



Boston BioProducts, Inc.
159 Chestnut Street
Ashland, MA 01721
ISO Certified

SAFETY DATA SHEET

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

- | | | |
|------------|---|--|
| 1.1 | PRODUCT NAME:
CATALOG #: | Formic Acid (1 N)
BZ-8005 |
| 1.2 | RECOMMENDED USE: | Laboratory Chemicals |
| 1.3 | COMPANY IDENTIFICATION: | Boston BioProducts, Inc.
159 Chestnut Street, Ashland, MA 01721 |
| 1.4 | EMERGENCY CONTACT:
TOLL FREE NUMBER: | 1-800-535-5053
1-888-881-8691 |

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture **GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

H226	Flammable liquids	Category 3
H302	Acute toxicity, oral	Category 4
H331	Acute toxicity, inhalation	Category 3
H314	Skin corrosion	Category 1A
H318	Serious eye damage	Category 1
H402	Acute aquatic toxicity	Category 3

2.2 GHS Label elements, including Hazard and Precautionary Statement(s) **Pictogram**



Signal word: Danger

Hazard statement(s)

H226	Flammable liquid and vapor.
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H402	Harmful to aquatic life.



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Prevention, Response, Storage and Disposal Precautionary Statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking
P233	Keep container tightly closed..
P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection
P301 + P312 + P330	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P304 + P340 + P310 IF INHALED: Remove person
P305 + P351 + P338 + P310	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.
P363	Wash contaminated clothing before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

SECTION 3- COMPOSITION/INFORMATION ON INGREDIENTS

Composition: 1 N Formic Acid, pH < 2.5. Prepared in 18.2 megohms-cm ± 1 water.

Component	CAS Number	Concentration (%)
Formic Acid	64-18-6	4.6%
Water	7732-18-5	rest

SECTION 4 - FIRST-AID MEASURES

4.1 Description of first aid measures

General advice: Consult a doctor and show this safety data sheet.

- i. **If inhaled:** Remove to fresh air and monitor breathing. If breathing becomes difficult, give oxygen. If breathing stops, give artificial respiration. Consult a doctor.



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- ii. **In case of skin contact:** Immediately wash skin with copious amounts of soap and water for at least 15 minutes. Remove contaminated clothing and shoes and wash before reuse. Consult a doctor.
- iii. **In case of eye contact:** Flush with copious amounts of water for at least 15 minutes. Consult a doctor.
- iv. **If swallowed:** Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Consult a doctor.

4.2 Most important symptoms and effects, both acute and delayed: To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

4.3 Indication of immediate medical attention and special treatment needed: Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

SECTION 5 - FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide

5.2 Special hazards arising from the substance or mixture: No Data Available.

5.3 Precautions for fire-fighters: Wear suitable protective clothing to prevent contact with skin and eyes and self-contained breathing apparatus.

5.4 Further information: No data available

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Do not take action without suitable protective clothing - see section 8 of SDS. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid breathing vapors, mist, dust or gas.

6.2 Environmental precautions: Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up: Cover spillage with suitable absorbent material. Using non-spark tools, sweep up material and place in an appropriate container. Decontaminate spill site with 10% caustic solution and ventilate area until after disposal is complete. Hold all material for appropriate disposal as described under section 13 of SDS.

6.4 Reference to other sections: For required PPE see section 8. For disposal see section 13.

SECTION 7 - HANDLING AND STORAGE

7.1 Precautions for safe handling: Use in a chemical fume hood, with air supplied by an independent system. Avoid inhalation, contact with eyes, skin and clothing. Avoid the formation of dust and aerosols. Use in a well-ventilated area. Keep away from sources of ignition. Avoid prolonged or repeated exposure.

7.2 Conditions for safe storage, including any incompatibilities: Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container tightly sealed until ready for use. Keep in a dry place.

7.3 Specific end use(s): Use in a laboratory fume hood where possible



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SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters: Contains no substances with occupational exposure limit values.

8.2 Exposure Controls

- i. **Appropriate engineering controls:** Use in a fume hood where applicable. Ensure all engineering measures described under section 7 of SDS are in place. Ensure laboratory is equipped with a safety shower and eye wash station.

8.3 Personal protective equipment

- i. **Eye/face protection:** Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
- ii. **Skin protection:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166
- iii. **Body Protection:** Wear appropriate protective clothing. Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
- iv. **Respiratory Protection:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
- v. **Control of environmental exposure:** Do not let product enter drains

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Liquid	Vapor Pressure	No Data Available
Odor	No Data Available	Vapor Density	No Data Available
Odor Threshold	No Data Available	Relative Density	No Data Available
pH	< 2.5	Water Solubility	No Data Available
Melting / Freezing Point	No Data Available	Partition Coefficient	No Data Available
Initial Boiling Point Range	No Data Available	Auto-Ignition Temperature	No Data Available
Flash Point	No Data Available	Decomposition Temperature	No Data Available
Evaporation Rate	No Data Available	Viscosity	No Data Available
Flammability (Solid, Gas)	No Data Available	Explosive Properties	No Data Available
Upper / Lower Flammability Or Explosive Limits	No Data Available	Oxidizing Properties	No Data Available

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable under recommended storage conditions.

Hazardous Decomposition Products/ Hazardous Polymerization: No Data Available.

Incompatibilities: Strong Oxidizing Agents.



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SECTION 11 - TOXICOLOGICAL INFORMATION

Acute Toxicity:

Oral LD50	Category 4
Dermal LD50	Based on ATE data, the classification criteria are not met.
Vapor LC50	Category 3

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Formic Acid	730 mg/kg (rat)	No data available	15 g/m3 (Rat) 15 min

Delayed and immediate effects as well as chronic effects from short and long-term exposure:

Irritation	Causes severe burns by all exposure routes Irritating to respiratory system
Sensitization	No data available
Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Formic Acid	64-18-6	No data available	No data available.	No data available.	No data available.	No data available.

Mutagenic Effects	No data available.
Reproductive Effects	No data available.
Developmental Effects	No data available.
Teratogenicity	No data available.
STOT – single exposure	Respiratory System
STOT – repeated exposure	None known
Aspiration hazard	No data available.
Symptoms / effects, both acute and delayed	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation
Endocrine Disruptor Information	No data available
Other Adverse Effects	The toxicological properties have not been fully investigated.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:

Contains a substance which is: Harmful to aquatic organisms. The product contains following substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Formic Acid	EC50 = 25 mg/L/96h	Leuciscus idus: LC50 = 46-100 mg/L/96h	EC50 = 46.7 mg/L/17h	EC50 = 34 mg/L/48h

Persistence and degradability: Miscible with water Persistence is unlikely based on information available.



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Bioaccumulative potential: No data available.

Mobility in soil: Will likely be mobile in the environment due to its water solubility.

Component	log Pow
Formic Acid	-0.54

Results of PBT and vPvB assessment: No data available

Other adverse effects: No data available




Chronic Toxicity: There are no known carcinogenic chemicals in this product

SECTION 13 - DISPOSAL CONSIDERATIONS

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

Component	RCRA – U Series Wastes	RCRA – P Series Wastes
Formic Acid – 64-18-6	U123	-

SECTION 14 - TRANSPORT INFORMATION

DOT	TDG	IATA	IMDG/IMO
UN-No: UN1779 Proper Shipping Name: Formic Acid Hazard Class: 8 Subsidiary Hazard Class: 3 Packing Group: II 	UN-No: UN1779 Proper Shipping Name: Formic Acid Hazard Class: 8 Subsidiary Hazard Class: 3 Packing Group: II 	Not regulated	UN-No: UN1779 Proper Shipping Name: Formic Acid Hazard Class: 8 Subsidiary Hazard Class: 3 Packing Group: II 

SECTION 15 - REGULATORY INFORMATION

USA Federal Regulation

SARA 313:

Component	CAS-No	Weight %	SARA 313 – Threshold Values %
Formic Acid	64-18-6	4.6%	1.0

SARA 311/312 HAZARDOUS CATEGORIZATION: See section 2 for more information

Clean Water Act:

Component	CWA – Hazardous Substances	CWA – Reportable Quantities	CWA – Toxic Pollutants	CWA – Priority Pollutants
Formic Acid	X	5000 lb	-	-

Clean Air Act: No Data Available



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Clean Air Act: Not Applicable
TSCA 12(b)/ OSHA: No data available.
CERCLA:

Component	Hazardous Substances RQs	CERCLA EHS RQs
Formic Acid	5000 lb	-

California Proposition 65: This product does not contain any Proposition 65 chemicals.

STATE RIGHT TO KNOW

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Formic Acid	Listed	Listed	Listed	-	Listed

HMIS Rating

Health hazard	Chronic Health Hazard	Flammability	Physical Hazard
3		2	0

NFPA Rating

Health Hazard	Fire Hazard	Reactivity Hazard
3	2	0

US DEPARTMENT OF TRANSPORTATION

REPORTABLE QUANTITY (RQ)	DOT MARINE POLLUTANT	DOT SEVER MARINE POLLUTANT
Yes	No	No

U.S. DEPARTMENT OF HOMELAND SECURITY: This product does not contain any DHS chemicals.

Canada: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

This SDS complies with the requirements of Regulation (EC).

SECTION 16 - OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Boston BioProducts, Inc shall not be held liable for any damage resulting from handling or from contact with the above product. This product is sold for laboratory research and development purposes use only.

Revised: 2019