

BIOFUSION

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Date of issue: 10/28/2020

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product code : 8458

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Fertiliser
Recommended use : Fertilizers

1.3. Supplier

Epoch Science LLC
9860 Dorchester Ave.
Chicago, 60628
United States

1.4. Emergency telephone number

Emergency number : 1-800-535-5053

SECTION 2: Hazard(s) identification


2.1. Classification of the substance or mixture

GHS US classification

Skin sensitization, Category 1	H317	May cause an allergic skin reaction
Hazardous to the aquatic environment - Acute Hazard Category 3	H402	Harmful to aquatic life
Full text of H statements : see section 16		

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US)	:	
Signal word (GHS US)	:	Warning
Hazard statements (GHS US)	:	H317 - May cause an allergic skin reaction H402 - Harmful to aquatic life
Precautionary statements (GHS US)	:	P261 - Avoid breathing fumes/vapours/spray. P272 - Contaminated work clothing must not be allowed out of the workplace P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection. P302+P352 - If on skin: Wash with plenty of soap and water P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P363 - Wash contaminated clothing before reuse. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local regulations

2.3. Other hazards which do not result in classification

No additional information available

BIOFUSION

Safety Data Sheet

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

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
FULVIC ACIDS	CAS-No.: 479-66-3	2 – 4
BETAINE	CAS-No.: 107-43-7	1.625 – 2.4
HUMIC ACID	CAS-No.: 1415-93-6	0.14 – 1.44
LIQUID FERTILIZER INTERMEDIATE	CAS-No.: PROPRIETARY	0.5 – 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	: Call a poison center/doctor/physician if you feel unwell. If medical advice is needed, have product container or label at hand.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor.
First-aid measures after skin contact	: Wash immediately with lots of water (15 minutes)/shower. Take victim to a doctor/medical service if irritation persists.
First-aid measures after eye contact	: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
First-aid measures after ingestion	: If swallowed, seek medical advice immediately and show this container or label. Immediately after ingestion: give lots of water to drink. Do not induce vomiting.

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

Symptoms/effects after inhalation	: Coughing. Headache.
Symptoms/effects after skin contact	: irritation (itching, redness, blistering). Causes skin irritation. Destruction of tissue.
Symptoms/effects after eye contact	: Causes eye irritation.
Symptoms/effects after ingestion	: Abdominal pain, nausea. Dizziness. Dry/sore throat.

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	: Adapt extinguishing media to the environment for surrounding fires.
------------------------------	---

5.2. Specific hazards arising from the chemical

Fire hazard	: Heating increases the fire hazard.
-------------	--------------------------------------

BIOFUSION

Safety Data Sheet

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

Explosion hazard : No data available on direct explosion hazard.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Do not enter fire area without proper protective equipment, including respiratory protection. Eliminate all ignition sources if safe to do so. Evacuate area. Fight fire with normal precautions from a reasonable distance.

Protection during firefighting : Wear recommended personal protective equipment. Wear fire/flammable resistant/retardant clothing. Self-contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid contact with skin and eyes. Eliminate every possible source of ignition. May be harmful to aquatic organisms, to flora, to soil organisms.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment. Safety glasses. Protective clothing. Gloves.

Emergency procedures : Avoid contact with skin and eyes. Consider evacuation. Keep upwind. No flames, no sparks. Eliminate all sources of ignition. Notify fire brigade and environmental authorities.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Wear fire/flammable resistant/retardant clothing.

Emergency procedures : All equipment used when handling the product must be grounded. Evacuate unnecessary personnel. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment. Do not allow to enter drains or water courses. Harmful to aquatic life. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Collect spillage. Stop leak, if possible without risk. Consult an expert on waste disposal or treatment. Do not touch or walk on the spilled product.

Methods for cleaning up : Absorb remaining liquid with sand or inert absorbent and remove to safe place.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations. Keep in a cool, well-ventilated place away from heat. Use only non-sparking tools.

Storage conditions : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from ignition sources. Keep container tightly closed. Keep cool. Store in a dry place. Store in a well-ventilated place.

Incompatible products : Oxidizing agent. Strong acids. Strong bases.

BIOFUSION

Safety Data Sheet

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

Incompatible materials	: Heat sources.
Storage area	: Keep container in a well-ventilated place. Keep container tightly closed. Store away from heat.
Special rules on packaging	: Store in a closed container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

CATAPULT

No additional information available

FULVIC ACIDS (479-66-3)

No additional information available

HUMIC ACID (1415-93-6)

No additional information available

LIQUID FERTILIZER INTERMEDIATE (PROPRIETARY)

No additional information available

BETAINE (107-43-7)

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls	: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Keep in a cool place. Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Gloves

Eye protection:

Chemical goggles or safety glasses

Skin and body protection:

Protective clothing

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Color	: dark brown
Odor	: Sweet
Odor threshold	: No data available
pH	: 8.6
Melting point	: No data available

BIOFUSION

Safety Data Sheet

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

Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
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	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Heating may cause a fire.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

Heating may cause a fire.

10.4. Conditions to avoid

Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Oxidizing agent. Strong acids. Strong bases.

10.6. Hazardous decomposition products

No additional information available

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

FULVIC ACIDS (479-66-3)

ATE US (oral)	500 mg/kg body weight
---------------	-----------------------

Skin corrosion/irritation	: Not classified pH: 8.6
---------------------------	-----------------------------

BIOFUSION

Safety Data Sheet

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

Serious eye damage/irritation	: Not classified pH: 8.6
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified

HUMIC ACID (1415-93-6)

STOT-single exposure	May cause respiratory irritation.
----------------------	-----------------------------------

STOT-repeated exposure	: Not classified
------------------------	------------------

BETAINE (107-43-7)

NOAEL (oral,rat,90 days)	> 5771 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
--------------------------	---

Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Symptoms/effects after inhalation	: Coughing. Headache.
Symptoms/effects after skin contact	: irritation (itching, redness, blistering). Causes skin irritation. Destruction of tissue.
Symptoms/effects after eye contact	: Causes eye irritation.
Symptoms/effects after ingestion	: Abdominal pain, nausea. Dizziness. Dry/sore throat.

SECTION 12: Ecological information

12.1. Toxicity

BETAINE (107-43-7)

EC50 - Daphnia [1]	≤ 4335 mg/l Test organisms (species): Daphnia magna
--------------------	---

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

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 legislation (waste)	: Disposal must be done according to official regulations.
------------------------------	--

SECTION 14: Transport information

14.1. UN number

Not regulated for transport

BIOFUSION

Safety Data Sheet

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

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT
No data available

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 listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

FULVIC ACIDS	CAS-No. 479-66-3	2 – 4%
--------------	------------------	--------

15.2. International regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

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

Full text of H-phrases	
H317	May cause an allergic skin reaction
H402	Harmful to aquatic life

Hazard Rating
Health : 1 Slight Hazard - Irritation or minor reversible injury possible
Flammability : 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)
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.
Personal protection : B - Safety glasses, Gloves

BIOFUSION

Safety Data Sheet

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

Safety Data Sheet (SDS), USA

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.