

# SAFETY DATA SHEET

This SDS complies with REACH 1907/2006 and 2001/58/EC, GHS REVISION 5, OSHA 29CFR 1910.1200

## Section 1: Chemical Product and Company Identification

**MANUFACTURER'S NAME**

Biomatrica  
5627 Oberlin Drive, Suite 120  
San Diego, California, USA 92121

**EMERGENCY TELEPHONE**

Information: 1-858-550-0308  
Fax: 1-858-678-0597

DATE PREPARED:

May 27, 2015

REVISION DATE: June 16, 2015

PRODUCT NAME:

### BioMaxi Precipitation Buffer

FORMULA:

Preparation/Mixture

PRODUCT USE:

Purification of RNA in Blood

This product is to be used only for Research and Development (R&D) purposes.

## Section 2: Hazards Identification

**GHS Hazard Class**

Acute Toxicity Oral -- Category 4  
Skin Irritation -- Category 2  
Eye Irritation -- Category 2  
Acute aquatic toxicity -- Category 2  
Chronic aquatic toxicity -- Category 2



Signal word:

Hazard Statement:

Warning

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements:

Prevention

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink, or smoke when using this product.

P280 Wear protective gloves/protective clothing/ eye protection/face protection.

Response

P301 + P312 + P330 If SWALLOWED: Immediately call a Poison Control center/doctor/physician if you feel unwell. Rinse mouth.

P302 + P352 IF ON SKIN: wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P332 + P313 If skin irritation occurs, get medical advice/attention.

P337 + P313 If eye irritation persists: Get medical advice/attention.

P362 + P364 Take off contaminated clothing and wash before reuse.

P391 Collect spillage.

Storage

No Precautionary statement.

Disposal

P501 Dispose of waste materials and container by following the waste disposal requirements of your country, state, or local authorities.

Hazards not otherwise classified (HNOC) or not covered by GHS - None

HAZARD CLASSIFICATION:

Not classified as hazardous based on IATA, IMDG, and DOT.

FIRE AND EXPLOSION:

Product emits toxic fumes when burned.

POTENTIAL HEALTH EFFECTS:

<0 % of mixture consists of ingredients of unknown acute toxicity

APPEARANCE:

Colorless liquid

NFPA Rating:

Component	Health (Blue)	Flammability (Red)	Reactivity (Yellow)	Special (White)
BioMaxi Precipitation Buffer	2	1	0	----

## Section 3: Composition, Information on Ingredients

Biomatrica is using the product's SDS as a means of notification to the customer to comply with the TSCA regulations, R&D Exemption 40CFR 720.36 requirements:

1. This product is to be used only for Research and Development (R&D) purposes.
2. A technically qualified individual must supervise the use of this product.
3. Health and Toxicity information is provided in this SDS.

PRODUCT COMPOSITION	APPROX %	CAS NO.	EINECS/ELINCS	CANADA DSL
Guanidine Hydrochloride	30-45%	50-01-1	200-002-3	Y
TS-092853	1-10%	TS	N/N	Y
TS-121012	1-10%	TS	Y	Y

Some items on this SDS may be designated as trade secrets (TS). Bonafide requests for disclosure of trade secret information to medical personnel must be made in accordance with the provisions contained in 29 CFR 1910.1200 I 1-13.

## Section 4: First Aid Measures

### Description of First Aid Measures

Inhalation	Remove to fresh air. If not breathing, provide CPR (cardio pulmonary resuscitation). Consult a physician.
Skin Contact	Immediately wash skin with plenty of soap and water for at least 15 minutes. Consult a physician.
Eye Contact	Immediately flush eyes with plenty of water for at least 15 minutes. Consult a physician.
Ingestion	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### Most important symptoms and effects, both acute and delayed

Symptoms/Injuries after Inhalation	May cause respiratory tract irritation.
Symptoms/Injuries after Skin Contact	May cause skin irritation. Symptoms may include redness, drying, defatting, and cracking of the skin.
Symptoms/Injuries after Eye Contact	May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.
Symptoms/Injuries after Ingestion	May be harmful if swallowed. May cause stomach distress, nausea, or vomiting.

### Indication of any immediate medical attention and special treatment needed

Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately.

## Section 5: Fire-fighting Measures

<b>Suitable extinguishing media</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
<b>Special hazards arising from the substance or mixture</b>	Carbon oxides, Nitrogen oxides (NOx), Hydrogen chloride gas.
<b>Protective actions fire-fighters</b>	Wear standard protective equipment and self-contained breathing apparatus for firefighting if necessary.
<b>Further information</b>	No data available.

## Section 6: Accidental Release Measures

### Personal precautions, protective equipment, and emergency procedures

Wear proper personal protective equipment. Avoid breathing vapors or mist. Ensure adequate ventilation.

### Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent spills or contaminated rinse water from entering sewers or watercourses. Discharge into the environment must be avoided.

**Methods and materials for containment and cleaning up**

In case of small spills, absorb with inert materials. Place in a chemical waste container.

**Reference to other Sections**

For personal protection reference section 8. For disposal reference section 13.

**Section 7: Handling and Storage**

**Precautions for safe handling**

- Use only with adequate ventilation.
- Do not inhale vapors.
- Wear proper protective equipment when handling this material.
- Avoid contact with skin, eyes, or clothing.
- Appropriate container should be used for disposal.
- For precautions see section 2.

**Conditions for safe storage, including any incompatibilities**

- Store upright in a cool, dry place.
- Keep container closed when not in use.
- Utilize chemical segregation.
- Storage class (TRGS 510): Combustible liquids.
- Follow all applicable local regulations for handling and storage.

**Specific uses**

This product is intended for use in Purification of RNA in Blood.

**Section 8: Exposure Controls/Personal Protection**

**Control Parameters**

PRODUCT COMPOSITION	ACGIH TLV	OSHA PEL	NIOSH REL
Not applicable	-----	-----	-----

**Exposure controls**

- VENTILATION: Always provide good general, mechanical room ventilation where this chemical/material is used.
- SPECIAL VENTILATION CONTROLS: Use this material inside totally enclosed equipment, or use it with local exhaust ventilation at points where vapors can be released into the workspace air.
- RESPIRATORY PROTECTION: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or the CEN European Standards (EU). Use a NIOSH/MSHA or European Standard (EN) approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
- PROTECTIVE GLOVES: Neoprene, butyl, or nitrile rubber gloves are recommended.
- EYE 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).
- SKIN PROTECTION: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
- BODY PROTECTION 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.
- WORK/HYGIENE PRACTICES: Avoid breathing vapor. Avoid contact with eyes. Wash hands after handling.
- CONTROL OF ENVIRONMENTAL EXPOSURE Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
- OTHER EQUIPMENT: Make safety shower, eyewash stations, and hand washing equipment available in the work area.

## 9: Physical and Chemical Properties

	PRODUCT CRITERIA
APPEARANCE - COLOR:	Colorless
PHYSICAL STATE:	Liquid.
ODOR:	No data available
ODOR THRESHOLD	No data available
PH	9.0 to 9.4
MELTING POINT/FREEZING POINT:	No data available
INITIAL BOILING POINT AND BOILING RANGE:	No data available
FLASH POINT:	No data available
EVAPORATION RATE:	No data available
FLAMMABILITY (Solid, gas)	No data available
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS	Not Measured
VAPOR PRESSURE	No data available
VAPOR DENSITY (AIR = 1)	No data available
RELATIVE DENSITY (@25 °C):	1.0643-1.1142
SOLUBILITY(IES)	Fully soluble in water
OXIDIZING PROPERTIES	No data available
PARTITION COEFFICIENT: n-octanol/water	No data available
AUTO IGNITION TEMPERATURE	No data available
DECOMPOSITION TEMPERATURE	No data available
VISCOSITY	No data available

## Section 10: Stability and Reactivity

Reactivity:	No data available.
Chemical Stability:	Stable under recommended storage conditions.
Possibility of Hazardous Reactions:	No data available.
Conditions to Avoid:	Hygroscopic.
Incompatibility (Materials to Avoid):	Strong oxidizing agents, Strong acids, Strong bases, Organic materials.
Hazardous Decomposition Products:	In the event of fire: see section 5

## Section 11: Toxicological Information

**There is no toxicological information available for the product.**

GHS Required Criteria	Toxicity Criteria	Toxicity Information	Comments	Chemical Constituent
Acute Toxicity	LD50 (Oral/Rat):	1,800 mg/kg		TS-092853
	LD50 (Oral/Rat):	>3,000 mg/kg		TS-121012
	LD50 (Oral/Rat):	475 mg/kg		Guanidine Hydrochloride
	LD50 (Dermal/Rabbit):	>2,000 mg/kg		Guanidine Hydrochloride
	LD50 (Dermal/Rat):	>5,000 mg/kg (OECD Test Guideline 402)		TS-121012
	LD50 (Dermal/Rabbit):	8,000 mg/kg		TS-092853
	LC50 (Inhalation/Rat):	3.2 mg/L 4 h		Guanidine Hydrochloride
Skin Corrosion/Irritation		Data not available		
Serious Eye Damage / Eye Irritation	Eyes – Rabbit	Moderate eye irritation – 24h		
Respiratory or Skin Sensitization		Data not available		
Germ Cell Mutagenicity		Data not available		
Carcinogenicity	NTP	Not listed		
	IARC	Not listed		
	OSHA	Not listed		
Reproductive Toxicity		Data not available		
STOT -- Single Exposure	Central nervous system (CNS)			Guanidine Hydrochloride
STOT – Repeated Exposure		Data not available		
Aspiration Hazard		Data not available		

STOT = Specific Target Organ Systemic Toxicity

## Section 12: Ecological Information

Toxicity:	1,758 mg/L LC50 48 h	Guanidine Hydrochloride
Toxicity to fish:	LC50 - Pimephales promelas (fathead minnow) - 8.9 mg/L - 96.0 h	TS-092853
Toxicity to daphnia and other aquatic invertebrates:	EC50 - Daphnia - 26 mg/L - 48 h	TS-092853
	EC50 - Daphnia - > 980 mg/L - 48 h	TS-121012
	88.7 mg/L EC50 Pseudomonas putida 18 h	Guanidine Hydrochloride
Toxicity to algae	EC50 - Algae - 397 mg/L - 72 h NOEC - Algae - 100 mg/L - 72 h	TS-121012
Biodegradability:	Biotic/Aerobic Biochemical oxygen demand - Exposure time 28 d Result: 36 % - Not readily biodegradable. (Closed Bottle test)	TS-092853
	Readily biodegradable (OECD Test Guideline 301F)	TS-121012
Chemical Oxygen Demand (COD):	2.19 mg/g	TS-092853
Bioaccumulative potential	No information is available.	
Mobility in soil:	No information is available.	
PBT and vPvB assessment:	PBT/vPvB assessment not available as chemical assessment not required/not conducted	
Other adverse effects:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life with long lasting effects.	TS-092853

## Section 13: Disposal Considerations

**Waste from residues/unused products:** Follow the waste disposal requirements of your country, state, or local authorities.

**Contaminated packaging:** Contaminated packaging material should be disposed of as stated above for residues and unused product.

**Rinsate:** Do not dispose of rinse water containing product in a sanitary sewer system or stormwater drainage system.

## Section 14: Transport Information

**DOT TRANSPORT:** Not Regulated

**ADR = International Carriage of Dangerous Goods by Road** Not Regulated

**RAIL TRANSPORT:** Not Regulated

**SEA TRANSPORT:** IMDG Not Regulated

**AIR TRANSPORT:** IATA/ICAO Not Regulated

## Section 15: Regulatory Information

### TOXIC SUBSTANCES CONTROL ACT (TSCA) STATUS:

This product is in compliance with rules, regulations, and/or orders of TSCA and should be used in accordance with the Research and Development (R&D) exemption regulations of TSCA.

### SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) TITLE III SECTION 313 SUPPLIER NOTIFICATION:

This regulation requires submission of annual reports of toxic chemical(s) that appear in section 313 of the Emergency Planning and Community Right To Know Act of 1986 and 40 CFR 372. This information must be included in all SDS's that are copied and distributed for the material.

The Section 313 toxic chemicals contained in this product are: None  
SARA 311/312 Hazards: Acute Health Hazard, Chronic Health Hazard

### CALIFORNIA PROPOSITION 65:

This regulation requires a warning for California Proposition 65 chemical(s) under the statute.  
The California proposition 65 chemical(s) contained in this product are: None

### STATE RIGHT-TO-KNOW TOXIC SUBSTANCE OR HAZARDOUS SUBSTANCE LIST:

Florida Toxic Substance(s): Not listed  
Massachusetts's hazardous substance(s): Not listed

Pennsylvania hazardous substance code(s):	Guanidine Hydrochloride, CAS 50-01-1
New Jersey	Guanidine Hydrochloride, CAS 50-01-1
Illinois	Not listed
Michigan	Not listed
Minnesota	Not listed

CANADA:

This SDS contains all of the information required by the Controlled Products Regulations (CPR).

**WHMIS-INFORMATION:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR), SOR/88-66, Current to February 20, 2012. The classes of controlled products listed in the CPR, Section 32, Part IV, have been reviewed and based on Professional Judgment this product has been determined to not be WHMIS controlled.

EUROPEAN UNION:

This product has been reviewed for compliance with the following European Community Directives: REACH 1907/2006; Regulation (EC) No 1272/2008 on classification, labeling, and packaging (CLP) of substances and mixtures.

## Section 16: Other Information

Initial issue date:	May 27, 2015
Final revision date:	June 16, 2015
Revision Number:	0
Revision explanation	Initial version
Information Sources:	RTECS, ECHA, REACH, OSHA 29CFR 1910.1200

“Disclaimer: This document is generated to distribute health, safety and environmental data. It is not a specification sheet and none of the displayed data should be construed as a specification. Information on this SDS sheet was obtained from sources which we believe are reliable, and we believe that the information is complete and accurate. However, the information is provided without any warranty, express or implied, regarding its correctness. Some of the information presented and conclusions drawn are from sources other than direct test data of the substance. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may also be beyond our knowledge. It is the user’s responsibility to determine the suitability of any material for a specific purpose and to adopt such safety precautions as may be necessary. If the product is used as a component in another product, this SDS information may not be applicable. For these reasons, we do not assume any responsibility and expressly disclaim liability for any loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.”