

## 1. Identification

**Product identifier** RNAgard Blood Reagent  
**Other means of identification** None.  
**Recommended use** Stabilization of RNA in blood.  
**Recommended restrictions** None known.

### Manufacturer/Importer/Supplier/Distributor information

**Company name** Biomātrica  
**Address** 5627 Oberlin Drive, Suite 120  
 San Diego, CA 92121  
 USA  
**Telephone** 1-858-550-0308  
**Contact person** Steven Schaefer  
**Email** info@biomatrica.com

**Emergency telephone number** 1-858-550-0308  
**Hours of operation** 8:30am - 5:30pm PT

## 2. Hazard(s) identification

**Physical hazards** Not classified.  
**Health hazards** Acute toxicity, oral Category 4  
 Skin corrosion/irritation Category 2  
 Serious eye damage/eye irritation Category 2  
 Specific target organ toxicity, single exposure Category 3 respiratory tract irritation  
**Environmental hazards** Hazardous to the aquatic environment, acute hazard Category 3  
**OSHA defined hazards** Not classified.

### Label elements



**Signal word** Warning  
**Hazard statement** Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. Harmful to aquatic life.

### Precautionary statement

**Prevention** Avoid breathing mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves and eye/face protection.  
**Response** If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor if you feel unwell. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.  
**Storage** Store in a well-ventilated place. Keep container tightly closed. Store locked up.  
**Disposal** Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information** 10% of the mixture consists of component(s) of unknown acute toxicity.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	CAS number	%
Guanidinium chloride	50-01-1	30-45
TS-345736	-	1-10
TS-502363	-	1-10
TS-642137	-	1-10
TS-714406	-	0.1-10

**Composition comments** All concentrations are in percent by weight unless otherwise indicated. Components not listed are either non-hazardous or are below reportable limits. Chemical ingredient identity and/or concentration information withheld for some or all components present is confidential business information (trade secret), and is being withheld as permitted by 29 CFR 1910.1200(i).

### 4. First-aid measures

**Inhalation** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek medical advice.

**Skin contact** Remove contaminated clothing. Wash with plenty of soap and water. Seek medical advice.

**Eye contact** Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention or advice.

**Ingestion** Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Seek medical advice.

**Most important symptoms/effects, acute and delayed** Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain.

**Indication of immediate medical attention and special treatment needed** Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

**General information** The toxicological properties of this material have not been fully investigated. If exposed or concerned: get medical attention/advice. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

### 5. Fire-fighting measures

**Suitable extinguishing media** Product: Use extinguishing agent suitable for type of surrounding fire. Dried product: Foam. Powder.

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this may spread the fire.

**Specific hazards arising from the chemical** During fire, gases hazardous to health may be formed. Combustion products may include: carbon oxides, nitrogen oxides, hydrogen chloride.

**Special protective equipment and precautions for firefighters** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions** Move containers from fire area if you can do so without risk.

**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials.

**General fire hazards** This material will not burn until the water has evaporated. Residue can burn. When dry may form combustible dust concentrations in air.

### 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures** Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Avoid prolonged exposure. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

<b>Methods and materials for containment and cleaning up</b>	Keep wetted with water. Do not allow to dry. This product is miscible in water. Prevent product from entering drains.  Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.  Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.  Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
<b>Environmental precautions</b>	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

<b>Precautions for safe handling</b>	Do not taste or swallow. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.
<b>Conditions for safe storage, including any incompatibilities</b>	Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

<b>Occupational exposure limits</b>	No exposure limits noted for ingredient(s).
<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
<b>Appropriate engineering controls</b>	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station. Eye wash fountain and emergency showers are recommended.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles). Face shield is recommended.
<b>Skin protection</b>	
<b>Hand protection</b>	Wear appropriate chemical resistant gloves.
<b>Skin protection</b>	
<b>Other</b>	Wear appropriate chemical resistant clothing.
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Not available.
<b>Odor</b>	Not available.
<b>Odor threshold</b>	Not available.
<b>pH</b>	3.6 - 4
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.

**Upper/lower flammability or explosive limits**

**Flammability limit - lower (%)** Not available.

**Flammability limit - upper (%)** Not available.

**Vapor pressure** Not available.

**Vapor density** Not available.

**Relative density** 1.125 (25°C)

**Solubility(ies)**

**Solubility (water)** Not available.

**Partition coefficient (n-octanol/water)** Not available.

**Auto-ignition temperature** Not available.

**Decomposition temperature** Not available.

**Viscosity** Not available.

**Other information**

**Explosive properties** Not explosive.

**Oxidizing properties** Not oxidizing.

**10. Stability and reactivity**

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

**Chemical stability** Material is stable under normal conditions.

**Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.

**Conditions to avoid** Contact with incompatible materials. Drying of product and subsequent generation of dust.

**Incompatible materials** Strong oxidizing agents.

**Hazardous decomposition products** No hazardous decomposition products are known.

**11. Toxicological information****Information on likely routes of exposure**

**Inhalation** May cause irritation to the respiratory system.

**Skin contact** Causes skin irritation.

**Eye contact** Causes serious eye irritation.

**Ingestion** Harmful if swallowed.

**Symptoms related to the physical, chemical and toxicological characteristics** Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain.

**Information on toxicological effects**

**Acute toxicity** Harmful if swallowed.

Components	Species	Test Results
------------	---------	--------------

Guanidinium chloride (CAS 50-01-1)

**Acute****Dermal**

LD50	Rabbit	> 2000 mg/kg
------	--------	--------------

**Inhalation***Dust*

LC50	Rat	3.181 mg/l, 4 Hours
------	-----	---------------------

**Oral**

LD50	Rat	474.6 mg/kg
------	-----	-------------

**Skin corrosion/irritation** Causes skin irritation.

**Serious eye damage/eye irritation** Causes serious eye irritation.

## Respiratory or skin sensitization

**Respiratory sensitization** No data available for this product.

**Skin sensitization** No data available for this product.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** Not classifiable as to carcinogenicity to humans.

### IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

### NTP Report on Carcinogens

Not listed.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

**Reproductive toxicity** No data available for this product.

**Specific target organ toxicity - single exposure** May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure** No data available for this product.

**Aspiration hazard** Not an aspiration hazard.

**Further information** The toxicological properties of this material have not been fully investigated.

## 12. Ecological information

**Ecotoxicity** Harmful to aquatic life.

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential** No data available.

**Mobility in soil** This product is miscible in water.

**Other adverse effects** 10% of the mixture consists of component(s) of unknown hazards to the aquatic environment.

## 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. Transport information

### DOT

Not regulated as dangerous goods.

### IATA

Not regulated as dangerous goods.

### IMDG

Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not established.

## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories** Immediate Hazard - Yes  
 Delayed Hazard - No  
 Fire Hazard - No  
 Pressure Hazard - No  
 Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** Yes

**SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**US state regulations** California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

**US. Massachusetts RTK - Substance List**

Not regulated.

**US. New Jersey Worker and Community Right-to-Know Act**

Not listed.

**US. Pennsylvania Worker and Community Right-to-Know Law**

Not listed.

**US. Rhode Island RTK**

Not regulated.

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

\*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information, including date of preparation or last revision**

**Issue date** 03-March-2017

**Revision date** -  
**Version #** 01  
**Further information** To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  
**HMIS® ratings** Health: 2  
Flammability: 1  
Physical hazard: 0

**NFPA ratings**



**Disclaimer**

Biomatrica, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.