SAFETY DATA SHEET

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

1.1 PRODUCT NAME: Citric Acid (1 M)
CATALOG #: BB-2702

1.2 RECOMMENDED USE: Laboratory Chemicals

1.3 COMPANY IDENTIFICATION: Boston BioProducts, Inc.
159 Chestnut Street, Ashland, MA 01721

1.4 EMERGENCY CONTACT: 1-800-535-5053
TOLL FREE NUMBER: 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)

H319	Eye irritation	Category 2A

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

Signal word: Warning
Hazard statement(s)

H319	Causes serious eye irritation.

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

P264	Wash skin thoroughly after handling
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice / attention.

SECTION 3- COMPOSITION/INFORMATION ON INGREDIENTS

Composition: 1 M Citric Acid, pH <2.2. Prepared in 18.2 megohms-cm ± 1 water and filtered through 0.22-micron filter.

Component	CAS Number	Concentration (%)
Citric Acid	77-92-9	19.212%

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.

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

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	<2.2	**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.

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute Toxicity:

Citric Acid, Anhydrous (77-92-9)	
LD50 oral rat	5400 mg/kg
ATE US (oral)	5400.000 mg/kg body weight
Water (7732-18-5)	
LD50 oral rat	≥ 90000 mg/kg
ATE US (oral)	90000.000 mg/kg body weight

Skin Corrosion/Irritation: No data available.
Serious Eye Damage/Irritation: Causes serious eye damage.
Respiratory or skin sensitization: No data available.
Germ cell mutagenicity: No data available.
Carcinogenicity: No data available.
Reproductive toxicity: No data available.
Specific target organ toxicity – single exposure: No data available.
Specific target organ toxicity – repeated exposure: No data available.
Aspiration hazard: No data available.
Potential adverse human health effects and symptoms: Based on available data, the classification criteria are not met.
Symptoms/injuries after eye contact: Causes serious eye irritation.

SECTION 12 - ECOLOGICAL INFORMATION

Toxicity:

Citric Acid, Anhydrous (77-92-9)	
LC50 fish 1	440 mg/l
EC50 Daphnia 1	1534 mg/l

Persistence and degradability/ Bioaccumlative potential/ Mobility in soil:

Citric Acid, 1.0M (3.0N)	
Persistence and degradability	Not established.
Citric Acid, Anhydrous (77-92-9)	
Bioaccumulative potential	Not established.
Water	
Bioaccumulative potential	Not established.

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.

SECTION 14 - TRANSPORT INFORMATION

DOT	TDG	IATA	IMDG/IMO

Not regulated	Not regulated	Not regulated	Not regulated

SECTION 15 - REGULATORY INFORMATION

USA Federal Regulation

SARA 313: No components
SARA 311/312 HAZARDOUS CATEGORIZATION: Acute Health Hazard
Clean Water Act/ Clean Air Act: No Data Available
Clean Air Act: Not Applicable
TSCA 12(b)/ OSHA/ CERCLA: Not Applicable
California Proposition 65: This product does not contain any Proposition 65 chemicals.

STATE RIGHT TO KNOW

Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
-	Citric Acid	Citric Acid	-	-

HMIS Rating

Health hazard	Chronic Health Hazard	Flammability	Physical Hazard
1		**1**	**0**

NFPA Rating

Health Hazard	Fire Hazard	Reactivity Hazard
1	**1**	**0**

US DEPARTMENT OF TRANSPORTATION

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