

## RegenOx® – Part B (Activator Complex)

### Material Safety Data Sheet (MSDS)

Last Revised: June 4, 2010

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#### Section 1 – Supplier Information and Material Identification

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**Supplier:**



### REGENESIS

1011 Calle Sombra  
San Clemente, CA 92673  
Telephone: 949.366.8000  
Fax: 949.366.8090  
E-mail: info@regenesis.com

**Chemical Description:** A mixture of sodium silicate solution, silica gel and ferrous sulfate

**Chemical Family:** Inorganic Chemicals

**Trade Name:** RegenOx® – Part B (Activator Complex)

**Product Use:** Used for environmental remediation of contaminated soils and groundwater

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#### Section 2 – Chemical Information/Other Designations

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<u>CAS No.</u>	<u>Chemical</u>
1344-09-8	Silicic Acid, Sodium Salt, Sodium Silicate
63231-67-4	Silica Gel
7720-78-7	Ferrous Sulfate
7732-18-5	Water

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#### Section 3 – Physical Data

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**Form:** Liquid

**Color:** Blue/Green

**Odor:** Odorless

**Melting Point:** NA

**Boiling Point:** NA

**Flammability/Flash Point:** NA

**Vapor Pressure:** NA

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**Section 3 – Physical Data ( cont)**


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<b>Specific Gravity</b>	1.39 g/cm <sup>3</sup>
<b>Solubility:</b>	Miscible
<b>Viscosity:</b>	NA
<b>pH (3% solution):</b>	11
<b>Hazardous Decomposition Products:</b>	Oxides of carbon and silicon may be formed when heated to decomposition.

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**Section 4 – Reactivity Data**


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<b>Stability:</b>	Stable under normal conditions.
<b>Conditions to Avoid:</b>	None.
<b>Incompatibility:</b>	Avoid hydrogen fluoride, fluorine, oxygen difluoride, chlorine trifluoride, strong acids, strong bases, oxidizers, aluminum, fiberglass, copper, brass, zinc, and galvanized containers.

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**Section 5 – Regulations**


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<b>TSCA Inventory Listed:</b>	Yes
<b>CERCLA Hazardous Substance (40 CFR Part 302)</b>	
<b>Listed Substance:</b>	No
<b>Unlisted Substance:</b>	Yes
<b>SARA, Title III, Sections 302/303 (40 CFR Part 355) – Emergency Planning and Notification</b>	
<b>Extremely Hazardous Substance:</b>	No
<b>SARA, Title III, Sections 311/312 (40 CFR Part 370) – Hazardous Chemical Reporting: Community Right-To-Know</b>	
<b>Hazard Category:</b>	Acute
<b>SARA, Title III, Sections 313 (40 CFR Part 372) – Toxic Chemical Release Reporting: Community Right-To-Know</b>	
<b>Extremely Hazardous Substance:</b>	No

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**Section 6 – Protective Measures, Storage and Handling**

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**Technical Protective Measures**

**Storage:** Keep in a tightly closed container (steel or plastic) and store in a cool, well ventilated area away from all incompatible materials (acids, reactive metals, and ammonium salts). Store in a dry location away from heat above 60 degrees C and colder than 10 degrees C. Do not store in aluminum, fiberglass, copper, brass, zinc or galvanized containers.

**Handling:** Avoid contact with eyes, skin and clothing. Avoid breathing spray mist. Use with adequate ventilation.  
Do not use product if it is brownish-yellow in color.

**Personal Protective Equipment (PPE)**

**Engineering Controls:** General room ventilation is required if used indoors. Local exhaust ventilation, process enclosures or other engineering controls may be needed to maintain airborne levels below recommended exposure limits. Safety shower and eyewash station should be within direct access.

**Respiratory Protection:** Use NIOSH-approved dust and mist respirator where spray mist exists. Respirators should be used in accordance with 29 CFR 1910.134.

**Hand Protection:** Wear chemical resistant gloves.

**Eye Protection:** Wear chemical safety goggles. A full face shield may be worn in lieu of safety goggles.

**Skin Protection:** Try to avoid skin contact with this product. Gloves and protective clothing should be worn during use.

**Other:**

**Protection Against Fire & Explosion:** Product is non-explosive and non-combustible.

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## Section 7 – Hazards Identification

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### Potential Health Effects

<b>Inhalation:</b>	Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath, and irritations to mucous membranes, nose and throat.
<b>Eye Contact:</b>	Causes irritation, redness and pain.
<b>Skin Contact:</b>	Causes irritation. Symptoms include redness, itching and pain.
<b>Ingestion:</b>	May cause irritation to mouth, esophagus, and stomach.

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## Section 8 – Measures in Case of Accidents and Fire

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<b>After Spillage/Leakage (small):</b>	Mop up and neutralize liquid, then discharge to sewer in accordance with local, state and federal regulations.
<b>After Spillage/Leakage (large):</b>	Keep unnecessary personnel away; isolate hazard area and do not allow entrance into the affected area. Do not touch or walk through spilled material. Stop leak if possible without risking injury. Prevent runoff from entering into storm sewers and ditches that lead to natural waterways. Isolate the material if at all possible. Sand or earth may be used to contain the spill. If containment is not possible, neutralize the contaminated area and flush with large quantities of water.
<b>Extinguishing Media:</b>	Material is compatible with all extinguishing media.
<b>Further Information:</b>	
<b>First Aid</b>	
<b>Eye Contact:</b>	Flush eyes with running water for at least 15 minutes with eyelids held open. Seek a specialist.
<b>Inhalation:</b>	Remove affected person to fresh air. Give artificial respiration if individual is not breathing. If breathing is difficult, give oxygen. Seek medical attention if the effects persist.
<b>Ingestion:</b>	If the individual is conscious and not convulsing, give two-four cups of water to dilute the chemical and seek medical attention immediately. <b><u>DO NOT</u></b> induce vomiting.
<b>Skin Contact:</b>	Wash affected areas with soap and a mild detergent and large amounts of water. Remove contaminated clothing and shoes.

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**Section 9 – Accidental Release Measures**

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**Precautions:**

**PPE:** Wear chemical goggles, body-covering protective clothing, chemical resistant gloves, and rubber boots (see Section 6).

**Environmental Hazards:** Sinks and mixes with water. High pH of this material may be harmful to aquatic life. Only water will evaporate from a spill of this material.

**Cleanup Methods:** Pick-up and place in an appropriate container for reclamation or disposal. US regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities.

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**Section 10 – Information on Toxicology**

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**Toxicity Data**

**Sodium Silicate:** When tested for primary eye irritation potential according to OECD Guidelines, Section 405, a similar sodium silicate solution produced corneal, iridal and conjunctival irritation. Some eye irritation was still present 14 days after treatment, although the average primary irritation score has declined from 29.7 after 1 day to 4.0 after 14 days. When tested for primary skin irritation potential, a similar sodium silicate solution produced irritation with a primary irritation index of 3 to abraded skin and 0 to intact skin. Human experience confirms that irritation occurs when sodium silicates get on clothes at the collar, cuffs, or other areas where abrasion may exist.

The acute oral toxicity of this product has not been tested.

**Ferrous Sulfate:** LD50 Oral (rat): 319 mg/kg not a suspected carcinogen.

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### Section 11 – Information on Ecology

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#### Ecology Data

**Ecotoxicological Information:** Based on 100% solid sodium silicate, a 96 hour median tolerance for fish of 2,320 mg/l; a 96 hour median tolerance for water fleas of 247 mg/L; a 96 hour median tolerance for snail eggs of 632 mg/L; and a 96 hour median tolerance for Amphipoda of 160 mg/L.

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### Section 12 – Disposal Considerations

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#### Waste Disposal Method

**Waste Treatment:** Neutralize and landfill solids in an approved waste facility operated by an authorized contactor in compliance with local regulations.

**Package (Pail) Treatment:** The empty and clean containers are to be recycled or disposed of in conformity with local regulations.

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### Section 13 – Shipping/Transport Information

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**D.O.T.** This product is not regulated as a hazardous material so there are no restrictions.

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### Section 14 – Other Information

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<b>HMIS<sup>®</sup> Rating</b>	Health – 2 (moderate)	Reactivity – 0 (none)
	Flammability – 0 (none)	Lab PPE – goggles, gloves, and lab coat
	Contact – 1 (slight)	

HMIS<sup>®</sup> is a registered trademark of the National Painting and Coating Association.

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### Section 15 – Further Information

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**The information contained in this document is the best available to the supplier at the time of writing, but is provided without warranty of any kind. Some possible hazards have been determined by analogy to similar classes of material. The items in this document are subject to change and clarification as more information become available. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose.**

