



Graver Technologies

# SAFETY DATA SHEET

## 1. PRODUCT and COMPANY IDENTIFICATION

**Product Name:** Radex® Co-2000 (GX313)  
**Product Form:** Mixture  
**Ionic Form:** Sodium Titanate Product  
**Supplier/Manufacturer:** Graver Technologies, LLC 200 Lake Drive,  
 Glasgow, DE 19702 +302-731-1700 +800-533-6623  
**Emergency Phone:** +302-731-1700 +800-533-6623  
**Fax Number:** +302-731-1707  
**Recommended Use:** Ion exchange/adsorption related process

## 2. HAZARDS IDENTIFICATION

This material is classified as hazardous in accordance with the OSHA Hazard Communication Standard (29CFR 1910.1200).

NFPA HAZARD RATING		
	4=Severe	Health
	3=Serious	Flammability
	2=Moderate	Instability
	1=Slight	Special
	0=Minimal	

Eye damage/irritation – Category 1  
 Skin corrosion/irritation – Category 2

### Label elements



**Signal Word:** DANGER!

**Hazards:** Causes skin corrosion/ irritation. H315  
 Causes serious eye damage. H318  
 May cause respiratory irritation. H335

**Precautionary Statements**

**Prevention:** Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling. Do not breathe dust.

**Response:** If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek immediate medical attention.

**Other Hazards:** None known

**Eye Contact:** Direct contact causes serious irritation with pain and redness. Possible tissue damage.

**Skin Contact:** May cause skin irritation with redness and possible burns.

**Ingestion:** May cause irritation to the mouth, throat, and stomach. Single dose oral LD50 has not been determined.

**Inhalation:** If product is allowed to completely dry, inhalation of dusts/particles may cause nose, throat, and respiratory tract irritation.

**Chronic Effects:** No known significant effects.

**3. COMPOSITION / INFORMATION on INGREDIENTS**

This product is a mixture

<u>Component</u>	<u>CAS No.</u>	<u>%</u>	<u>Classification</u>
Sodium Titanate	12034-36-5	63 – 76	Not hazardous
Sodium Silicate	1344-09-8	14 – 24	H315, H318
Sodium Sulfate	231-820-9	0 – 16	Not hazardous
Water	7732-18-5	2 – 10	

**4. FIRST AID MEASURES**

**Eye:** Flush with water, remove any contact lenses, and continue flushing for at least 30 minutes. A physician should treat chemical burns promptly.

**Skin Contact:** If irritation occurs, flush affected area with water. Get medical attention if irritation persists or other symptoms occur.

**Ingestion:** If swallowed, call physician or poison control center. Do not induce vomiting unless directed by medical personnel. If adverse health effects persist or become severe, get medical attention.

**Inhalation:** Move any affected person to fresh air. If adverse health effects persist or become severe, get medical attention.

**Systemic & Other Effects:** None known.

## 5. FIRE FIGHTING MEASURES

**Suitable Extinguishing Media:** In case of fire, use dry chemical, foam, carbon dioxide, or water spray.

**Fire Fighting Equipment:** Wear appropriate protective equipment and positive pressure self-contained breathing apparatus.

**Hazardous Combustion Products:** Under normal conditions of use and storage, no hazardous combustion products are expected. Thermal decomposition products may include and are not limited to: Irritating or toxic fumes of sodium, sulfur, carbon monoxide, and carbon dioxide.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Take no action that involves personal risk or without suitable training. Wear appropriate personal protective equipment and keep other personnel away from release area. Provide adequate ventilation. Spilled material may be slippery. See Sections 7 & 8 for more information.

**Environmental Precautions:** Do not disperse material and do not allow entry into sewers, waterways, or the ground. See Section 12 for more information.

**Spills:** Sweep up and recover if possible. Place in labeled containers. Dispose of according to national and local regulations. See Section 13 for more information.

## 7. HANDLING AND STORAGE

**Handling:** Wear appropriate personal protective equipment, described in Section 8. Do not get in eyes or on skin. Do not ingest material. Eating should not be allowed in areas where material is stored, handled, or processed. Wash hands thoroughly after handling and before eating. Keep material in original closed container until used.

**Storage:** The minimum recommended storage temperature for this material is 3°C/38°F and the maximum is 40°C/104°F. Store original containers in a dry, well-ventilated area.

## 8. EXPOSURE CONTROL/PERSONAL PROTECTION

### Exposure Limit Values:

Component	ACGIH TWA	OSHA TWA
Sodium Titanate	10 mg/m <sup>3</sup> Dust	15 mg/m <sup>3</sup> Total Dust
Sodium Silicate	10 mg/m <sup>3</sup> Dust	15 mg/m <sup>3</sup> Total Dust
Sodium Sulfate	10 mg/m <sup>3</sup> Dust	15 mg/m <sup>3</sup> Total Dust

### Exposure Controls

**Engineering Controls:** Use with adequate ventilation.

**Protective Measures:** Facilities where material is stored or used should be equipped with an eyewash facility.

### Personal Protective Equipment (PPE)

**Eye Protection:** Safety glasses recommended.

**Skin & Hand Protection:** Avoid skin contact. When using this material, use skin protection (clean body-covering clothing). Use cotton or canvas gloves under limited contact conditions. Use chemically resistant gloves when prolonged or frequently repeated contact is expected to occur. If hands are cut or scratched, use chemical resistant gloves even for short term exposure. Preferred glove materials include: Polyvinyl chloride (PVC), Nitrile butadiene rubber (NBR), Neoprene.

**Respiratory Protection:** Not required under normal operating conditions. If airborne dust is present and risk assessment indicates the need, use respiratory protection meeting OSHA 29 CFR 1910.134 or similar.

**Hygiene Measures:** Wash hands after handling and before eating or using the lavatory.

## 9. PHYSICAL and CHEMICAL PROPERTIES

<b>Appearance:</b>	Solid small granules
<b>Color:</b>	White to light tan
<b>Odor:</b>	Odorless
<b>Odor threshold:</b>	No data available
<b>pH:</b>	Not applicable
<b>Melting/freezing point:</b>	No data available
<b>Boiling point/range:</b>	Not applicable
<b>Flash point:</b>	Not applicable
<b>Evaporation rate (Butyl acetate=1):</b>	< 1 Water
<b>Flammability (solid, gas):</b>	No data available
<b>Upper/lower explosive limits:</b>	Not applicable

---

<b>Vapor pressure (mm Hg):</b>	No data available
<b>Vapor density (Air=1):</b>	No data available
<b>Relative density (water=1):</b>	~ 3.9
<b>Solubility in water:</b>	Insoluble
<b>Partition coefficient: n-octanol/water:</b>	No data available
<b>Auto-ignition temperature:</b>	No data available
<b>Decomposition temperature:</b>	No data available
<b>Viscosity, kinematic:</b>	Not applicable
<b>Explosive properties:</b>	No data available
<b>Oxidizing properties:</b>	No data available
<b>Percent Volatility:</b>	45 – 55% Water

## 10. STABILITY & REACTIVITY

**Reactivity:** No dangerous reactions known under normal use conditions.

**Chemical stability:** Stable under normal handling and storage conditions.

**Hazardous polymerization:** Product will not undergo polymerization.

**Incompatibility/Conditions to Avoid:** Avoid contact with strong mineral acids.

**Hazardous Decomposition Products:** Under normal conditions of use and storage, no hazardous decomposition products are expected. Thermal decomposition products may include and are not limited to: Irritating or toxic fumes of sodium, sulfur, carbon monoxide, and carbon dioxide.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

**Ingestion:** Typical for this family of materials – Oral LD<sub>50</sub> (Rat) >5,000 mg/kg

**Skin Contact:** No data available

**Inhalation:** No data available

**Eye contact:** Risk of serious damage

**Carcinogenicity:** No data available

**Mutagenicity:** No data available

**Teratogenicity:** No data available

**Specific target organ systemic toxicity (single exposure):** No data available

**Specific target organ systemic toxicity (repeated exposure):** No data available

## 12. ECOLOGICAL INFORMATION

**Toxicity:** No specific data available

**Persistence & Degradability:** No specific data available

---

**Bioaccumulative potential:** No specific data available

**Mobility in soil:** No specific data available

**Results of PBT and vPvB assessment:** Not applicable

**Other adverse affects:** No specific data available

### 13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHOD:** DO NOT DUMP INTO ANY SEWERS, ON THE GROUND OR INTO ANY BODY OF WATER. Dispose unused product in licensed landfill according to all national, regional, and local regulations. For product contaminated with hazardous material, dispose of mixture as hazardous material according to national, regional, and local regulations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

### 14. TRANSPORT INFORMATION

UN Number and name: Not hazardous for transport  
US DOT: Not regulated for transport  
IMO/IMDG: Not regulated for transport  
IATA/ICAO: Not regulated for transport  
ADR: Not regulated for transport  
RID: Not regulated for transport  
ADN: Not regulated for transport

Packaging group: Not applicable

Environmental hazard: Not a marine pollutant

Transport bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

### 15. REGULATORY INFORMATION

**Workplace Classifications:** This material is classified as hazardous in accordance with OSHA Hazard Communication Standard (29CFR 1910.1200).

This product is not a 'Controlled Product' under the Canadian Workplace Hazardous Materials Information System (WHMIS).

#### Emergency Planning & Community Right-To-Know (SARA Title 3):

**Section 311/312 Categorizations (40CFR 370)** Acute health hazard.

**Section 313 Information (40CFR 372)** This material does not contain any chemical that exceeds the threshold, de minimis, reporting levels.

**CERCLA Information (40CFR 302.4)** Releases of the possible sodium hydroxide component material in excess of 1,000 pounds to air, land, or water are

reportable to the National Response Center under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or to state and local emergency planning committee under the Superfund Amendments and Reauthorization Act (SARA Title III Section 304).

**EPA Resource Conservation and Recovery Act (RCRA)** When a decision is made to discard this material as supplied, it does not meet RCRA's characteristic definition of ignitability, corrosivity, or reactivity, and is not listed in 40CFR 261.33. It is the responsibility of the product user to determine whether a material containing the product or derived from the product should be classified as a hazardous waste, at the time of disposal.

**Chemical Control Law Status** All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

## 16. OTHER INFORMATION

### Hazard statements:

H302 Harmful if swallowed  
H315 Causes skin corrosion/irritation  
H318 Causes serious eye damage  
H335 May cause respiratory irritation

### Precautionary statements:

P260 Do not breathe dust.  
P264 Wash hands thoroughly after handling.  
P280 Wear protective gloves/protective clothing/eye protection.

P305/P351/P338/P315

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

**SDS Identification No.:** SD-Co-2000 (GX313)

**Effective Date:** 12/04/16

### Abbreviations:

**ACGIH** – American Conference of Governmental Industrial Hygienists  
**OSHA** – Occupational Safety and Health Administration  
**PBT** – Persistent, Bioaccumulative and Toxic  
**TWA** – Time Weighted Average  
**vPvB** – Very Persistent and Very Bioaccumulative

The information contained herein relates to the specific material as shipped. Graver Technologies believes that such information is accurate and reliable as of the effective date. No representation, guarantee or warranty, express or implied, is given. As local regulatory requirements may differ, the user is responsible for determining the conditions needed for safe use of the product and the suitability for their particular application. It is the user's responsibility to comply with all national and local laws. Consult Graver Technologies for further information.