITIONAL NOTES

- Do not incinerate sealed or pressurized containers.
- Avoid open dumping, uncontrolled burial, or release into natural environments.
- For large quantities or expired stock, consult with licensed hazardous waste contractors.
- Ensure documentation of waste handling and disposal in accordance with applicable environmental directives (e.g., EU Waste Framework Directive 2008/98/EC).

SECTION 14. TRANSPORT INFORMATION

Parameter	Details
UN Number	UN 3265

Proper Shipping Name	Corrosive liquid, acidic, organic, n.o.s. (contains nitric acid, phosphoric acid, citric acid)
Transport Hazard Class	Class 8 - Corrosive Substances
Packing Group	Group II - Medium Hazard
Label(s)	Class 8 (Corrosive)
Marine Pollutant (IMDG)	No - Not classified as a marine pollutant under IMDG regulations
Environmentally Hazardous	No - Not classified as environmentally hazardous under ADR, IMDG, or IATA
Transport in Bulk (MARPOL/IBC)	Not applicable - Product is not intended for transport in bulk by sea
Special Precautions	• Avoid exposure to heat sources, direct sunlight, or frost.
Remarks	Ensure secure, upright packaging. Prevent contact with incompatible materials (e.g., alkalis, metals, reducing agents).

SECTION 15. REGULATORY INFORMATION 15.1. EU AND INTERNATIONAL REGULATIONS

CLP Regulation (EC) No 1272/2008	This product is classified and labeled in accordance with the CLP Regulation. Signal words, hazard statements (H), and precautionary statements (P) are applied based on the identified hazards of acidic components (e.g., nitric acid, sulfuric acid, phosphoric acid).
REACH Regulation (EC) No 1907/2006	 The ingredients in this mixture are either: Pre-registered or fully registered under REACH, or Exempt from registration (e.g., naturally occurring substances such as organic slurry or citric acid from biological origin).
Transport Regulation	Classified as UN 3265 - Corrosive liquid, acidic, organic, n.o.s. Subject to Class 8 - Corrosive Substances regulations (See Section 14).

15.2 LOCAL AND NATIONAL REGULATIONS

TR Türkiye	•	Complies with the "Organik ve Organomineral Gübreler Yönetmeliği" regulated by the Republic of Türkiye Ministry of Agriculture and Forestry.
	•	Product must be registered and approved before marketing or agricultural use.
	•	Hazardous components are subject to the "Kimyasalların Envanteri ve Kontrolü Hakkında Yönetmelik" under SEA / CLP adaptation in Türkiye.

AZ Azerbaijan	• Must comply with the Republic of Azerbaijan's fertilizer registration and safety use regulations, including labeling, classification, and environmental precautions.
	 Governed by "Azərbaycan Respublikasının Gübrələrin Qeydiyyatı və Təhlükəsiz İstifadəsi Qaydaları". Subject to supervision by the State Phytosanitary
	Control Service for importation, storage, and application in agriculture.

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
- LD $_{50}$: Median lethal dose
- \bullet LC₅₀: Median lethal concentration

Relevant Hazard Statements (H-Statements)

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

Disclaimer	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.
	However, ORGANOPLANTIS make no warranties, express or implied, and assume no legal responsibility for the accuracy, completeness, or use of this data.
	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.