MATERIAL SAFETY DATA SHEET (MSDS)

FLB Biostimulant Liquid Fertilizer（FLB）

Product Code: AGN-FLB-T10
Revision Date: 2025.12.18
Revision Number: 1.0
Prepared in Accordance with: GB/T 16483, GB/T 17519

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

Item	Details
Product Name	FLB Biostimulant Liquid Fertilizer
Product Code	AGN-FLB-T10
Company Name	Shaanxi Agrinorm Import & Export Co., Ltd.
Address	Room 1801, Unit 4, Building 1, Shangfu North District, Yicui Garden, No. 31, Zhangba 2nd Road, Xi'an High-Tech Zone, Xi'an, Shaanxi, China
Telephone	+86-029-81131922
Emergency Phone	+86-18009239676
Email	info@agrinorm.com.cn
WhatsApp	+86-18009239676
Official Websites	https://www.agrinormgroup.com; https://agrinorm.en.alibaba.com
Recommended Use	Agricultural biostimulant liquid fertilizer (enhances plant growth and stress resistance)
Restrictions on Use	Not for human/animal consumption; avoid contact with food, feed, or drinking water.

SECTION 2: Hazards identification

Emergency Overview

・Liquid, non-flammable.

・ May cause mild eye irritation, skin irritation with frequent/prolonged contact, and gastrointestinal irritation if ingested.

GHS Classification & Label Elements

Category	Details
GHS Classification	Not classified as hazardous under GHS criteria.
Signal Word	None
Hazard Statements	No GHS hazard statements applicable.
Precautionary Statements	- P264: Wash hands thoroughly after handling. - P280: Wear protective gloves, eye protection. - P305+P351+P338: If in eyes: Rinse cautiously with water for several minutes.

Category	Details
	Remove contact lenses if present and easy to do. Continue rinsing. - P312: Call a poison center or doctor/physician if you feel unwell.

Specific Hazards

・Physical/Chemical Hazards: No known significant hazards.

・Health Hazards: Mild eye irritation; skin irritation (frequent/prolonged contact); gastrointestinal irritation (if ingested); inhalation exposure is unlikely.

・Environmental Hazards: No known significant environmental hazards.

SECTION 3: Composition/information on ingredients

Item	Details
Product Form	Mixture
Component Disclosure	Key components and concentrations (based on COA): - Organic Matter: 206.5 g/L (≥200 g/L) - Total Nitrogen: 139.1 g/L (≥130 g/L) - Potassium (as K_2O): 20.8 g/L (≥20 g/L) - Amino Acids: 122 g/L (≥120 g/L) - Fulvic Acid: 87 g/L (≥60 g/L, CAS No.: 479-66-3) - Seaweed Extract: 55 g/L (≥50 g/L) - Water and Inert Carriers: Balance
Harmful Impurities	None

SECTION 4: First aid measures

Exposure Route	First-Aid Actions
Inhalation	Move the victim to fresh air and maintain a comfortable, well-ventilated resting position. Administer oxygen if breathing is difficult. Perform artificial respiration if breathing is irregular or stops. Seek medical attention if symptoms persist.
Skin Contact	Wash the affected area thoroughly with plenty of soap and water. Consult a doctor if skin irritation occurs.
Eye Contact	Immediately rinse eyes with a large amount of clean water for at least 15 minutes. Remove contact lenses if present and easily removable; continue rinsing. Protect the unaffected eye. Seek medical attention if irritation develops.
Ingestion	Rinse the mouth with water (only if the victim is conscious). Do not induce vomiting. Immediately call a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Key Symptoms & Effects

・Eye contact: Mild irritation.

・Ingestion: Gastrointestinal irritation.

・Skin contact: Irritation with frequent/prolonged exposure.

・Inhalation: Unlikely to cause effects (rare exposure route).

Advice for Rescuers

・No special protective measures required for rescuers if basic PPE is worn.

・Provide this MSDS to the attending physician.

SECTION 5: Firefighting measures

Item	Details
Suitable Extinguishing Media	Carbon dioxide (CO_2), water spray.
Unsuitable Extinguishing Media	Not available.
Fire Hazards	Non-flammable. Avoid inhalation of smoke/fumes during fire.
Hazardous Combustion Products	Carbon oxides (CO, CO_2), nitrogen oxides (NO_x).
Fire-Fighting Precautions	Cool exposed containers with water spray. Remove undamaged containers from the hazard area if safe to do so. Firefighters must wear full protective clothing and self-contained breathing apparatus (SCBA).
Additional Measures	Avoid allowing fire-extinguishing water to enter drains or watercourses.

SECTION 6: Accidental release measures

Personal Precautions & PPE

・Eliminate all ignition sources (no smoking, away from open flames/hot surfaces).

・Wear appropriate PPE: protective gloves, safety goggles, and chemical-resistant clothing.

・Ensure adequate ventilation in the spill area.

Environmental Precautions

・Prevent release to the environment.

・Notify relevant authorities if large spills enter waterways or sewers.

Containment & Cleanup Methods

・Contain the spill to prevent spreading. Plug leaks if safe to do so.

・Absorb small spills with inert materials (e.g., sand, vermiculite) and transfer to sealed containers for disposal.

・For large spills, dike the area and collect the liquid in corrosion-resistant containers. Dispose of via licensed waste management.

Additional Notes

・Do not allow uncontrolled release of the product into the environment.

SECTION 7: Handling and storage

Safe Handling Precautions

・Avoid contact with eyes and skin.

・Do not inhale mists or vapors.

- Keep away from ignition sources; no smoking.
- Empty containers may retain product residues—handle with caution.
- Avoid mixing with incompatible substances (see below).
- Use in well-ventilated areas.

Storage Conditions

- Store in the original sealed container.
- Keep in a cool, dry, well-ventilated area.
- Protect from direct sunlight.
- Store separately from food, beverages, and animal feed.
- Keep containers upright to prevent leakage.

Incompatible Substances

- Oxidizing agents, reducing agents, alkaline substances.

Packaging/Container Materials

- Not available.use original packaging or compatible corrosion-resistant containers.

SECTION 8: Exposure controls/personal protection

Item	Details
Occupational Exposure Limits	No established OELs for this product.
Biological Limits	No available data.
Engineering Controls	Ensure adequate general ventilation in handling and storage areas.
Personal Protective Equipment (PPE)	− Hand protection: Nitrile gloves (compliant with EN 374). - Eye/Face protection: Sealed safety goggles (compliant with EN 166) or face shield. -Skin/Body protection: Chemical-resistant clothing or lab coat. - Respiratory protection: Dust/mist mask if generating aerosols or working in poorly ventilated areas.
Environmental Exposure Controls	Prevent uncontrolled release to the environment.
Hygiene Practices	Follow good industrial hygiene and safety procedures. Wash hands thoroughly after handling, even if gloves were worn.

SECTION 9: Physical and chemical properties

Property	Value
Physical State	Liquid
Appearance	Black liquid
Odor	Mild characteristic odor
pH (Undiluted, 25°C)	6 – 7
Melting Point	Not applicable (liquid at ambient temperature)
Freezing Point	No available data

Property	Value
Boiling Point	No available data
Flash Point	No available data (non-flammable)
Autoignition Temperature	No available data
Decomposition Temperature	No available data
Vapor Pressure	Negligible at ambient temperature
Relative Vapor Density (Air=1)	No available data
Density	1.19 kg/L @ 20°C(Range: 1.15-1.20 g/mL)
Solubility in Water	Soluble in water
Octanol/Water Partition Coefficient (Log Pow)	No available data
Explosive Limits (LEL/UEL)	No available data (non-explosive)
Radioactivity	No
Oxidizing Properties	No (components are not classified as oxidizing)

SECTION 10: Stability and reactivity

Item	Details
Reactivity	Stable under normal handling and storage conditions.
Chemical Stability	Stable for the recommended shelf life when stored as directed (see Section 7).
Hazardous Reactions	No polymerization reactions expected. No hazardous reactions if stored and handled properly.
Conditions to Avoid	Extreme temperatures (above 40°C or below 0°C), direct sunlight for prolonged periods.
Incompatible Substances	Oxidizing agents, reducing agents, strong acids, strong alkalis.
Hazardous Decomposition Products	Carbon oxides (CO, CO_2), nitrogen oxides (NO_x) when burned.

SECTION 11: Toxicological information

Category	Details
Acute Toxicity	- Oral LD_{50}: Not classified (based on available data; low acute toxicity expected). - Dermal LD_{50}: Not classified (based on available data; low acute toxicity expected). - Inhalation LC_{50}: Not classified (inhalation exposure is unlikely).
Skin Corrosion/Irritation	Not classified (based on available data; may cause mild irritation with prolonged contact).
Serious Eye Damage/Irritation	Not classified (based on available data; may cause mild irritation).
Respiratory/Skin Sensitization	Not classified (based on available data; unlikely to cause sensitization).

Category	Details
Germ Cell Mutagenicity	Not classified (based on available data).
Carcinogenicity	Not classified (based on available data; no carcinogenic ingredients).
Reproductive Toxicity	Not classified (based on available data).
Specific Target Organ Toxicity (Single Exposure)	Not classified (based on available data).
Specific Target Organ Toxicity (Repeated Exposure)	Not classified (based on available data).
Aspiration Hazard	Not classified (based on available data).

SECTION 12: Ecological information

Item	Details
Aquatic Toxicity	- Acute aquatic toxicity: Not classified (based on available data; low toxicity expected). - Chronic aquatic toxicity: Not classified (based on available data).
Persistence and Degradability	Biodegradable (organic components degrade in soil and aquatic environments).
Bioaccumulative Potential	Low bioaccumulation potential (biodegradable ingredients).
Mobility in Soil	Moderate mobility for nitrogen and potassium ions; organic components are mostly adsorbed to soil particles.
Other Environmental Effects	No known adverse effects when used as directed. Excessive release may cause eutrophication due to nutrient content. Ozone depletion potential: Not available.

SECTION 13: Disposal considerations

Item	Details
Waste Disposal Method	Decontaminate containers before reuse or recycling. Dispose of surplus product and contaminated materials in accordance with local, regional, and national agricultural waste regulations. Unused product may be diluted and applied to agricultural land (if within expiration).
Contaminated Packaging Disposal	Dispose of as per local regulations (empty containers may retain residues-handle like the product). Rinse containers thoroughly before disposal; rinse water may be used for agricultural application. Do not reuse for non-agricultural purposes.

SECTION 14: Transport information

Regulation	Details

Regulation	Details
Road Transport (JT/T 617)	- UN Number: Not regulated - UN Proper Shipping Name: Not regulated - Transport Hazard Class: Not regulated - Packaging Group: Not regulated - Environmental Hazard: Not regulated
Marine Transport (IMDG Code)	- UN Number: Not regulated - UN Proper Shipping Name: Not regulated - Transport Hazard Class: Not regulated - Packaging Group: Not regulated - Marine Pollutant: No
Air Transport (IATA)	- UN Number: Not regulated - UN Proper Shipping Name: Not regulated - Transport Hazard Class: Not regulated - Packaging Group: Not regulated - Environmental Hazard: No
Transport Precautions	Secure containers to prevent shifting during transport. Protect from direct sunlight and extreme temperatures (freezing and overheating). Transport in sealed, leak-proof containers. Do not mix with food, feed, or hazardous materials.

SECTION 15: Regulatory information

Item	Details
China Regulatory Compliance	All raw materials are listed in the Chinese Inventory of Existing Chemical Substances (China IECSC). Complies with GB/T 16483 and GB/T 17519. Complies with Q/AGR002-2023 (product-specific standard). Complies with "Fertilizer Registration Management Measures" and relevant Chinese agricultural fertilizer regulations.
Other Regions	Complies with relevant GHS implementation standards (e.g., EU CLP, US OSHA HazCom 2012) for non-hazardous classification. For export, comply with the agricultural input regulations of the destination country (e.g., EU Fertilising Products Regulation (Regulation (EU) 2019/1009), US EPA regulations).

SECTION 16: Other information

Abbreviations and Acronyms

Abbreviation	Full Name
SDS	Safety Data Sheet
CAS	Chemical Abstracts Service
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
EC_{50}	Effective Concentration 50%
LC_{50}	Lethal Concentration 50%
LD_{50}	Lethal Dose 50%

Abbreviation	Full Name
OECD	Organisation for Economic Co-operation and Development
IMDG	International Maritime Dangerous Goods Code
IATA	International Air Transport Association
ATE	Acute Toxicity Estimate
BCF	Bioconcentration Factor
COA	Certificate of Analysis

Disclaimer

·This SDS applies only to the specified product (FLB Biostimulant Liquid Fertilizer, Batch No.: F2025200433). It does not apply to mixtures of this product with other substances unless otherwise stated.

·This SDS is based on the provided Certificate of Analysis (COA) and current available data. For additional information or clarification, contact the manufacturer (Shaanxi Agrinorm Import & Export Co., Ltd.).

· This SDS provides safety information solely for users with appropriate professional training.

· Users must make independent judgments on the applicability of this document under specific use conditions and comply with local agricultural practices and regulations.

· The manufacturer shall not be liable for any harm caused by improper use of this product or SDS. The information contained herein is believed to be accurate and reliable, but no warranty is expressed or implied regarding its completeness or correctness.