



SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Product Name: ProtoBlock System Reagent A

Product Number: CL-252A

1.2 Relevant Identified Uses of the Substance/Mixture and Uses Advised Against

Investigational research by professional users

1.3 Details of the Supplier of the Safety Data Sheet

Manufacturer	Agent
National Diagnostics 305 Patton Drive Atlanta, GA 30036 (404) 699-2121 (800) 526-3867 info@nationaldiagnostics.com	AGTC Bioproducts Unit 4 Fleet Business Park Itlings Lane, Hessle East Riding of Yorkshire HU139LX 44(0) 1482 646020 office@agtcbioproducts.com

1.4 Emergency Telephone Number

Chemtrec
1-800 424-9300 (U.S. & Canada)
01-703-527-3887 (outside U.S. & Canada)

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

Not a hazardous substance or mixture according to regulation (EC) No. 1272/2008.

2.2 Label Elements

This product has no labeling elements associated with EC directives or respective national laws.

2.3 Other Hazards

None found.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture

Chemical Names/Description

Mixture of milk proteins, glycoproteins, and carbohydrates.

Component List

Component	% Comp.	CAS #	EC #	1278/2008 Classification
Nonhazardous Biomolecule Mixture	100	N.A.	N.A.	N.A.
Proprietary Metal Complex	<1			N.A.
Proprietary Nitrate	<1			N.A.
Proprietary Silver Salt	<1			N.A.

SECTION 4 - FIRST AID MEASURES

4.1 Description of First Aid Measures

Inhalation

Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion

If large amounts were swallowed, give water or milk to drink and get medical advice.

Skin

Wash exposed area with soap and water. Get medical advice if irritation develops.

Eyes

Wash thoroughly with running water. Get medical advice if irritation develops.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

Inhalation

Nonhazardous Biomolecule Mixture:

Coughing and shortness of breath with the inhalation of high concentrations.

Proprietary Metal Complex:

No data

Proprietary Nitrate:

No data

Proprietary Silver Salt:

Burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. May be absorbed into the body following inhalation with symptoms paralleling those from ingestion exposure.

Ingestion**Nonhazardous Biomolecule Mixture:**

Upset stomach with the consumption of large quantities.

Proprietary Metal Complex:

No data

Proprietary Nitrate:

No data

Proprietary Silver Salt:

Sore throat, vomiting, diarrhea. Poison. Symptoms include pain and burning in the mouth, blackening of the skin and mucous membranes, throat, and abdomen, salivation, vomiting of black material, diarrhea, collapse, shock, coma and death.

Skin**Nonhazardous Biomolecule Mixture:**

Redness, itching.

Proprietary Metal Complex:

No data

Proprietary Nitrate:

No data

Proprietary Silver Salt:

Redness, pain, and severe burn can occur.

Eyes**Nonhazardous Biomolecule Mixture:**

Redness, itching.

Proprietary Metal Complex:

No data

Proprietary Nitrate:

No data

Proprietary Silver Salt:

Blurred vision, redness, pain, severe tissue burns and eye damage.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

Unknown/not applicable

SECTION 5 - FIRE FIGHTING MEASURES**5.1 Extinguishing media**

Water spray, dry chemical, alcohol-resistant foam, or carbon dioxide.

5.2 Special Hazards Arising from the Substance/Mixture**Hazardous Combustion Products**

Thermal decomposition products may include toxic oxides of nitrogen and carbon.

Hazardous Decomposition Products

Carbon dioxide, carbon monoxide, and nitrogen oxides may form when heated to decomposition.

Hazardous Polymerization

Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

5.3 Advice for Firefighters

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

5.4 Further Information

No data available.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions

Wear appropriate protective equipment as specified in Section 8.

6.2 Environmental Precautions

Prevent discharge into the environment. Dike spills and stop leakage where practical. Do not allow material to enter drains.

6.3 Methods and Materials for Containment and Cleaning Up

Remove all sources of ignition. Ventilate area of leak or spill. Clean up spills in a manner that does not disperse dust into the air. Reduce airborne dust and prevent scattering by moistening with water.

6.4 References to Other Sections

For disposal information, see Section 13. For Protective clothing and equipment, see Section 8.

SECTION 7 - HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling.

7.2 Conditions for Safe Storage (including any incompatibles)

Keep in a tightly closed container, stored in a cooled, dry, ventilated area.

Incompatibles

Nonhazardous Biomolecule Mixture:

Strong oxidizers.

Proprietary Metal Complex:

Strong bases.

Proprietary Nitrate:

Aluminum, antimony, chromium, copper, iron, lead, magnesium, manganese, nickel, zinc, brass, oil, charcoal, organic material, acetic acid, ammonium chloride, bismuth, cadmium, chlorides, cobalt, phosphorus, potassium and ammonium sulfate, sodium, sodium hypochlorite, sodium perchlorate, sodium-potassium alloy, and sulfur.

Proprietary Silver Salt:

Ammonia, alkalis, antimony salts, arsenites, bromides, carbonates, chlorides, iodides, thiocyanates, ferrous salts, phosphates, tannic acid, and tartrates.

7.3 Specific End Uses

Investigational research by professional users

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PRECAUTIONS

8.1 Control Parameters

Component: Nonhazardous Biomolecule Mixture

ACGIH Threshold Limit Value (TLV): none established

OSHA Permissible Exposure Limit (PEL): none established

Component: Proprietary Metal Complex

ACGIH Threshold Limit Value (TLV): none established

OSHA Permissible Exposure Limit (PEL): None established

Component: Proprietary Nitrate

ACGIH Threshold Limit Value (TLV): none established

OSHA Permissible Exposure Limit (PEL): None established

Component: Proprietary Silver Salt

ACGIH Threshold Limit Value (TLV): none established

OSHA Permissible Exposure Limit (PEL): none established

8.2 Exposure Controls

Engineering Controls

A system of local and/or general exhaust is recommended to keep employee exposures low. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source.

Respiratory Protection

Not expected to require personal respirator usage.

Eye Protection

Safety glasses.

Skin Protection

Wear protective gloves and clean body covering clothing.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical & Chemical Properties

a. Appearance	White powder	b. Odor	None
c. Odor Threshold	N.A.	d. pH	No Data
e. Melting/Freezing Point (°C)	0	f. Boiling point (°C)	No Data
g. Flash Point (°C)	N.A.	h. Evaporation Rate	N.A.
i. Flammability	N.A.	j. Upper/Lower Flammability or Explosive Limits	N.A.
k. Vapor Pressure	No Data	l. Vapor Density (Air = 1)	No Data
m. Relative Density	No Data	n. Water Solubility	Soluble
o. Partition Coefficient n-octanol/water	Mixture	p. Autoignition Temperature (°C)	N.A.
q. Decomposition Temperature (°C)	N.A.	r. Viscosity	No data available.
s. Explosive Properties	N.A.	t. Oxidizing Properties	N.A.

SECTION 10 - STABILITY AND REACTIVITY

10.1 Reactivity

10.2 Chemical Stability

Stable under normal conditions of use and storage.

10.3 Possibility of Hazardous Reactions

Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

10.4 Conditions to Avoid

Incompatibles.

10.5 Incompatible Materials

Nonhazardous Biomolecule Mixture:

Strong oxidizers.

Proprietary Metal Complex:

Strong bases.

Proprietary Nitrate:

Aluminum, antimony, chromium, copper, iron, lead, magnesium, manganese, nickel, zinc, brass, oil, charcoal, organic material, acetic acid, ammonium chloride, bismuth, cadmium, chlorides, cobalt, phosphorus, potassium and ammonium sulfate, sodium, sodium hypochlorite, sodium perchlorate, sodium-potassium alloy, and sulfur.

Proprietary Silver Salt:

Ammonia, alkalis, antimony salts, arsenites, bromides, carbonates, chlorides, iodides, thiocyanates, ferrous salts, phosphates, tannic acid, and tartrates.

10.6 Hazardous Decomposition Products

Carbon dioxide, carbon monoxide, and nitrogen oxides may form when heated to decomposition.

SECTION 11 - TOXICOLOGICAL INFORMATION

Product LD50 Values

Oral Rat LD50 (mg/kg)

Dermal Rabbit LD50 (mg/kg)

Component Cancer List Status

	NTP Carcinogen		IARC Category
	Known	Anticipated	
Nonhazardous Biomolecule Mixture	No	No	None
Proprietary Metal Complex	No	No	No
Proprietary Nitrate	No	No	No
Proprietary Silver Salt	No	No	No

Potential Health Effects

Inhalation

Nonhazardous Biomolecule Mixture

Inhalation of high concentrations of dust may irritate the throat.

Proprietary Metal Complex

No data

Proprietary Nitrate

No data

Proprietary Silver Salt

Inhalation of undiluted components is extremely destructive to tissues of the mucous membranes and upper respiratory tract. May be absorbed into the body following inhalation with symptoms paralleling those from ingestion exposure.

Ingestion

Nonhazardous Biomolecule Mixture

May produce abdominal irritation if large quantities are consumed.

Proprietary Metal Complex

No data

Proprietary Nitrate

No data

Proprietary Silver Salt

Swallowing can cause severe burns of the mouth, throat, and stomach. Can cause sore throat, vomiting. Diarrhea.

Skin

Nonhazardous Biomolecule Mixture

May irritate the skin on some super-sensitive persons.

Proprietary Metal Complex

No data

Proprietary Nitrate

No data

Proprietary Silver Salt

Irritating to skin.

Eyes

Nonhazardous Biomolecule Mixture

May cause mechanical irritation.

Proprietary Metal Complex

No data

Proprietary Nitrate

No data

Proprietary Silver Salt

Irritating to eyes.

Carcinogenicity

Nonhazardous Biomolecule Mixture

No components are listed as known or anticipated carcinogens by NTP or IARC.

Proprietary Metal Complex

No data

Proprietary Nitrate

No data

Proprietary Silver Salt

No components listed as known or suspected carcinogens by NTP or IARC.

Mutagenicity

Nonhazardous Biomolecule Mixture

No information found.

Proprietary Metal Complex

No data

Proprietary Nitrate

No data

Proprietary Silver Salt

No information found.

Reproductive Toxicity

Nonhazardous Biomolecule Mixture

No information found.

Proprietary Metal Complex

No data

Proprietary Nitrate

No data

Proprietary Silver Salt

No information found.

Teratogenic Effects

Nonhazardous Biomolecule Mixture

No information found.

Proprietary Metal Complex

No data

Proprietary Nitrate

No data

Proprietary Silver Salt

No information found.

Routes of Entry

Nonhazardous Biomolecule Mixture

No information found.

Proprietary Metal Complex

No data

Proprietary Nitrate

No data

Proprietary Silver Salt

Ingestion, inhalation.

Target Organ Statement

Nonhazardous Biomolecule Mixture

No information found.

Proprietary Metal Complex

No data

Proprietary Nitrate

No data

Proprietary Silver Salt

Persons with pre-existing skin disorders or eye problems or impaired respiratory function may be more susceptible to the effects of this substance.

SECTION 12 - ECOLOGICAL INFORMATION

12.1 Toxicity

COMPONENT: Nonhazardous Biomolecule Mixture

	Vertebrates	Invertebrates	Algae	Microorganisms
Aquatic Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

	Birds	Arthropods	Plants	Microorganisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

COMPONENT: Proprietary Metal Complex

	Vertebrates	Invertebrates	Algae	Microorganisms
Aquatic Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

	Birds	Arthropods	Plants	Microorganisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

COMPONENT: Proprietary Nitrate

	Vertebrates	Invertebrates	Algae	Microorganisms
Aquatic Toxicity (ppm unless otherwise noted)	LC50 (48hr, carp) 480mg/l	EC50(48hr, daphnia) 490mg/l	eC50 >1700mg/l	EC50>1000mg/l

	Birds	Arthropods	Plants	Microorganisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

COMPONENT: Proprietary Silver Salt

	Vertebrates	Invertebrates	Algae	Microorganisms
Aquatic Toxicity (ppm unless otherwise noted)	LC50 (96hr, fathead minnow) 1.6ug/l	LC50(48hr, daphnia) 0.3ug/l	NOEC (14 day) 1.4ug/l	NOEC 0.025ug/l

	Birds	Arthropods	Plants	Microorganisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	EC10 0.61ug/kg soil	EC10 0.3mg/kg soil

12.2 Persistence and Degradability

Nonhazardous Biomolecule Mixture

No data

Proprietary Metal Complex

No data

Proprietary Nitrate

No data

Proprietary Silver Salt

No data

12.3 Bioaccumulative Potential

Nonhazardous Biomolecule Mixture

No data

Proprietary Metal Complex

No data

Proprietary Nitrate

No data

Proprietary Silver Salt

BCF ~70

12.4 Mobility in Soil

Nonhazardous Biomolecule Mixture

No data

Proprietary Metal Complex

No data

Proprietary Nitrate

No data

Proprietary Silver Salt

Kd ~4000

12.5 Results of PBT and vPvB Assessment**Nonhazardous Biomolecule Mixture**

No data

Proprietary Metal Complex

No data

Proprietary Nitrate

Mineral salt

Proprietary Silver Salt

Mineral salt

12.6 Other Adverse Effects**Nonhazardous Biomolecule Mixture**

None

Proprietary Metal Complex

None

Proprietary Nitrate

None

Proprietary Silver Salt

None

SECTION 13 - DISPOSAL CONSIDERATIONS**13.1 Waste Treatment Methods**

Offer surplus or non-recyclable product to licensed disposal company. Disposal is subject to user compliance with applicable law and product characteristics at time of disposal. Dispose of packaging as product.

SECTION 14 - TRANSPORT INFORMATION

	ADR/RID	IATA	IMO	DOT
14.1 UN Number	N.A.	N.A.	N.A.	N.A.
14.2 Shipping Name	N.A.	Not Regulated	No Regulated	No Regulated
14.3 Hazard Class	N.A.	N.A.	N.A.	N.A.
14.4 Packing Group	N.A.	N.A.	N.A.	N.A.
14.5 Environmental Hazards	N.A.	N.A.	N.A.	N.A.
14.6 Special Precautions	N.A.	N.A.	N.A.	N.A.

SECTION 15 - REGULATORY INFORMATION**15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance/Mixture****United States****TSCA Regulatory Statement**

All intentional ingredients are listed on the TSCA Inventory.

SARA 311/312 Hazard Categories

Component	Fire	Pressure	Reactivity	Acute	Chronic
Nonhazardous Biomolecule Mixture	No	No	No	No	No
Proprietary Metal Complex	No	No	No	Yes	Yes
Proprietary Nitrate	No	No	Yes	Yes	No
Proprietary Silver Salt	No	No	Yes	Yes	Yes

Europe**EEC Regulatory**

All intentional ingredients are listed on the European EINECS Inventory.

SECTION 16 - OTHER INFORMATION

Revisional Updates

5/29/2015 - Updated Sections 2.1 and 3.2

4/16/2013 - Released Version 1.0

NFPA Codes

Health 0 Flammability 1 Reactivity 0

Dangers

Nonhazardous Biomolecule Mixture

None

Proprietary Metal Complex

None

Proprietary Nitrate

None

Proprietary Silver Salt

None

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