

# Material Safety Data Sheet

OptiBlock™ Blocking Buffer



## 1. Product and Company Identification

Product Name	OptiBlock™ Blocking Buffer
Product Number	OM-055
MSDS Number	0005
Validation Date	June 28, 2011
Print Date	July 8, 2011
Company	Siloam Biosciences, Inc.
Address	413 Northland Blvd Cincinnati, OH 45240 United States
Telephone	+1 513 429 2976
Fax	+1 513 429 2946
Emergency Phone	+1 513 429 2976 (Monday-Friday, 8:00AM-5:00PM, ET)
Use of Substance/Preparation	Refer to the instruction booklet for proper and intended use. Otherwise, contact supplier for specific applications.

## 2. Hazards Identification

Physical State	Liquid.
Odor	Bland.
OSHA/HCS Status	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Emergency Overview	CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. Avoid exposure - obtain special instructions before use. Do not breathe vapor or mist. Contains material that can cause target organ damage.

### Potential Acute Health Effects

Inhalation	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.
Skin	No known significant effects or critical hazards.
Eyes	No known significant effects or critical hazards.

### Potential Chronic Health Effects

Chronic Effects	Contains material that can cause target organ damage.
Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Developmental Effects	No known significant effects or critical hazards.
Fertility Effects	No known significant effects or critical hazards.

**Target Organs** Contains material which causes damage to the following organs: upper respiratory tract, eye, lens or cornea.

Over-Exposure Signs/Symptoms

**Inhalation** No specific data.  
**Ingestion** No specific data.  
**Skin** No specific data.  
**Eyes** No specific data.

**Medical Conditions Aggravated By Over-Exposure** Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

The preparation is not classified as dangerous according to Directive 1999/45/EC and its amendments.

**Classification** Not Classified.

See toxicological information (Section 11)

**3. Composition/Information on Ingredients**

United States

<u>Name</u>	<u>CAS Number</u>	<u>%</u>
Trade Secret #10	Not Applicable	3 – 5

Europe

<u>Substance/Preparation</u>	<u>Preparation</u>	<u>Ingredient Name</u>	<u>CAS Number</u>	<u>%</u>	<u>EC Number</u>	<u>Classification</u>
		Trade Secret #10	Not Applicable	3 – 5		Not Classified. [2]

There are no ingredients or additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in section 8.

**4. First Aid Measures**

**Inhalation** Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular, or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt, or waistband.

**Ingestion** Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical

personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt, or waistband.

**Skin Contact**

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Eye Contact**

Immediately flush eyes with plenty of water for at least 15 minutes occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

**Protection of First-Aiders**

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See section 11 for more detailed information on health effects and symptoms.

**5. Fire-fighting Measures**

**Flammability of The Product**

In a fire or if heated, a pressure increase will occur and the container may burst.

**Extinguishing Media**

Suitable

Use an extinguishing agent suitable for the surrounding fire.

Not Suitable

None known.

**Special Exposure Hazards**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Hazardous Combustion Products**

Decomposition products may include the following materials:  
carbon oxides

**Special Protective Equipment for Fire-Fighters**

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

**6. Accidental Release Measures**

**Personal Precautions**

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

**Environmental Precautions**

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil, or air).

**Large Spill**

Stop leak if without risk. Move containers from spill area. Approach

release from upwind. Prevent entry into sewers, water courses, basements, or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite, or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

**Small Spill**

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**7. Handling and Storage**

**Handling**

Put on appropriate personal protective equipment (see section 8). Eating, drinking, and smoking should be prohibited in areas where this material is handled, stored, and processed. Workers should wash hands and face before eating, drinking, and smoking. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Storage**

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool, and well-ventilated area away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

**8. Exposure Control/Personal Protection**

Product Name

Exposure Limits

United States

Trade Secret #10

ACGIH (United States).  
TWA: 10 mg/m<sup>3</sup>  
NIOSH (United States).  
TWA: 5 mg/m<sup>3</sup>  
ACGIH TLV (United States, 1/2007).  
TWA: 10 mg/m<sup>3</sup> 8 hour(s).  
NIOSH REL (United States, 12/2001).  
TWA: 5 mg/m<sup>3</sup> 10 hour(s). Form: Respirable fraction  
TWA: 10 mg/m<sup>3</sup> 10 hour(s). Form: Total  
OSHA PEL (United States, 11/2006).  
TWA: 5 mg/m<sup>3</sup> 8 hour(s). Form: Respirable fraction

TWA: 15 mg/m<sup>3</sup> 8 hour(s). Form: Total dust  
OSHA PEL 1989 (United States, 3/1989).  
TWA: 5 mg/m<sup>3</sup> 8 hour(s). Form: Respirable fraction  
TWA: 15 mg/m<sup>3</sup> 8 hour(s). Form: Total dust  
OSHA PEL (United States). Notes: Respirable  
TWA: 15 mg/m<sup>3</sup> 8 hour(s).

Europe

Trade Secret #10

ACGIH (United States).  
TWA: 10 mg/m<sup>3</sup>  
ACGIH TLV (United States, 1/2007).  
TWA: 10 mg/m<sup>3</sup> 8 hour(s).

Consult local authorities for acceptable exposure limits.

Recommended Monitoring Procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere, or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering Measures

If user operations generate dust, fumes, gas, vapor, or mist, use process enclosures, local exhaust ventilation, or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene Measures

Wash hands, forearms, and face thoroughly after handling chemical products, before eating, smoking, and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protection

Respiratory

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product, and the safe working limits of the selected respirator.

Hands

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eyes

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases, or dusts.

Skin

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental Exposure Controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters, or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9. Physical/Chemical Properties

Physical State	Liquid.
Color	Clear. Slightly opalescent.
Odor	Bland.
pH	7.4 to 7.6
Solubility	Soluble in the following materials: cold water.

## 10. Stability and Reactivity

Chemical Stability	The product is stable. Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to Avoid	No specific data.
Incompatible Materials	No specific data.
Hazardous Decomposition Products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Possibility of Hazardous Reactions	Will not occur.

## 11. Toxicological Information

### United States

#### Acute Toxicity

Product/Ingredient Name	Result	Species	Dose	Exposure
Ingredient Name #5	LD50 Oral	Rat	29700 mg/Kg	-
Conclusion/Summary	Not available.			

#### Chronic Toxicity

Conclusion/Summary	Not available.
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#### Carcinogenicity

Conclusion/Summary	Not available.
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#### Classification

Product/Ingredient Name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Ingredient Name #5	A4	-	-	None.	-	-

#### Mutagenicity

Conclusion/Summary	Not available.
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#### Teratogenicity

Conclusion/Summary	Not available.
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#### Reproductive Toxicity

Conclusion/Summary	Not available.
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Europe

Chronic Effects	No known significant effects or critical hazards.
Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Developmental Effects	No known significant effects or critical hazards.
Fertility Effects	No known significant effects or critical hazards.

**12. Ecological Information**

Environmental Effects No known significant effects or critical hazards.

United States

<u>Aquatic Ecotoxicity</u>	
Conclusion/Summary	Not available.

**13. Disposal Considerations**

**Waste Disposal** The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions, and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

**Hazardous Waste** Within the present knowledge of the supplier, this product is not regarded as hazardous waste as defined by EU Directive 91/689/EEC.

Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

**14. Transport Information**

Regulatory Information	UN Number	Proper Shipping Name	Classes	PG*
DOT Classification	Not available.	Not available.	Not available.	-
IATA-DGR Class	Not available.	Not available.	Not available.	-

PG\*: Packing Group

**15. Regulatory Information**

United States

HCS Classification	Target Organ Effects
U.S. Federal	United States inventory (TSCA 8b): Not determined.



## OptiBlock™ Blocking Buffer

### Regulations

SARA 302/304/311/312 extremely hazardous substances: No products were found.  
SARA 302/304 emergency planning and notification: No products were found.  
SARA 302/304/311/312 hazardous chemicals: Ingredient Name #5  
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Ingredient Name #5: Delayed (chronic) health hazard  
Clean Water Act (CWA) 307: copper (ii) nitrate, trihydrate  
Clean Water Act (CWA) 311: sodium phosphate, dibasic  
Clean Air Act (CAA) 112 accidental release prevention: No products were found.  
Clean Air Act (CAA) 112 regulated flammable substances: No products were found.  
Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

### Canada

#### WHMIS (Canada)

Not controlled under WHMIS (Canada).

#### Canadian Lists

CEPA Toxic substances: None of the components are listed.  
Canadian ARET: None of the components are listed.  
Canadian NPRI: None of the components are listed.  
Alberta Designated Substances: None of the components are listed.  
Ontario Designated Substances: None of the components are listed.  
Quebec Designated Substances: None of the components are listed.

#### Canada Inventory

Canada inventory: At least one component is not listed.

### EU Regulations

#### Risk Phrases

This product is not classified according to EU legislation.

### International Regulations

#### International Lists

Australia inventory (AICS): Not determined.  
China inventory (IECSC): Not determined.  
Korea inventory (KECI): Not determined.  
Philippines inventory (PICCS): Not determined.  
Japan inventory (ENCS): Not determined.

## 16. Other Information

### Label Requirements

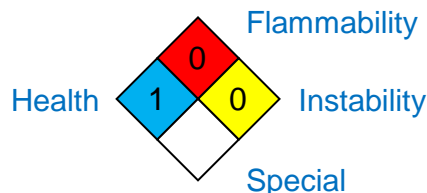
CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

#### Hazardous Material Information System (U.S.A.)

Health	1
Flammability	0
Physical Hazards	0

The customer is responsible for determining the PPE code for this material.

#### National Fire Protection Association (U.S.A.)





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Date of Previous Issue            **April 12, 2011.**  
Version                                **A2**

- Indicates information that has changed from previously issued version.  
    (1) Section 1. Revised Product Number.  
    (2) Section 9. Corrected description of product color.

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