SAFETY DATA SHEET

1. Identification

Product identifier **P Up**
Recommended use Foliar nutrient formulation for agricultural use
Recommended restrictions Refer to product label.
Manufacturer/Importer/Supplier/Distributor information
Manufacturer
Company name CZ Industria de Fertilizantes LTDA
Address 360 Severino Bombarda Street
Corbélia, PR 85420-000
Brazil
Telephone Corporate Office +55 45 3197-9817
Website https://clearagro.com.br
E-mail emilykerber@clearagro.com.br
Contact person Quality Control Department
Importer/Distributor information
Company name Clear Agro Co
Address 6701 Corporate Dr, Ste N
Johnston, IA 50131
USA
Telephone Corporate Office +1 (435) 534-1505
Website https://clearagro.com.br
E-mail eduardosouza@clearagro.com.br
Contact person Quality Control Department
Emergency phone number Hazmat line +1 656 228 4492

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 1B
	Serious eye damage/eye irritation	Category 1
Environmental hazards	Hazardous to the aquatic environment	Chronic Category 2
OSHA defined hazards	Not classified.	

Label elements

Signal word Danger
Hazard statement Causes severe skin burns and eye damage. Harmful if swallowed. Toxic to aquatic life with long lasting effects.
Precautionary statement
Prevention Do not breathe mist/vapors/spray. Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.
Response IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
Collect spillage.

Storage	Store locked up.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Phosphoric Acid (H_3PO_4)		7664-38-2	79 - 85
Manganese (II) Sulfate Monohydrate		7785-87-7	2 - 5
Proprietary		Proprietary	10 - 19

4. First-aid measures

Inhalation	Remove person to fresh air and keep comfortable for breathing. If breathing is difficult, provide oxygen and seek medical attention immediately.
Skin contact	Remove contaminated clothing immediately. Rinse affected area with plenty of water for at least 15 minutes. Seek immediate medical attention.
Eye contact	Immediately flush eyes with water for at least 15–20 minutes, lifting eyelids occasionally. Remove contact lenses if present and easy to do. Seek immediate medical attention.
Ingestion	Do NOT induce vomiting. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. Seek immediate medical attention.
Most important symptoms/effects, acute and delayed	Severe skin and eye burns, possible corrosion of mucous membranes, sore throat, abdominal pain, nausea.
Indication of immediate medical attention and special treatment needed	Treat symptomatically. Immediate care for chemical burns required. Do not use neutralizing agents without medical supervision.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Water spray (fog), foam, CO_2, or dry chemical. Use extinguishing media appropriate to surrounding fire.
Unsuitable extinguishing media	Do not use strong water jets — may cause splattering.
Specific hazards arising from the chemical	Product is not flammable but can react with metals to release hydrogen gas. May release toxic fumes (phosphorus oxides, sulfur oxides).
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Do not taste or swallow. Avoid contact with eyes, skin, and clothing. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).
Store in secured area away from children, feed, and other food products. Store in original container. Store in a well-ventilated area. Storage temperature: 40 F to 100 F.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Phosphoric Acid (CAS 7664-38-2)	PEL	1 mg/m³
Manganese(II) Sulfate Monohydrate (CAS 10034-96-5)	Ceiling	15 mg/m³

US. ACGIH Threshold Limit Values

Components	Type	Value
Phosphoric Acid (CAS 7664-38-2)	STEL	3 mg/m³
	TWA	1 mg/m³
Manganese(II) Sulfate Monohydrate (CAS 10034-96-5)	TWA	0,1 mg/m³

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Phosphoric Acid (CAS 7664-38-2)	STEL	3 mg/m³
	TWA	1 mg/m³
Manganese(II) Sulfate Monohydrate (CAS 10034-96-5)	STEL	3 mg/m³

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or

smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Personal protective equipment symbol(s):

9. Physical and chemical properties

Appearance	Liquid.
Physical state	Liquid.
Form	Liquid.
Color	Clear to slightly yellowish
Odor	Characteristic
Odor threshold	Not available.
pH	0 - 1
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit – lower (%)	Not available.
Flammability limit – upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	1,60 g/cm^3 (typical)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Flammability class	Combustible IIIB estimated
Oxidizing properties	Not oxidizing.
Pounds per gallon	10.01 lb/gal (typical)

10. Stability and reactivity

Reactivity	Corrosive to metals. Reacts with bases to release heat.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Contact with metals may produce hydrogen gas. Avoid mixing with oxidizers or alkalis.
Conditions to avoid	Excess heat, freezing, contact with incompatible materials.
Incompatible materials	Strong bases, reactive metals, oxidizing agents.
Hazardous decomposition products	Phosphorus oxides, sulfur oxides, manganese oxides, hydrogen gas (on contact with metals).

11. Toxicological information

Information on likely routes of exposure

Inhalation	Harmful if inhaled.
Skin contact	Causes severe skin burns
Eye contact	Causes severe eye damage.
Ingestion	May be harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
Information on toxicological effects	
Acute toxicity	May be harmful if swallowed.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Based on available data, the classification criteria are not met.
Skin sensitization	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	Based on available data, the classification criteria are not met.
Specific target organ toxicity - single exposure	Based on available data, the classification criteria are not met.
Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Due to partial or complete lack of data the classification is not possible

12. Ecological information

Ecotoxicity	Toxic to aquatic life with long lasting effects (H411). Contains soluble manganese compounds. Expected to be harmful to aquatic organisms due to high pH.
Persistence and degradability	Inorganic acids and metal salts are persistent.
Bioaccumulative potential	Low for phosphoric acid; possible for manganese in sediments.
Mobility in soil	No data available.
Other adverse effects	Avoid environmental release; may lower pH of water bodies.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1760
UN proper shipping name	Corrosive liquids, n.o.s. (Phosphoric Acid RQ = 49751 lbs)
Transport hazard class(es)	
Class	8
Subsidiary risk	-

Label(s)	8
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	A6, A7, B10, T14, TP2, TP27
Packaging exceptions	None
Packaging non bulk	201
Packaging bulk	243

IATA

UN number	UN1760
UN proper shipping name	Corrosive liquids, n.o.s. (Phosphoric Acid RQ = 49751 lbs)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	III
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed (Packing Instruction 852/856).
Cargo aircraft only	Allowed (Packing Instruction 852/856).

IMDG

UN number	UN1760
UN proper shipping name	Corrosive liquids, n.o.s. (Phosphoric Acid RQ = 49751 lbs)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	III
Environmental hazards	
Marine pollutant	No.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

DOT

IATA; IMDG

Note: Although hazardous to the aquatic environment, this product does not meet the criteria for classification as dangerous goods under transport regulations.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Phosphoric Acid (CAS 7664-38-2) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard – No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Phosphoric Acid (CAS 7664-38-2)

US. New Jersey Worker and Community Right-to-Know Act

Phosphoric Acid (CAS 7664-38-2)

US. Pennsylvania Worker and Community Right-to-Know Law

Phosphoric Acid (CAS 7664-38-2)

US. Rhode Island RTK

Phosphoric Acid (CAS 7664-38-2)

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical No Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances No (PICCS)	Yes

United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s)

Additional information

This product is in compliance with Brazilian regulations (ABNT NBR 14725).

16. Other information, including date of preparation or last revision

Issue date	October 28, 2025
Version #	01
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of Manufacturer's knowledge, information and belief at the date of its publication; however, it is provided only as a guidance for safe handling, use, processing, storage, transportation, disposal and release of the Product. No warranties of any kind, either expressed or implied, including warranties of merchantability or fitness for a particular purpose, are made with respect to the Product or the information provided herein, or that the Product or information herein may be used without infringing the intellectual property rights of others. The information provided in this Safety Data Sheet relates only to the specific Product designated and may not be valid if the Product is used in combination with other materials or in any other process, unless specified herein. The user assumes all risk and liability for loss, injury, damage or expense due to any use, handling, storage or disposal of the Product, and Manufacturer recommends that the user conducts its own tests of the Product to determine suitability of the Product for user's particular use.

SAFETY DATA SHEET

1. Identification

Product identifier	**Charge+**
Recommended use	Foliar nutrient formulation for agricultural use
Recommended restrictions	Refer to product label.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Company name	CZ Industria de Fertilizantes LTDA
Address	360 Severino Bombarda Street Corbélia, PR 85420-000 Brazil
Telephone	Corporate Office +55 45 3197-9817
Website	https://clearagro.com.br
E-mail	emilykerber@clearagro.com.br
Contact person	Quality Control Department
Importer/Distributor information	
Company name	Clear Agro Co
Address	6701 Corporate Dr, Ste N Johnston, IA 50131 USA
Telephone	Corporate Office +1 (435) 534-1505
Website	https://clearagro.com.br
E-mail	eduardosouza@clearagro.com.br
Contact person	Quality Control Department
Emergency phone number	Hazmat line +1 656 228 4492

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 1B
	Serious eye damage/eye irritation	Category 1
Environmental hazards	Hazardous to the Aquatic Environment	Chronic Category 3
OSHA defined hazards	Not classified.	
Label elements		

Signal word	Danger
Hazard statement	Harmful if swallowed. Causes severe skin burns and eye damage. Harmful to aquatic life with long lasting effects.
Precautionary statement	
Prevention	Do not breathe vapors or mists. Wear protective gloves, clothing, eye and face protection. Wash hands thoroughly after handling. Avoid release to the environment.
Response	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN: Remove contaminated clothing and rinse with plenty of water. IF INHALED: Move to fresh air and keep comfortable. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and continue rinsing. Seek immediate medical attention.
Storage	Store locked up.
Disposal	Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Potassium hydroxide		1310-58-3	3 - 5
Phosphoric Acid (H_3PO_4)		7664-38-2	8 - 11
Ammonia (aqueous)		1336-21-6	6 - 9
Monoethanolamine (MEA)		141-43-5	2 - 5
Proprietary		Proprietary	70 - 81

4. First-aid measures

Inhalation	Move victim to fresh air and keep at rest. If breathing is difficult, provide oxygen and seek medical attention.
Skin contact	Remove contaminated clothing and rinse with water for at least 15 minutes. Seek medical care if irritation persists.
Eye contact	Immediately flush eyes with running water for 15–20 minutes, lifting eyelids occasionally. Remove contact lenses if present.
Ingestion	Rinse mouth with water. Do NOT induce vomiting. Get medical attention immediately.
Most important symptoms/effects, acute and delayed	Burning sensation on skin and eyes, coughing, nausea, and irritation of mucous membranes.
Indication of immediate medical attention and special treatment needed	Treat symptomatically. Do not attempt neutralization without medical supervision.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Do not taste or swallow. Avoid contact with eyes, skin, and clothing. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

Store in secured area away from children, feed, and other food products. Store in original container. Store in a well-ventilated area. Storage temperature: 40 F to 100 F.

8. Exposure controls/personal protection

Occupational exposure limits

USA - ACGIH - Occupational Exposure Limits

Components	Type	Value
Potassium hydroxide (1310-58-3)	Ceiling	2 mg/m^3
Phosphoric Acid (H_3PO_4) (7664-38-2)	TWA	1 mg/m^3
	STEL	3 mg/m^3
Ammonia (aqueous) (1336-21-6)	TWA	25 ppm
	STEL	35 ppm
Monoethanolamine (MEA) (141-43-5)	TWA	3 ppm
	STEL	6 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Potassium hydroxide (1310-58-3)	Ceiling	2 mg/m^3
Phosphoric Acid (H_3PO_4) (7664-38-2)	TWA	1 mg/m^3
Ammonia (aqueous) (1336-21-6)	TWA	50 ppm
	STEL	35 ppm
Monoethanolamine (MEA) (141-43-5)	TWA	3 ppm
	STEL	6 ppm

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Personal protective equipment symbol(s):

9. Physical and chemical properties

Appearance	Liquid.
Physical state	Liquid.
Form	Liquid.
Color	Clear to slightly yellowish
Odor	Characteristic
Odor threshold	Not available.
pH	6 - 8
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit – lower (%)	Not available.
Flammability limit – upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	1,16 g/cm^3 (typical)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Flammability class	Combustible IIIB estimated
Oxidizing properties	Not oxidizing.
Pounds per gallon	10.01 lb/gal (typical)

10. Stability and reactivity

Reactivity	Slightly reactive with acids and oxidizing agents.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials. Do not mix with other chemicals.
Incompatible materials	Strong acids, bases, oxidizers, hypochlorites.
Hazardous decomposition products	Ammonia, nitrogen oxides, CO_2, and phosphorus oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May be harmful if inhaled.
Skin contact	Causes severe skin burns
Eye contact	Causes severe eye damage.
Ingestion	Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity Harmful if swallowed.

Product	**Species**	**Test Results**
Charge+ (CAS Mixture)		
Acute		
Oral		
LD50	Rat	> 5000 mg/kg estimated

Components	**Species**	**Test Results**
Phosphoric Acid (CAS 7664-38-2)		
Acute		
Oral		
LD50	Rat	1530 mg/kg
Monoethanolamine (MEA) (CAS 141-43-5)		
Acute		
Oral		
LD50	Rat	1720 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Based on available data, the classification criteria are not met.
Skin sensitization	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	Based on available data, the classification criteria are not met.
Specific target organ toxicity - single exposure	Based on available data, the classification criteria are not met.
Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Due to partial or complete lack of data the classification is not possible

12. Ecological information

Ecotoxicity	No acute aquatic toxicity data available. Expected to be harmful to aquatic organisms due to high pH.
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT	
UN number	UN1760
UN proper shipping name	Corrosive liquid, n.o.s. (contains potassium hydroxide, phosphoric acid)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	A6, A7, B10, T14, TP2, TP27
Packaging exceptions	None
Packaging non bulk	201
Packaging bulk	243
IATA	
UN number	UN1760
UN proper shipping name	Corrosive liquid, n.o.s. (contains potassium hydroxide, phosphoric acid)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	III
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed (Packing Instruction 852/856).
Cargo aircraft only	Allowed (Packing Instruction 852/856).
IMDG	
UN number	UN1760
UN proper shipping name	Corrosive liquid, n.o.s. (contains potassium hydroxide, phosphoric acid)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	III
Environmental hazards	
Marine pollutant	No.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

DOT

IATA; IMDG

Note: Although hazardous to the aquatic environment, this product does not meet the criteria for classification as dangerous goods under transport regulations.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Components listed or exempt.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	Yes
Classified hazard categories	Acute toxicity (any route of exposure) Skin corrosion or irritation Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical No Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances No (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s)

Additional information

This product is in compliance with Brazilian regulations (ABNT NBR 14725).

16. Other information, including date of preparation or last revision

Issue date October 28, 2025

Version # 01

Disclaimer The information provided in this Safety Data Sheet is correct to the best of Manufacturer's knowledge, information and belief at the date of its publication; however, it is provided only as a guidance for safe handling, use, processing, storage, transportation, disposal and release of the Product. No warranties of any kind, either expressed or implied, including warranties of merchantability or fitness for a particular purpose, are made with respect to the Product or the information provided herein, or that the Product or information herein may be used without infringing the intellectual property rights of others. The information provided in this Safety Data Sheet relates only to the specific Product designated and may not be valid if the Product is used in combination with other materials or in any other process, unless specified herein. The user assumes all risk and liability for loss, injury, damage or expense due to any use, handling, storage or disposal of the Product, and Manufacturer recommends that the user conducts its own tests of the Product to determine suitability of the Product for user's particular use.

1. Identification

Product identifier	**Grain Up**
Recommended use	Foliar nutrient formulation for agricultural use
Recommended restrictions	Refer to product label.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Company name	CZ Industria de Fertilizantes LTDA
Address	360 Severino Bombarda Street Corbélia, PR 85420-000 Brazil
Telephone	Corporate Office +55 45 3197-9817
Website	https://clearagro.com.br
E-mail	emilykerber@clearagro.com.br
Contact person	Quality Control Department
Importer/Distributor information	
Company name	Clear Agro Co
Address	6701 Corporate Dr, Ste N Johnston, IA 50131 USA
Telephone	Corporate Office +1 (435) 534-1505
Website	https://clearagro.com.br
E-mail	eduardosouza@clearagro.com.br
Contact person	Quality Control Department
Emergency phone number	Hazmat line +1 656 228 4492

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 1B
	Serious eye damage/eye irritation	Category 1
Environmental hazards	Hazardous to the Aquatic Environment	Chronic Category 2
OSHA defined hazards	Not classified.	
Label elements		

Signal word	Danger
Hazard statement	Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage. Toxic to aquatic life with long lasting effects.
Precautionary statement	
Prevention	Do not breathe vapors/mist. Wear protective gloves, clothing, eye and face protection. Avoid release to the environment. Wash thoroughly after handling.
Response	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove contaminated clothing and rinse with water/shower. IF INHALED: Move victim to fresh air and keep comfortable. IF IN EYES: Rinse cautiously with water for several minutes and call a doctor immediately. Collect spillage.
Storage	Store locked up.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
Hazard(s) not otherwise classified (HNOC)	None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Potassium Hydroxide		1310-58-3	20 - 23
Acetic acid (glacial)		64-19-7	24 - 26
Copper sulfate pentahydrate		7758-99-8	1 - 2
Proprietary		Proprietary	49 - 55

4. First-aid measures

Inhalation Move to fresh air. If symptoms persist, get medical attention.

Skin contact Remove contaminated clothing immediately and rinse with plenty of water for 15 minutes.

Eye contact Flush eyes with running water for 15–20 minutes. Remove contact lenses if present. Seek immediate medical attention.

Ingestion Rinse mouth. Do NOT induce vomiting. Call a physician immediately.

Most important symptoms/effects, acute and delayed Burning of skin and eyes, redness, pain, nausea.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions Move containers from fire area if you can do so without risk.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS

Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not taste or swallow. Avoid contact with eyes, skin, and clothing. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Store in secured area away from children, feed, and other food products. Store in original container. Store in a well-ventilated area. Storage temperature: 40 F to 100 F.

8. Exposure controls/personal protection

Occupational exposure limits

USA - ACGIH - Occupational Exposure Limits

Components	Type	Value
Potassium hydroxide (1310-58-3)	Ceiling	2 mg/m^3
Acetic acid (glacial) (64-19-7)	TWA	10 ppm
	STEL	15 ppm
Copper sulfate pentahydrate (7758-99-8)	TWA	1 mg/m^3

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Potassium hydroxide (1310-58-3)	Ceiling	2 mg/m^3
Acetic acid (glacial) (64-19-7)	TWA	25 mg/m^3
Copper sulfate pentahydrate (7758-99-8)	TWA	1 mg/m^3

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Personal protective equipment symbol(s):

9. Physical and chemical properties

Appearance	Liquid.
Physical state	Liquid.
Form	Liquid.

Color	Clear to slightly yellowish
Odor	Characteristic
Odor threshold	Not available.
pH	8 - 11
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit – lower (%)	Not available.
Flammability limit – upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	1,36 g/cm^3 (typical)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Flammability class	Combustible IIIB estimated
Oxidizing properties	Not oxidizing.
Pounds per gallon	10.01 lb/gal (typical)

10. Stability and reactivity

Reactivity	Reacts violently with strong acids. This product may react with oxidizing agents.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials. Do not mix with other chemicals.
Incompatible materials	Acids, oxidizers, ammonium salts, aluminum or zinc.
Hazardous decomposition products	Metal oxides, SO_x, CO_2, and irritant vapors.

11. Toxicological information

Information on likely routes of exposure	
Inhalation	Harmful if inhaled.
Skin contact	Causes severe skin burns
Eye contact	Causes severe eye damage.
Ingestion	May be harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
Information on toxicological effects	
Acute toxicity	May be harmful if swallowed.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Based on available data, the classification criteria are not met.

Skin sensitization	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	Based on available data, the classification criteria are not met.
Specific target organ toxicity - single exposure	Based on available data, the classification criteria are not met.
Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Due to partial or complete lack of data the classification is not possible

12. Ecological information

Ecotoxicity	Toxic to aquatic life
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1814
UN proper shipping name	Corrosive liquids, n.o.s. (Potassium hydroxide)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	A6, A7, B10, T14, TP2, TP27
Packaging exceptions	None
Packaging non bulk	201
Packaging bulk	243

IATA

UN number	UN1814
UN proper shipping name	Corrosive liquids, n.o.s. (Potassium hydroxide)
Transport hazard class(es)	
Class	8
Subsidiary risk	-

Label(s)	8
Packing group	II
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed (Packing Instruction 852/856).
Cargo aircraft only	Allowed (Packing Instruction 852/856).

IMDG

UN number	UN1814
UN proper shipping name	Corrosive liquids, n.o.s. (Potassium hydroxide)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	II
Environmental hazards	
Marine pollutant	Yes.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

DOT

IATA; IMDG

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Components listed or exempt.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

California Proposition 65
California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical No Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances No (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s)

Additional information
This product is in compliance with Brazilian regulations (ABNT NBR 14725).

16. Other information, including date of preparation or last revision

Issue date October 28, 2025

Version # 01

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purpose, are made with respect to the Product or the informaion provided herein, or that the Product or information herein may be used without infringing the intellectual property rights of others. The information provided in this Safety Data Sheet relates only to the specific Product designated and may not be valid if the Product is used in combination with other materials or in any other process, unless specified herein. The user assumes all risk and liability for loss, injury, damage or expense due to any use, handling, storage or disposal of the Product, and Manufacturer recommends that the user conducts its own tests of the Product to determine suitability of the Product for user's particular use.

SAFETY DATA SHEET

1. Identification

Product identifier	**B Up**
Recommended use	Foliar nutrient formulation for agricultural use
Recommended restrictions	Refer to product label.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Company name	CZ Industria de Fertilizantes LTDA
Address	360 Severino Bombarda Street Corbélia, PR 85420-000 Brazil
Telephone	Corporate Office +55 45 3197-9817
Website	https://clearagro.com.br
E-mail	emilykerber@clearagro.com.br
Contact person	Quality Control Department
Importer/Distributor information	
Company name	Clear Agro Co
Address	6701 Corporate Dr, Ste N Johnston, IA 50131 USA
Telephone	Corporate Office +1 (435) 534-1505
Website	https://clearagro.com.br
E-mail	eduardosouza@clearagro.com.br
Contact person	Quality Control Department
Emergency phone number	Hazmat line +1 656 228 4492

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 1B
	Serious eye damage/eye irritation	Category 1
	Reproductive toxicity	Category 1B
Environmental hazards	Hazardous to the aquatic environment	Chronic Category 2/1
OSHA defined hazards	Not classified.	
Label elements		

Signal word	Danger
Hazard statement	**H302:** Harmful if swallowed. **H314:** Causes severe skin burns and eye damage. **H318:** Causes serious eye damage. **H360FD:** May damage fertility. May damage the unborn child. **H411:** Toxic to aquatic life with long lasting effects.
Precautionary statement	
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.
Response	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. IF exposed or concerned: Get medical advice/attention. Collect spillage.
Storage	Store locked up. Store in a well-ventilated place. Keep container tightly closed.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Boric acid		10043-35-3	53 - 59
Monoethanolamine (MEA)		141-43-5	19 - 22
Copper sulfate pentahydrate		7758-99-8	0,3 - 0,5
Sodium molybdate (Na_2MoO_4)		7631-95-0	0,2 - 0,4
Proprietary		Proprietary	18,1 - 27,5

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms occur or if in doubt, get medical attention.
Skin contact	Remove contaminated clothing. Rinse skin immediately with plenty of water for at least 15 minutes. Seek immediate medical attention. Wash clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15–20 minutes, holding eyelids open. Remove contact lenses if present and easy to do. Get immediate medical attention/eye specialist.
Ingestion	Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or physician. If vomiting occurs, keep head low to avoid aspiration.
Most important symptoms/effects, acute and delayed	Severe skin burns; eye damage, pain, redness, blurred vision. Reproductive effects with prolonged or repeated exposure to borates. Gastrointestinal irritation if ingested; systemic effects possible.
Indication of immediate medical attention and special treatment needed	Treat symptomatically. For major exposures, monitor vital signs and treat corrosive injuries per clinical protocols. For boric acid exposures where ingestion is significant, consult Poison Control for guidance on decontamination and supportive care.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Use water spray, foam, dry chemical, or carbon dioxide. For large fires, water spray or foam recommended to cool containers.
Unsuitable extinguishing media	Do not use direct water jet to extinguish if product is burning in oil-based residues — may spread.
Specific hazards arising from the chemical	Product may produce toxic fumes (oxides of nitrogen, oxides of phosphorus not expected, but products of combustion include CO and CO_2 and metal oxides). Monoethanolamine can produce irritating and toxic fumes when heated to decomposition.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not taste or swallow. Avoid contact with eyes, skin, and clothing. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Store in secured area away from children, feed, and other food products. Store in original container. Store in a well-ventilated area. Storage temperature: 40 F to 100 F.

8. Exposure controls/personal protection

Occupational exposure limits

USA - ACGIH - Occupational Exposure Limits

Components	Type	Value
Monoethanolamine (MEA) (CAS 141-43-5)	STEL	6 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Monoethanolamine (MEA) (CAS 141-43-5)	PEL	6 mg/m^3
	TWA	3 ppm

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or

smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Personal protective equipment symbol(s):

9. Physical and chemical properties

Appearance	Liquid.
Physical state	Liquid.
Form	Liquid.
Color	Blue
Odor	Characteristic
Odor threshold	Not available.
pH	8 - 10
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit – lower (%)	Not available.
Flammability limit – upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	1,38 g/cm^3 (typical)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Flammability class	Combustible IIIB estimated
Oxidizing properties	Not oxidizing.
Pounds per gallon	10.01 lb/gal (typical)

10. Stability and reactivity

Reactivity	No hazardous reactions expected under recommended storage and handling conditions.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Reacts with strong oxidizers. Exothermic reaction possible with strong acids or bases in certain neutralization conditions — handle per procedure.
Conditions to avoid	Avoid excessive heat, flames, sparks, and incompatible materials.
Incompatible materials	Strong oxidizing agents, strong acids (for mixtures containing high MEA neutralization — risk of heat release), reactive metals.
Hazardous decomposition products	Thermal decomposition may produce oxides of carbon (CO, CO_2), nitrogen oxides, sulfur oxides, and metal oxides. Decomposition of amines can generate ammonia, nitrosamines (under some conditions) — avoid high heat.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Vapors/mists of MEA may cause respiratory irritation and systemic effects.
Skin contact	Causes severe skin burns (MEA).
Eye contact	Causes serious eye damage.
Ingestion	Harmful if swallowed (components like sodium molybdate and copper sulfate contribute).
Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
Information on toxicological effects	
Acute toxicity	May be harmful if swallowed.
Skin corrosion/irritation	Causes severe skin burns.
Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory or skin sensitization	
Respiratory sensitization	Based on available data, the classification criteria are not met.
Skin sensitization	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	Based on available data, the classification criteria are not met.
Specific target organ toxicity - single exposure	Based on available data, the classification criteria are not met.
Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Due to partial or complete lack of data the classification is not possible

12. Ecological information

Ecotoxicity	Contains copper sulfate — toxic to aquatic organisms with long lasting effects. Avoid release to environment.
Persistence and degradability	Inorganic constituents are not biodegradable in the classical sense. Borates persist in the environment; metals are not degradable.
Bioaccumulative potential	Low for borates; metals may have bioaccumulation potential depending on form.
Mobility in soil	No data available.
Other adverse effects	Potential harm to aquatic life — implement containment and prevent release.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Note: Although hazardous to the aquatic environment, this product does not meet the criteria for classification as dangerous goods under transport regulations.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Components listed or exempt.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	Yes
Classified hazard categories	Acute toxicity (any route of exposure) Skin corrosion or irritation Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical No Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No

Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s)

Additional information

This product is in compliance with Brazilian regulations (ABNT NBR 14725).

16. Other information, including date of preparation or last revision

Issue date October 28, 2025

Version # 01

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