

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Bombigro™

1.2. Recommended use and restrictions on use

Recommended use : To be used as part of a foliar program to enhance photosynthesis, plant vigor and crop yield.
Restrictions on use : No data available

1.3. Supplier

Locus Agriculture
A Division of Locus Fermentation Solutions
30600 Aurora Road, Ste 180
Solon, OH 44139
USA
T (440) 561-0800

1.4. Emergency telephone number

Emergency number : Chemtrec (800) 424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification
Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labeling
No labeling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	Conc. (% w/w)
Sophorolipid	CAS-No.: Proprietary	1

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Safety Data Sheet

Name	Product identifier	Conc. (% w/w)
Citric acid	CAS-No.: 77-92-9	1
Sodium benzoate	CAS-No.: 532-32-1	1

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	: Get medical advice/attention if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.
First-aid measures after skin contact	: Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Get medical advice/attention if you feel unwell. Rinse mouth out with water. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation	: No adverse effects expected.
Symptoms/effects after skin contact	: No adverse effects expected.
Symptoms/effects after eye contact	: May cause slight irritation.
Symptoms/effects after ingestion	: Not expected to present a significant ingestion hazard under anticipated conditions of normal use. May cause irritation to the digestive tract.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	: No data available.

5.2. Specific hazards arising from the chemical

Fire hazard	: No fire hazard.
Hazardous decomposition products in case of fire	: No data available.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Ensure adequate ventilation. Wear personal protective equipment. Mark out the contaminated area with signs and prevent access to unauthorized personnel.
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6.1.1. For non-emergency personnel

No additional information available

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Safety Data Sheet

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Presents no particular risk to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Stop leak, if possible without risk.
Methods for cleaning up : Take up liquid spill into absorbent material. Collect all waste in suitable and labeled containers and dispose according to local legislation.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Avoid contact with skin and eyes.
Hygiene measures : Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep container tightly closed.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Bombigro™	
No additional information available	
Sophorolipid (Proprietary)	
No additional information available	
Citric acid (77-92-9)	
No additional information available	
Sodium benzoate (532-32-1)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Sodium benzoate, as benzoate
ACGIH OEL TWA	2.5 mg/m ³ (I - Inhalable particulate matter)
Remark (ACGIH)	TLV® Basis: Kidney changes. Notations: Skin; A5 (Not Suspected as a Human Carcinogen)
Regulatory reference	ACGIH 2023

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : No data available.

Bombigro™

Safety Data Sheet

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Protective gloves
Eye protection:
Safety glasses
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
[In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid
Color	: Light yellow to brown
Odor	: Characteristic
Odor threshold	: No data available
pH	: 3 – 5
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: > 200 °F
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: Miscible with water
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: Not explosive
Oxidizing properties	: Not oxidising

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Citric acid (77-92-9)

LD50 oral rat	>2000 mg/kg
ATE US (oral)	>2000 mg/kg

Sodium benzoate (532-32-1)

LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	≥ 2000 mg/kg
LC50 Inhalation - Rat	> 12.2 mg/l

Skin corrosion/irritation : Not classified
pH: 3 – 5

Serious eye damage/irritation : Not classified
pH: 3 – 5

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Likely routes of exposure : Inhalation. Skin and eye contact.

Symptoms/effects after inhalation : No adverse effects expected.

Symptoms/effects after skin contact : No adverse effects expected.

Symptoms/effects after eye contact : May cause slight irritation.

Bombigro™

Safety Data Sheet

Symptoms/effects after ingestion : Not expected to present a significant ingestion hazard under anticipated conditions of normal use. May cause irritation to the digestive tract.

SECTION 12: Ecological information

12.1. Toxicity

Citric acid (77-92-9)	
LC50 - Fish [1]	48 mg/l
Sodium benzoate (532-32-1)	
LC50 - Fish [1]	> 100 mg/l
EC50 72h - Algae [1]	> 30.5 mg/l
NOEC chronic fish	10 mg/l

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Citric acid (77-92-9)	
Partition coefficient n-octanol/water (Log Pow)	-1.7
Sodium benzoate (532-32-1)	
Partition coefficient n-octanol/water (Log Pow)	-2.27

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
Not applicable	Not applicable	Not applicable	Not applicable
14.2. Proper Shipping Name			
Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable

Bombigro™

Safety Data Sheet

DOT	TDG	IMDG	IATA
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards			
Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available			

14.6. Special precautions for user

DOT

Not applicable

TDG

Not applicable

IMDG

Not applicable

IATA

Not applicable

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

Canada

Citric acid (77-92-9)

Listed on the Canadian DSL (Domestic Substances List)

Sodium benzoate (532-32-1)

Listed on the Canadian DSL (Domestic Substances List)

EU

No additional information available

Mexico

Citric acid (77-92-9)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Sodium benzoate (532-32-1)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Bombigro™

Safety Data Sheet

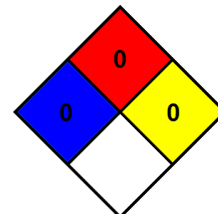
15.3. US State regulations

No additional information available

SECTION 16: Other information

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

- NFPA health hazard : 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.
- NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.
- NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

- Health : 0 Minimal Hazard - No significant risk to health
- Flammability : 0 Minimal Hazard - Materials that will not burn
- Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.