

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

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DATE PREPARED: May 27, 2015

REVISION DATE: June 16, 2015

PRODUCT NAME:

RNAgard Blood

FORMULA:

Preparation/Mixture

PRODUCT USE:

Stabilization 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 Corrosion -- Category 1B
Serious Eye Damage -- Category 1
Specific target organ toxicity - single exposure (Category 3)



Signal word:

For the full text of the H-Statements mentioned in this Section, see Section 16.

Hazard Statement:

Danger

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Precautionary Statements:

Prevention

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P262 Do not get in eyes, on skin, or on clothing.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.

Response

P280 Wear protective gloves/protective clothing/ eye protection/face protection.
P301 + P330 + P331 If SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P353 + P361 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Storage

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Immediately call a Poison Control center/doctor/physician if you feel unwell.
P313 Get medical advice/attention.
P321 Specific treatment (see supplemental first aid instructions on this label).
P332 + P313 If skin irritation occurs, get medical advice/attention.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P363 Wash contaminated clothing before reuse.

Disposal

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
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:

Not considered flammable or combustible, but this product will burn if involved in a fire. Product emits toxic fumes when burned.

POTENTIAL HEALTH EFFECTS:

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

APPEARANCE:

Colorless to pale yellow liquid

Doc. No. 8002-0615

Rev. No. 06/2015

Product: RNAgard Blood

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NFPA Rating:

Component	Health (Blue)	Flammability (Red)	Reactivity (Yellow)	Special (White)
RNAgard Blood	3	0	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-714406	0.1-10%	TS	N/N	N

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

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
Inhalation	Remove to fresh air. If not breathing, provide CPR (cardio pulmonary resuscitation). Get immediate medical attention.
Skin Contact	Immediately wash skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing.
Eye Contact	Immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention. Continue rinsing during transport to hospital.
Ingestion	If swallowed do NOT induce vomiting, give large quantities of water to drink. Never give anything to an unconscious person. Get immediate medical attention.

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

Suitable extinguishing media

Special hazards arising from the substance or mixture

Specific Methods:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Fire causes formation of toxic gases. Carbon oxides, nitrogen oxides (NO_x), sulphur oxides, hydrogen chloride gas, oxides of phosphorous. Take care as it may decompose upon combustion or in high temperatures to generate poisonous fume. Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Remove movable containers if safe to do so.

Protective actions fire-fighters

Wear standard protective equipment and self-contained breathing apparatus for firefighting if necessary.

Further information

None

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. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent spills or contaminated rinse water from entering sewers or watercourses.

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

- Take precautionary measures against static discharge.
- 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, well-ventilated place.
- Keep container closed when not in use.
- Utilize chemical segregation.
- Follow all applicable local regulations for handling and storage.

Specific uses

This product is intended for use in Stabilization 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: Nitrile rubber gloves are recommended.
- EYE PROTECTION: Safety glasses with side-shields conforming to EN166 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:

Impervious clothing, 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.

OTHER EQUIPMENT:

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Make safety shower, eyewash stations, and hand washing equipment available in the work area.

Section 9: Physical and Chemical Properties

	PRODUCT CRITERIA
APPEARANCE - COLOR:	Colorless to Pale Yellow Liquid
PHYSICAL STATE:	Liquid
ODOR:	Burnt rubber smell
ODOR THRESHOLD	No data available
PH	3.6 to 4.0
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):	1.122-1.128
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:	No data available
Incompatibility (Materials to Avoid):	Strong oxidizing agents, strong bases
Hazardous Decomposition Products:	Other decomposition products – no data available. 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):	3500 mg/kg		TS-714406
	LD50 (Oral/Rat):	475 mg/kg		Guanidine Hydrochloride
	LD50 (Dermal/Rabbit):	>2000 mg/kg		Guanidine Hydrochloride
	LD50 (Dermal/Rat):	>3000 mg/kg		TS-714406
	LC50 (Inhalation/Rat):	3.2 mg/L 4 hours		Guanidine Hydrochloride
Skin Corrosion/Irritation		Data not available		
Serious Eye Damage / Eye Irritation		Data not available		
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) Inhalation – May cause respiratory irritation.			Guanidine Hydrochloride
STOT – Repeated Exposure		Data not available		
Aspiration Hazard		Data not available		

STOT = Specific Target Organ Systemic Toxicity

Section 12: Ecological Information

Toxicity:	1758 mg/L LC50 48 h	Guanidine Hydrochloride
	88.7 mg/L EC50 Pseudomonas putida 18 h	Guanidine Hydrochloride
Persistence and degradability:	No information is available.	
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:	No information is available.	

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:

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

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):	Not listed
New Jersey	Not listed

Illinois
Michigan
Minnesota

Not listed
Not listed
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 25, 2015
Final revision date:	June 16, 2015
Revision Number:	0
Revision explanation:	Initial version
Information Sources:	RTECS, ECHA, REACH, OSHA 29CFR 1910.1200

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