1. IDENTIFICATION

PRODUCT IDENTIFIER: **Lumina®**

SYNONIMOUS WITH: Lumina® 0.5-0-0.5, Lumina® Amino Acids + Polypeptides

RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST
Application of the substance / the mixture: Agricultural biostimulant and nutrient source for promoting enhanced plant and soil-based microbial growth and abiotic stress tolerance.

SUPPLIER IDENTIFICATION: Impello Biosciences, Inc.

815 14th Street SW, A160
Loveland, CO 80537
(p) **720 772 9767**
info@impellobio.com
www.impellobio.com

EMERGENCY PHONE: **720-772-9767** 8am – 4pm MST

FURTHER INFORMATION OBTAINABLE FROM: Product Safety Department

EMERGENCY RESPONSE CONTACT INFORMATION: CHEMTREC Toll Free: 1-800-424-9300; International +1 703-741-5970

Date prepared: 09 Sept 2020

2. HAZARD IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE:
This product is not classified according to the Globally Harmonized System (GHS).
This product is not classified as hazardous according to OSHA in the US or WHMIS in Canada.

INFORMATION CONCERNING PARTICULAR HAZARDS FOR HUMAN AND ENVIRONMENT:
The product does not have to be labelled due to the calculation procedure of international guidelines.

CLASSIFICATION SYSTEM:
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

LABELING ACCORDING OSHA IN THE US OR WHIMIS IN CANADA:
Observe the general safety regulations when handling chemicals.
The product is not subject to identification regulations according to directives on hazardous materials.

CLASSIFICATION SYSTEM:
NFPA and HMIS ratings (scale 0–4)



Health = 0
Fire = 1
Reactivity = 0

OTHER HAZARDS:
Results of PBT and VPvB assessment **PBT:** Not Applicable **vPvB:** Not Applicable

3. COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL CHARACTERIZATION: Mixture.

DESCRIPTION: Biostimulant and nutrient source based on carbon, crude protein, L-amino acids and potassium.

DANGEROUS COMPONENTS: Void

4. FIRST-AID MEASURES

GENERAL INFORMATION: No special measures required.

AFTER INHALATION: Supply fresh air; consult doctor in case of complaints.

AFTER EYE CONTACT: Check for and remove contact lenses. Rinse opened eye for several minutes under running water. Then consult a doctor.

AFTER SKIN CONTACT: Immediately rinse with water. If skin irritation continues, consult a doctor.

AFTER SWALLOWING: Rinse out mouth and then drink plenty of water. Do not induce vomiting; call for medical help immediately. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED: No further relevant information available.

INFORMATION FOR DOCTOR: Treat symptomatically and supportively

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED: No further relevant information available.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: CO_2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE: No further relevant information available.

ADVICE FOR FIREFIGHTERS

Protective Equipment: Wear fully protective suit. Wear self-contained respiratory protective device. Do not inhale explosion gases or combustion gases.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, EMERGENCY PROCEDURES: Ensure adequate ventilation.

ENVIRONMENTAL PRECAUTIONS: Dilute with plenty of water.

METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP: Use absorbent material, then wash area with soapy water. Disinfect spill area with clean water to which household bleach is added at a rate of 100 mL per 20 liters (one half cup per five gallons).

REFERENCE TO OTHER SECTIONS: See Section 7 for information on safe handling.
See Section 8 for information on personal protective equipment.
See Section 13 for disposal information.

7. HANDLING AND STORAGE

SAFE HANDLING: Prevent formation of aerosols. Ensure good ventilation/exhaustion in the workplace. Do not dilute or add any other substance except as specified in Impello® product use instructions.

INFORMATION ABOUT FIRE AND EXPLOSION PROTECTION: No special measures required.

STORAGE REQUIREMENTS TO BE MET BY STOREROOMS AND RECEPTACLES: Store only in the original receptacle.

INFORMATION ABOUT STORAGE IN ONE COMMON STORAGE FACILITY: Store away from foodstuffs. Store away from oxidizing agents.

FURTHER INFORMATION ABOUT STORAGE CONDITIONS: Protect from frost. Protect from heat and direct sunlight. Store in a cool dry place between the temperatures of 2°C / 35.6°F and 48°C / 118.4°F away from direct sunlight. The product will freeze at -10°C / 14°F.

SPECIFIC END USE(S): No further relevant information available

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ADDITIONAL INFORMATION ABOUT DESIGN OF TECHNICAL FACILITIES: No further data; see Section 7.

CONTROL PARAMETERS

Components with limit values that require monitoring at the workplace: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

EXPOSURE CONTROLS

Personal protective equipment: Select PPE appropriate for the operations taking place taking into account the product properties.

GENERAL PROTECTIVE AND HYGIENIC MEASURES:

- Wash hands before breaks and at the end of work.
- Avoid close or long-term contact with the skin.
- Avoid contact with the eyes.
- Do not inhale gases/fumes/aerosols.
- Do not eat, drink, smoke, or sniff while working.

RESPIRATORY PROTECTION: Not required.

PROTECTION OF HANDS: Wear impervious gloves that provide comprehensive protection, e.g. PVC or rubber.

EYE PROTECTION: None required, safety glasses if desired.

BODY PROTECTION: Protective work clothing. Body protection must be chosen depending on product properties, activity and possible exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

GENERAL INFORMATION - APPEARANCE

FORM: Fluid
COLOR: Brown
ODOR: Strong
ODOR THRESHOLD: Not Determined
pH VALUE: 4.3 ± 0.8

CHANGE IN CONDITION

MELTING POINT/MELTING RANGE: -10 °C (14 °F)
BOILING POINT/BOILING RANGE: 100 °C (212 °F)
FLASH POINT: Cannot support combustion

FLAMMABILITY: (SOLID, GASEOUS):
IGNITION TEMPERATURE: 145 °F / 63 °C
SELF-IGNITING: Product is not self-igniting
DANGER OF EXPLOSION: Product does not present an explosion hazard

EXPLOSION LIMITS

LOWER: Not Determined
UPPER: Not Determined
VAPOR PRESSURE AT 20°C (68 °F): Not Determined
DENSITY AT 20°C (68 °F): 1.08 ± 0.03 g/cm3 (9.01 ± 0.25 lb/gal)
RELATIVE DENSITY: Not Determined
VAPOR DENSITY: Not Determined
EVAPORATION RATE: Not Determined
SOLUBILITY IN / MISCIBILITY WITH WATER: Dispersible
PARTITION COEFFICIENT (N-OCTANOL/WATER): Not Determined

VISCOSITY DYNAMIC: Not Determined
KINEMATIC: Not Determined

SOLVENT CONTENT

ORGANIC SOLVENTS: 0.00%
VOC (EC): 0.00%

OTHER INFORMATION: No further relevant information available

10. STABILITY AND REACTIVITY

REACTIVITY: No further relevant information available.

CHEMICAL STABILITY: Thermal decomposition/conditions to be avoided: No decomposition if used and stored according to specifications.

HAZARDOUS REACTIONS: No dangerous reactions known.

CONDITIONS TO AVOID: No further relevant information available.

INCOMPATIBLE MATERIALS: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS:
Organic matter under decomposition/combustion may produce:
• Carbon monoxide and carbon dioxide.
• Sulfur oxides (SOx).
• Nitrogen oxides (NOx).

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
Primary irritant effect
• **On the skin:** No irritating effect.
• **On the eye:** No irritating effect.

SENSITIZATION: No sensitizing effects known.

ADDITIONAL TOXICOLOGICAL INFORMATION:
• The product is not subject to classification according to internally approved calculation methods for preparations:
• When used and handled according to specifications, the product does not have any harmful effects toour experience and the information provided to us.

CARCINOGENIC CATEGORIES:
• **IARC (International Agency for Research on Cancer)** None of the ingredients are listed.
• **NTP (National Toxicology Program)** None of the ingredients are listed.
• **OSHA-Ca (Occupational Safety & Health Administration)** None of the ingredients are listed.

12. ECOLOGICAL INFORMATION

TOXICITY: Aquatic toxicity: No further relevant information available.

PERSISTENCE AND DEGRADABILITY: Easily biodegradable.

BIOACCUMULATIVE POTENTIAL: Product is not expected to bioaccumulate.

MOBILITY IN SOIL: No further relevant information is available.

ADDITIONAL ECOLOGICAL INFORMATION
General notes: Generally not hazardous to water.

RESULTS OF PBT AND VPVB ASSESSMENT
PBT: Not applicable **vPvB:** Not applicable

13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS
Recommendation - Recommended Hierarchy of Controls:
- Minimize waste.
- Reuse if not contaminated.
- Recycle, if appropriate, or
- Safe disposal (if all else fails).

Contact waste processors for recycling information.
Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state or international legislation.

UNCLEANED PACKAGING
Recommendation: Disposal must be made according to official regulations.
Recommendation cleansing agents: Water, if necessary together with cleansing agents.

14. TRANSPORT INFORMATION

UN NUMBER: ADR, ADN, IMDG, IATA: Void

UN PROPER SHIPPING NAME: ADR, ADN, IMDG, IATA: Void

TRANSPORT HAZARD CLASS(ES): ADR, ADN, IMDG, IATA: Void

PACKING GROUP: ADR, IMDG, IATA: Void

ENVIRONMENTAL HAZARDS: Marine pollutant: No

SPECIAL PRECAUTIONS FOR USER: Not Applicable.

TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBCCODE: Not Applicable.

TRANSPORT/ADDITIONAL INFORMATION: Not dangerous according to the above specifications. UN “Model Regulation”.

15. REGULATORY INFORMATION

SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE:

- SARA
Section 355 (extremely hazardous substances):
None of the ingredients are listed.

Section 313 (specific toxic chemical listings):
None of the ingredients are listed.

TSCA (Toxic Substances Control Act):
All ingredients are listed.

Proposition 65
Chemicals known to cause cancer:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:
None of the ingredients are listed.

Chemicals known to cause developmental toxicity:
None of the ingredients are listed.

Cancerogenicity categories
EPA (Environmental Protection Agency)
None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)
None of the ingredients are listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients are listed.

Product related hazard information:
Observe the general safety regulations when handling chemicals.
The product is not subject to identification regulations according to directives on hazardous materials.

CHEMICAL SAFETY ASSESSMENT: A Chemical Safety Assessment has not been carried out.

16. OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product feature and shall not establish a legally valid contractual relationship. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor / manufacturer assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Vendor / manufacturer assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

REVISION HISTORY:

Effective Date: 10/30/2025 **Supersedes:** 09/09/2020 **Reason:** Supplier address update.

END OF SDS