

# SAFETY DATA SHEET

ECOSORB® S-405, S-406, S-407, S-423, S-426, S-429, S-405 RB, S-406 RB,  
S-406 CDX, S-407 RB, S-423RB, S-426 RB, S-427RB, S-429 RB

Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS, Australian WorkSafe, Japanese Industrial Standard JIS Z 7250:2000, and European Union REACH Regulations



Graver Technologies

## SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

	<b>ECOSORB® S-405, S-406, S-407, S-423, S-426, S-429, S-405 RB, S-406 RB, S-406 CDX, S-407 RB, S-423 RB, S-426 RB, S-427RB, S-429 RB</b>
<b>1.1 PRODUCT NAME:</b>	Mixture
CAS NUMBER:	
<b>1.2 PRODUCT USE:</b>	Removes contaminants from pharmaceutical process streams.
<b>1.3 SUPPLIER/MANUFACTURER'S NAME:</b>	<b>Graver Technologies LLC</b>
ADDRESS:	200 Lake Drive, Glasgow, Delaware 19702-3319 USA
BUSINESS PHONE:	(302) 731-1700
BUSINESS FAX:	(302) 731-1707
<b>1.4 EMERGENCY PHONE:</b>	<b>800-249-1990</b>
<b>1.5 DATE OF PREPARATION:</b>	December 11, 2019
DATE OF LAST REVISION:	November 29, 2017

## SECTION 2 - HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:** This product is a moist black solid with no odor. Not expected to have adverse health effects when used as directed. Warning! Wet activated carbon removes oxygen from the air and can lower the concentration levels within confined spaces. It is a non-flammable solid. Excessive airborne dust from dried product may create a dust explosion hazard. The Environmental effects of this product have not been investigated, however this product is not expected to have any adverse effects.

### 2.1 Classification of the mixture

This product does not meet the definition of a hazardous substance or preparation as defined by 29 CFR 1910. 1200 AND the European Union Council Directives 67/548/EEC, 1999/45/EC, 1272/2008/EC, 2015/830/EU and subsequent Directives.

#### Component(s) Contributing to Classification(s)

None applicable

### 2.2 GHS Label elements, including precautionary statements

#### Pictogram(s):

None applicable

#### Signal Word:

None applicable

#### GHS Hazard Classification(s):

Not Classified

#### Hazard Statement(s):

None applicable

#### Prevention Statement(s):

None applicable

#### Response Statement(s):

None applicable

#### Storage Statement(s):

None applicable

#### Disposal Statement(s):

None applicable

### 2.3 Other Hazards

None applicable.

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## SECTION 3 - COMPOSITION and INFORMATION ON INGREDIENTS

### 3.2 Mixtures

HAZARDOUS INGREDIENTS:	CAS #	EINECS #	Index #	WT %	GHS CLASSIFICATION
Carbon, Activated	7440-44-0	231-153-3	Not Listed	25 - 40%	NOT CLASSIFIED
Fiber, Cellulose	9004-34-6	232-674-9	Not Listed	5 - 15%	NOT CLASSIFIED
Resin, Anion Exchange	69011-15-0	684-849-8	Not Listed	1 - 3%	EYE IRRIT CAT 2A
Water	7732-18-5	231-791-2	Not Listed	57 - 63%	NOT CLASSIFIED
Balance of other ingredients are non-hazardous or less than 1% in concentration (or 0.1% for carcinogens, reproductive toxins, or respiratory sensitizers).					

**Additional Information:** See SECTION 16 for full classification phrases.

## SECTION 4 - FIRST-AID MEASURES

### 4.1 Description of first aid measures

Contaminated individuals of chemical exposure must be taken for medical attention if any adverse effect occurs. Rescuers should be taken for medical attention, if necessary. Take copy of label and SDS to health professional with contaminated individual.

**EYE CONTACT:** If product enters the eyes, open eyes while under gentle running water for at least 15 minutes. Seek medical attention if irritation persists.

**SKIN CONTACT:** Wash skin thoroughly after handling. Seek medical attention if irritation develops and persists. Remove contaminated clothing. Launder before re-use.

**INHALATION:** If breathing becomes difficult, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Seek medical attention.

**INGESTION:** If product is swallowed, call physician or poison control center for most current information. If professional advice is not available, do not induce vomiting. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or who cannot swallow. Seek medical advice. Take a copy of the label and/or SDS with the victim to the health professional.

### 4.2 Most important symptoms and effects, both acute and delayed

Irritation. Pre-existing skin problems may be aggravated by prolonged or repeated contact. See section 11 for additional information.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** None Known

### 4.3 Indication of immediate medical attention and special treatment needed

Treat symptoms and reduce over-exposure.

## SECTION 5 - FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

As appropriate for surrounding fire. Use water, dry chemical, or CO2. Use water to cool fire-exposed containers.

### 5.2 Specific hazards arising from the chemical

Product is moist and dust-free. Clean up immediately or keep moist until cleanup can be initiated. Product is easily rewetted with a fine water mist. If product dries out and is allowed to become airborne, it may cause a dust explosion hazard when in high concentrations such as within confined spaces. Keep dust away from heat, sparks and flames.

Explosion Sensitivity to Mechanical Impact:

Not Sensitive.

Explosion Sensitivity to Static Discharge:

Sensitive (Air/Dust mixtures)

Minimum Ignition Energy (M.I.E.)

No Data at this time

### 5.3 Special firefighting Procedure

Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Isolate materials not yet involved in the fire and protect personnel. Move containers from fire area if this can be done without risk; otherwise, cool with carefully applied water spray. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

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## SECTION 6 - ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Use appropriate respirator when ventilation is inadequate and use personal protective clothing as described in Section 8 of this safety data sheet. See section 11 for additional information on health hazards.

### 6.2 Environmental precautions

Do not let product enter drains, do not allow to sewers/surface or ground water. See Section 12, Ecological information.

### 6.3 Methods and material for containment and cleaning up

Avoid generating dust if product dries out - keep moist with water. Pick up released product with appropriate implements & return to original container if reusable, or dispose. Wet material may be slippery. Dispose of in accordance with applicable Federal, State, and local procedures (see Section 13, Disposal Considerations).

## SECTION 7 - HANDLING and STORAGE

### 7.1 Precautions for safe handling

Follow good handling and housekeeping practices. Avoid spills. Clean up spills while product is still moist to prevent dust and accumulations of dust, or generation of airborne dust. After handling, wash thoroughly with soap and water.

### 7.2 Conditions for safe storage, including any incompatibilities

Product can be rewet with a fine water mist to prevent dust. Static electricity can accumulate on dry material. Store in sealed containers in a clean, dry, well-ventilated area away from ignition sources, combustible materials and heat.

### 7.3 Specific end uses

See section 1.2.

## SECTION 8 - EXPOSURE CONTROLS - PERSONAL PROTECTION

### 8.1. Control parameters

#### EXPOSURE LIMITS/GUIDELINES:

Chemical Name	CAS#	ACGIH TWA	OSHA TWA
Carbon, Activated	7440-44-0	10 mg/m <sup>3</sup> Dust	15 mg/m <sup>3</sup> Total Dust
Fiber, Cellulose	9004-34-6	10 mg/m <sup>3</sup> Dust	15 mg/m <sup>3</sup> Total Dust
Resin, Anion Exchange	69011-15-0	10 mg/m <sup>3</sup> Dust	15 mg/m <sup>3</sup> Total Dust
Water	7732-18-5	Not Listed	Not Listed

### 8.2 Exposure Controls

Currently, International exposure limits are established for the components of this product. Please check with competent authority in each country for the most recent limits in place.

**VENTILATION AND ENGINEERING CONTROLS:** Use with adequate ventilation to ensure exposure levels are maintained below the limits provided below. Use local exhaust ventilation to control airborne dust. Ensure eyewash/safety shower stations are available near areas where this product is used.

*The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132) or equivalent standard of Canada, or standards of EU member states (including EN 149 for respiratory PPE, and EN 166 for face/eye protection), and those of Japan. Please reference applicable regulations and standards for relevant details.*

**RESPIRATORY PROTECTION:** Maintain airborne contaminant concentrations below guidelines listed above, if applicable.

If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, Canadian CSA Standard Z94.4-93, the European Standard EN149, or EU member states.

**EYE PROTECTION:** Safety glasses are recommended. If necessary, refer to U.S. OSHA 29 CFR 1910.133 or appropriate Canadian Standards.

**HAND PROTECTION:** Use protective gloves as appropriate to minimize skin contact. If necessary, refer to U.S. OSHA 29 CFR 1910.138 or appropriate Standards of Canada.

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**BODY PROTECTION:** Use body protection appropriate to prevent contact (e.g. lab coat, overalls). If necessary, refer to appropriate Standards of Canada, or appropriate Standards of the EU, Australian Standards, or relevant Japanese Standards.

## SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<b>PHYSICAL STATE:</b>	Solid (Moist cake)
<b>APPEARANCE &amp; ODOR:</b>	Off-Black moist cake with no odor.
<b>ODOR THRESHOLD (PPM):</b>	Not Available
<b>pH:</b>	Not Applicable
<b>MELTING / FREEZING POINT (C°):</b>	Not Applicable
<b>BOILING POINT (C°):</b>	Not Applicable
<b>FLASH POINT:</b>	Non-Flammable
<b>EVAPORATION RATE (nBuAc = 1):</b>	Not Applicable
<b>FLAMMABILITY (solid, gas):</b>	Not Applicable
<b>FLAMMABLE LIMITS (in air by volume, %):</b>	Not Applicable
<b>VAPOR PRESSURE (mmHg):</b>	Not Applicable
<b>VAPOR DENSITY (AIR=1):</b>	Not Applicable
<b>RELATIVE DENSITY</b>	Not Available
<b>SOLUBILITY IN WATER (%)</b>	Insoluble
<b>PARTITION COEFFICIENT: N-OCTANOL/WATER:</b>	Not Applicable
<b>AUTOIGNITION TEMPERATURE:</b>	Not Applicable
<b>DECOMPOSITION TEMPERATURE:</b>	Not Applicable
<b>VISCOSITY:</b>	Not Applicable
<b>EXPLOSIVE PROPERTIES:</b>	Not Applicable
<b>OXIDISING PROPERTIES:</b>	Not Applicable

### 9.2 Other Information

<b>PACKING DENSITY:</b>	28 – 32 lb/ft <sup>3</sup>
<b>SPECIFIC GRAVITY 4°C: (Water = 1)</b>	>1
<b>VOC:</b>	0

## SECTION 10 - STABILITY and REACTIVITY

**10.1 Reactivity:** See section 10.5.

**10.2 Chemical Stability:** Product is stable

**10.3 Possibility of Hazardous Reactions:** Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid:** Contact with incompatible materials and dust generation.

**10.5 Incompatible materials:** Avoid contact with hydrides and other water-reactive compounds, strong acids, strong alkalis.

**10.6 Hazardous Decomposition Products:** Thermal decomposition (burning) may produce irritating and toxic fumes of carbon (carbon dioxide, carbon monoxide), formaldehyde, ethylene and acrylic acid. The exact chemicals formed depends on many factors including temperature and heating rate.

## SECTION 11 - TOXICOLOGICAL INFORMATION

### 11.1 Information on Toxicological Effects

**TOXICITY DATA:** There is no available data for the product, only for the ingredients

CAS# 9004-34-6 LD50, Oral - Rat	>5,000 mg/m <sup>3</sup>
CAS# 7440-44-0 LC50, Inhalation - Rat	>64,400 mg/m <sup>3</sup>
CAS# 7440-44-0 LD50, Oral - Rat	>10,000 mg/kg

#### 11.1.2 Mixtures

Acute toxicity	Based on available data, the classification criteria are not met
Skin corrosion / irritation	Based on available data, the classification criteria are not met
Serious eye damage / irritation	Based on available data, the classification criteria are not met
Respiratory or skin sensitization	Based on available data, the classification criteria are not met
Germ cell mutagenicity	Based on available data, the classification criteria are not met
Carcinogenicity	Based on available data, the classification criteria are not met

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Reproductive toxicity	Based on available data, the classification criteria are not met
STOT-single exposure	Based on available data, the classification criteria are not met
STOT-repeated exposure	Based on available data, the classification criteria are not met
Aspiration hazard	Based on available data, the classification criteria are not met

## Other Information

### POTENTIAL HEALTH HAZARDS OR RISKS FROM EXPOSURE:

**ACUTE:** Exposure can be irritating to eyes, respiratory system and skin.

**INHALATION:** Inhalation of dusts if this product is allowed to dry out and disperse may cause nose, throat and respiratory tract irritation.

**EYE:** May cause mechanical irritation with pain and redness.

**SKIN:** May cause irritation to skin if scratched or cut. Prolonged exposure is not likely to cause significant skin irritation.

**INGESTION:** Product is considered practically non-toxic if swallowed.

**CHRONIC:** None Known

**SUSPECTED CANCER AGENT:** None of the ingredients are found on the following lists: FEDERAL OSHA Z LIST, NTP, CAL/OSHA, IARC and therefore is not considered to be, nor suspected to be a cancer-causing agent by these agencies.

**IRRITANCY OF PRODUCT:** Contact with this product can be irritating to exposed skin, eyes and respiratory system.

**SENSITIZATION OF PRODUCT:** This product is not considered a sensitizer.

**REPRODUCTIVE TOXICITY INFORMATION:** No information concerning the effects of this product and its components on the human reproductive system.

## SECTION 12 - ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

### 12.1 Toxicity

No data available for this product.

### 12.2 Persistence and degradability

No specific data available on this product.

### 12.3 Bioaccumulative potential

No specific data available on this product.

### 12.4 Mobility in soil

No specific data available on this product.

### 12.5 Results of PBT and vPvB assessment

No specific data available on this product.

### 12.6 Other adverse effects

No specific data available on this product.

### 12.7 Water endangerment class

Not believed to be water endangering in accordance with EU Guideline 91/155-EWG. At present there are no ecotoxicological assessments for this product.

## SECTION 13 - DISPOSAL CONSIDERATIONS

### 13.1 Waste Treatment Methods

Waste disposal must be in accordance with appropriate Federal, State, and local regulations, those of Canada, Australia, EU Member States and Japan.

## SECTION 14 - TRANSPORTATION INFORMATION

### US DOT; IATA; IMO; ADR:

THIS PRODUCT IS NOT HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

**PROPER SHIPPING NAME:** Non-Regulated Material

**HAZARD CLASS NUMBER and DESCRIPTION:** Not Applicable

**UN IDENTIFICATION NUMBER:** Not Applicable

**PACKING GROUP:** Not Applicable.

**DOT LABEL(S) REQUIRED:** Not Applicable

**NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (2016):** Not Applicable

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**MARINE POLLUTANT:** None of the ingredients are classified by the DOT as a Marine Pollutant (as defined by 49 CFR 172.101, Appendix B)

**U.S. DEPARTMENT OF TRANSPORTATION (DOT) SHIPPING REGULATIONS:**

This product is not classified as dangerous goods, per U.S. DOT regulations, under 49 CFR 172.101.

**TRANSPORT CANADA, TRANSPORTATION OF DANGEROUS GOODS REGULATIONS:**

This product is not classified as Dangerous Goods, per regulations of Transport Canada.

**INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA):**

This product is not classified as Dangerous Goods, by rules of IATA:

**INTERNATIONAL MARITIME ORGANIZATION (IMO) DESIGNATION:**

This product is not classified as Dangerous Goods by the International Maritime Organization.

**EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR):**

This product is not classified by the United Nations Economic Commission for Europe to be dangerous goods.

## SECTION 15 - REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### **UNITED STATES REGULATIONS**

**SARA REPORTING REQUIREMENTS:** This product is not subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act., as follows: None

**TSCA:** All components in this product are listed on the US Toxic Substances Control Act (TSCA) inventory of chemicals.

**SARA 311/312:**

Acute Health: No      Chronic Health: No      Fire: No      Reactivity: No

**U.S. SARA THRESHOLD PLANNING QUANTITY:** There are no specific Threshold Planning Quantities for this product. The default Federal SDS submission and inventory requirement filing threshold of 10,000 lb (4,540 kg) may apply, per 40 CFR 370.20.

**U.S. CERCLA REPORTABLE QUANTITY (RQ):**

CERCLA Reportable Quantity (RQ), None.

**CLEAN WATER ACT:**

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

**STATE REGULATIONS:** None.

**CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):** None of the ingredients are on the California Proposition 65 lists.

#### **CANADIAN REGULATIONS:**

**CANADIAN DSL/NDL INVENTORY STATUS:** All of the components of this product are on the DSL Inventory

**CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS:** No component of this product is on the CEPA First Priorities Substance Lists.

**CANADIAN WHMIS CLASSIFICATION and SYMBOLS:** Classified per WHMIS 2015.

#### **EUROPEAN ECONOMIC COMMUNITY INFORMATION:**

**EU LABELING AND CLASSIFICATION:**

Classification of the mixture according to Regulation (EC) No 1272/2008. See section 2 for details.

#### **AUSTRALIAN INFORMATION FOR PRODUCT:**

**AUSTRALIAN INVENTORY OF CHEMICAL SUBSTANCES (AICS) STATUS:** All components of this product are listed on the AICS or Exempt.

**STANDARD FOR THE UNIFORM SCHEDULING OF DRUGS AND POISONS:** Not applicable.

#### **JAPANESE INFORMATION FOR PRODUCT:**

**JAPANESE MINISTER OF INTERNATIONAL TRADE AND INDUSTRY (MITI) STATUS:** The components of this product are not listed as Class I Specified Chemical Substances, Class II Specified Chemical Substances, or Designated Chemical Substances by the Japanese MITI.

#### **INTERNATIONAL CHEMICAL INVENTORIES:**

Listing of the components on individual country Chemical Inventories is as follows:

Asia-Pac:	Listed or Exempt
Australian Inventory of Chemical Substances (AICS):	Listed or Exempt
Korean Existing Chemicals List (ECL):	Listed or Exempt

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Japanese Existing National Inventory of Chemical Substances (ENCS): Listed or Exempt  
Philippines Inventory of Chemicals and Chemical Substances (PICCS): Listed or Exempt  
Swiss Giftlist List of Toxic Substances: Listed or Exempt  
U.S. TSCA: Listed

## 15.2 Chemical safety assessment

A chemical safety assessment for this product has not been performed.

## SECTION 16 - OTHER INFORMATION

<b>HMIS Rating (Scale 0-4)</b>	<b>NFPA Rating (Scale 0-4)</b>
Health hazard: 0	Health hazard: 0
Flammability: 0	Flammability: 0
Physical Hazard: 0	Physical Hazard: 0

### Caution: HMIS and NFPA ratings are based on a 0-4 rating scale

0= Minimal Hazard

1= Slight

2= Moderate

3= High

4= Extreme

### Abbreviations and acronyms

<b>ACGIH</b>	American Conference of Governmental Industrial Hygienists
<b>CFR</b>	Code of Federal Regulations
<b>DOT</b>	Federal Department of Transportation
<b>GHS</b>	The Globally Harmonized System of Classification and Labelling of Chemicals
<b>HMIS</b>	Hazardous Material Identification System
<b>HCS</b>	Hazard Communication Standard
<b>IARC</b>	International Agency for Research on Cancer
<b>IATA</b>	The International Air Transport Association
<b>ICAO</b>	The International Civil Aviation Organization
<b>IMDG</b>	International Maritime Dangerous Goods
<b>IMO</b>	International Maritime Organization
<b>LD50/LC50</b>	Lethal Concentration/Dose, 50 percent
<b>NFPA</b>	National Fire Protection Association
<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>NTP</b>	National Toxicology Program
<b>OSHA</b>	Occupational Safety and Health
<b>PEL</b>	OSHA Permissible Exposure Limit
<b>SARA</b>	Superfund Amendments and Reauthorization Act
<b>TLV</b>	ACGIH Threshold Limit Value
<b>TWA</b>	Time-Weighted Average
<b>Eye Irrit.</b>	Eye Irritation

PREPARED BY: Chris Eigbrett

MSDS to GHS Compliance

**Disclaimer:** Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained therein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for her/his particular purpose(s).

### Revision History:

<b>November 1 2011</b>	- Document creation.
<b>October 20 2015</b>	- Updated GHS classification
<b>July 19 2016</b>	- Updated to include current EU requirements.
<b>November 29 2017</b>	- Removed S-426.
<b>December 11, 2019</b>	- Added S-426, performed Review

END OF SDS