

Material Safety Data Sheet

OptiGlow™ - A



1. Product and Company Identification

Product Name	OptiGlow™ - A
Product Number	OM-056
MSDS Number	0006
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 Product Supplier	Refer to the instruction booklet for proper and intended use. Otherwise, contact supplier for specific applications. QuantaRed Substrate is supplied by Thermo Fisher Scientific, Inc.

2. Hazards Identification

Physical State	Liquid. [Clear sparkling liquid.]
OSHA/HCS Status	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.
Emergency Overview	NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED. No known significant effects or critical hazards. Avoid prolonged contact with eyes, skin, and clothing.
Routes of entry	Eye contact. Inhalation. Ingestion.
<u>Potential Acute Health Effects</u>	
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.
<u>Potential Chronic Health Effects</u>	
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.
Target Organs	No known significant effects or critical hazards.

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 Not known.

The preparation is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification Toxic to reproduction Category 2 (Repr. Cat. 2); R60, R61
Human Health Hazards May impair fertility. May cause harm to unborn child.

See toxicological information (Section 11)

3. Composition/Information on IngredientsUnited States

<u>Name</u>	<u>CAS Number</u>	<u>%</u>
Trade Secret #11	Not Applicable	0.1 – 1

Europe

<u>Substance/Preparation</u>	<u>Preparation</u>	<u>CAS Number</u>	<u>%</u>	<u>EC Number</u>	<u>Classification</u>
Boric Acid		10043-35-3	0.1 – 1	233-139-2	Repr. Cat. 2; R60, R61 [1][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. 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.

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

Avoid dispersal of spilled material and runoff and contact with soil,

Precautions	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 ingest. Avoid breathing vapor or mist. 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

<u>Product Name</u>	<u>Exposure Limits</u>
<u>United States</u> Trade Secret #1	AIHA WEEL (United States, 1/2007). TWA: 10 mg/m ³ 8 hour(s). Form: Aerosol
<u>Europe</u> Boric Acid	ACGIH TLV (United States). STEL: 6 mg/m ³ TWA: 2 mg/m ³ STEL: 6 mg/m ³ 15 minute(s). TWA: 2 mg/m ³ 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 No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Hygiene Measures Wash hands, forearms, and face thoroughly after handling chemical products, and 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. [Clear sparkling liquid.]
Color Clear. Colorless.
pH 9.2 to 9.6
Solubility Easily soluble in the following materials: cold water and hot 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
Trade Secret #11	LD50 Dermal	Rabbit	>20 g/Kg	-
	LD50 Oral	Rat	28 g/Kg	-
Conclusion/Summary	Not available.			

Chronic Toxicity

Conclusion/Summary Not available.

Carcinogenicity

Conclusion/Summary Not available.

Classification

Product/Ingredient Name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Trade Secret #11	-	-	-	None.	-	None.

Mutagenicity

Conclusion/Summary Not available.

Teratogenicity

Conclusion/Summary Not available.

Reproductive Toxicity

Conclusion/Summary Not available.

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	May cause birth defects.
Developmental Effects	No known significant effects or critical hazards.
Fertility Effects	May impair fertility.

12. Ecological Information

Environmental Effects No known significant effects or critical hazards.

United States

Aquatic Ecotoxicity

Conclusion/Summary Not available.

Other Adverse Effects No known significant effects or critical hazards.

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 The classification of the product may meet the criteria for a hazardous waste.

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 regulated.	-	-	-
IATA-DGR Class	Not available.	Not available.	Not available.	-

PG*: Packing Group

15. Regulatory Information

United States

HCS Classification Not regulated

U.S. Federal Regulations United States inventory (TSCA 8b): All components are listed or exempted.
 Clean Water Act (CWA) 307: copper (ii) nitrate, trihydrate
 Clean Water Act (CWA) 311: No products were found.
 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) Class D-2A: Material causing other toxic effects (Very toxic).

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: At least one component is not listed.

[Canada Inventory](#)

[EU Regulations](#)

[Hazard Symbol or Symbols](#)



Toxic

[Risk Phrases](#)

R60- May impair fertility.
 R61- May cause harm to the unborn child.

[Safety Phrases](#)

S53- Avoid exposure - obtain special instructions before use.

[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](#)

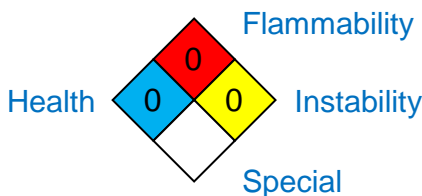
NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

[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 Issue](#)

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[Date of Previous Issue](#)

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[Version](#)

A3

- Indicates information that has changed from previously issued version.
 - (1) Product Number revised.
 - (2) Section 2: Inserted “Toxic to reproduction Category 2”. This text corresponds to the abbreviation “Repr. Cat. 2” appearing in Section 2. The full text also applies to Section 3.
 - (3) Section 2: Inserted full text corresponding to the specific human health hazards associated with Repr. Cat. 2 classification: R60 – “May impair fertility”; R61 – “May cause harm to the unborn child”. Full text also applies to Section 3.
 - (4) Section 2: Changed the following sentence from “The preparation is not classified as dangerous according to Directive 1999/45/EC and its amendments” to “The preparation is classified as dangerous according to Directive 1999/45/EC and its amendments.”

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