





SAFETY DATA SHEET

Desalter Kit, Sea Water, Mark 2 Type II

NSN 4610-00-372-0592

Section 1. Identification of the substance/mixture and of the company/undertaking
1.1 Product Identifier: Desalter Kit, Sea Water, Mark 2 Type II
1.2 Relevant identified uses of the substance or mixture and uses advised against: Creating potable water from sea water.
1.3 Details on the supplier of the Safety Data Sheet: Luxfer Magtech Inc., Riverhead Plant, 680 Elton Street, Riverhead, NY 11901 (631) 727-8600
1.4 Emergency telephone number: (703) 527-3887

Section 2. Hazards Identification
2.1 Classification of the substance or mixture:
 <p>GHS03 Oxidizing solid.</p>
 <p>GHS05 Corrosive.</p>
 <p>GHS07 Respiratory tract irritant. Harmful if swallowed.</p>
 <p>GHS09 Aquatic harm, chronic.</p>
2.2 Label elements:
<p>No hazmat labels required. Formulation containing silver oxide not classifiable as Division 5.1 by UN Test for Oxidizing Solids O.1. Otherwise, de minimis quantities of hazardous materials in accordance with 49 CFR 173.4b and IATA DGR 2.6.10.</p> <p>Signal word: Warning</p> <p>Hazard statements: May intensify fire. May cause respiratory irritation. Causes skin irritation. Causes serious eye irritation, possible damage.</p>

Harmful if swallowed.
Harmful to aquatic life with long lasting effects.

Precautionary statements:

Prevention: Avoid dust creation; avoid breathing dust. Wear protective gloves and eye protection. Wash thoroughly after handling. Avoid release into the environment.

Response: In case of inhalation, remove to fresh air. In case of skin contact, flush with soap and water for at least 15 minutes. If in eyes, rinse cautiously with water for several minutes, remove contact lenses if present, and continue rinsing for at least 15 minutes. Get medical attention. If swallowed, give large quantities of water, do not induce vomiting. Get medical attention immediately.

Disposal: Dispose of in accordance with local/regional/national/international regulations.

In case of fire, use for extinguishing: Carbon dioxide, dry chemical, foam or water spray.

2.3 Other hazards:

None.

Section 3. Composition/information on ingredients

3.1 Substances

	CAS # (if known)
Barium Hydroxide	17194-00-2
Carbon	7440-44-0
Graphite	7782-42-5
Proprietary Resin	n/a
Silver Oxide	20667-12-3
Silver Zeolite	130328-18-6

3.2 Mixture

Substances are mixed before compression into desalter bars.

Section 4. First aid measures

4.1 Description of first aid measures

IF SWALLOWED: Give large quantities of water to drink. Never give anything by mouth to an unconscious person. Get medical attention immediately. Do not induce vomiting.
IF ON SKIN: Flush with soap and water for at least 15 minutes. Get medical attention if irritation develops, persists or worsens.
IF IN EYES: Rinse cautiously with water for several minutes, remove contact lenses if present, and continue rinsing for at least 15 minutes. Get medical attention.
IF INHALED: Remove to fresh air. If not breathing, give artificial respiration. Give oxygen if breathing is difficult. Get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Dust is irritating to skin, eyes and mucous membranes: Skin rash, eye redness and/or pain, coughing.

4.3 Indication of any immediate medical attention and special treatment needed

Nausea. Call a poison center or a physician if you feel unwell.

Section 5. Firefighting measures

5.1 Extinguishing media

CO₂, dry chemical, foam or water spray.

5.2 Special hazards arising from the substance or mixture
May produce toxic fumes of aluminum oxides, barium oxides, carbon oxides, silver oxides, sulfur oxides.
5.3. Advice for firefighters
Wear self-contained breathing apparatus and protective clothing.

Section 6. Accidental release measures
6.1 Personal precautions, protective equipment and emergency procedures
Wear suitable protective equipment. Wear respiratory protective device in case of dust creation. Avoid creation of dust.
6.2 Environmental precautions
Prevent entry into sewers, drains.
6.3 Methods and materials for containment and cleaning up
Sweep up material and place in container for disposal.
6.4 Reference to other sections
See section 8 (Exposure controls/personal protection).

Section 7. Handling and storage
7.1 Precautions for safe handling
Avoid contact with skin. Wash thoroughly after handling.
7.2 Conditions for safe storage, including any incompatibilities
Store in cool, dry place. Keep away from heat or direct sunlight.
7.3 Specific end use(s)
Creating potable water from sea water.

Section 8. Exposure controls/personal protection		
8.1 Control parameters		
Wear safety glasses/goggles. Wear chemical-resistant rubber gloves. Wear dust mask.		
8.2 Exposure controls	OSHA PEL	ACGIH TLV
Barium Hydroxide	0.5mg/m ³ as Ba	0.5mg/m ³ as Ba
Carbon	15 mg/m ³ 8 hr. TWA, total dust	10 mg/m ³ 8 hr. TWA particulates
Graphite	5 mg/m ³ as respirable dust	2 mg/m ³ as respirable dust
Proprietary Resin	n/a	n/a
Silver Oxide	n/a	n/a
Silver Zeolite	n/a	n/a

Section 9. Physical and chemical properties
<p>9.1 Information on basic physical and chemical properties</p> <p>n/a = not available, or not applicable.</p> <p>Physical state: Solid. Appearance, Color, Odor: Gray bars, no odor. Odor threshold: n/a. pH: n/a. Relative evaporation rate, n-butyl acetate=1: n/a. Melting point/freezing point: n/a. Boiling point: n/a. Flash point: n/a. Auto-ignition temperature: n/a. Decomposition temperature: n/a. Flammability (solid, gas): n/a. Vapor pressure: n/a. Relative vapor density, air=1: n/a. Relative density: n/a. Solubility: dispersable in water, partial solubility. Partition coefficient (Log P_{ow}): n/a. Viscosity (kinetic/dynamic): n/a. Upper/lower flammability or explosive limits: n/a.</p>
<p>9.2 Other information</p> <p>Not applicable.</p>
Section 10. Stability and reactivity
<p>10.1 Reactivity</p> <p>May act as an oxidizing agent on organic materials.</p>
<p>10.2 Chemical stability</p> <p>Stable under recommended storage conditions.</p>
<p>10.3 Possibility of hazardous reactions</p> <p>Hazardous polymerization does not occur.</p>
<p>10.4 Conditions to avoid</p> <p>Extreme heat, ignition sources and open flame. Exposure to incompatible materials.</p>
<p>10.5 Incompatible materials</p> <p>Alkali, amines, strong acids, flammable substances.</p>
<p>10.6 Hazardous decomposition products</p> <p>Metal oxide fumes produced with acid. Barium oxide produced when heated to 550°F.</p>
Section 11. Toxicological information
<p>11.1 Information on toxicological effects</p> <p>Barium Hydroxide Acute toxicity: Oral LD50 (rat) 308 mg/kg Skin corrosion / irritation: corrosive Eye damage / irritation: damaging Germ cell mutagenicity: no data available Sensitization: no data available Carcinogenicity: Not listed by IARC, NTP or OSHA Reproductive toxicity: no data available Specific target organ toxicity, single exposure: no data available Specific target organ toxicity, repeated exposure: no data available Aspiration hazard: no data available</p> <p>Carbon Acute toxicity: Oral LD50 (rat) > 5000 mg/kg, inhalation LC50 (rat) 8500 mg/m³ Skin corrosion / irritation: no skin irritation (rabbit)</p>

Eye damage / irritation: no eye irritation (rabbit)
 Germ cell mutagenicity: negative
 Sensitization: no skin sensitization (mouse)
 Carcinogenicity: Not listed by IARC, NTP or OSHA
 Reproductive toxicity: no data available
 Specific target organ toxicity, single exposure: no data available
 Specific target organ toxicity, repeated exposure: no data available
 Aspiration hazard: no data available

Graphite

Acute toxicity: Frequent inhalation of dusts over a long period of time increases risk of lung disease.
 Skin corrosion / irritation: may cause irritation through mechanical abrasion.
 Eye damage / irritation: may cause irritation from dust
 Germ cell mutagenicity: no data available
 Sensitization: not a skin sensitizer.
 Carcinogenicity: Not listed by IARC, NTP or OSHA
 Reproductive toxicity: no data available
 Specific target organ toxicity, single exposure: no data available
 Specific target organ toxicity, repeated exposure: no data available
 Aspiration hazard: no data available

Silver Oxide

Acute toxicity: Oral LD50 (rat) 2820 mg/kg
 Skin corrosion / irritation: irritant
 Eye damage / irritation: irritant
 Germ cell mutagenicity: negative
 Sensitization: no sensitizing effects known
 Carcinogenicity: Not listed by IARC, NTP or OSHA
 Reproductive toxicity: no data available
 Specific target organ toxicity, single exposure: no data available
 Specific target organ toxicity, repeated exposure: no data available
 Aspiration hazard: no data available

Silver Zeolite

Acute toxicity: no data available
 Skin corrosion / irritation: no data available
 Eye damage / irritation: may be a slight eye irritant
 Germ cell mutagenicity: no data available
 Sensitization: no data available
 Carcinogenicity: Not listed by IARC, NTP or OSHA
 Reproductive toxicity: no data available
 Specific target organ toxicity, single exposure: may cause respiratory irritation via inhalation
 Specific target organ toxicity, repeated exposure: no data available
 Aspiration hazard: no data available

Section 12. Ecological information

12.1 Toxicity

Barium Hydroxide: No data available.
 Carbon: No data available.
 Graphite: Not expected to be hazardous to the environment.
 Silver Oxide: Harmful to fish, toxic to algae.
 Silver zeolite: No data available.

12.2 Persistence and degradability

Barium Hydroxide: No data available.
 Carbon: No data available.
 Graphite: No data available.
 Silver Oxide: Inorganic product is not eliminable from water by means of biological cleaning processes.
 Silver zeolite: No data available.

<p>12.3 Bioaccumulative potential</p> <p>Barium Hydroxide: May bioaccumulate. Carbon: No data available. Graphite: No data available. Silver Oxide: May accumulate in organism. Silver zeolite: No data available.</p>
<p>12.4 Mobility in soil</p> <p>No data available.</p>
<p>12.5 Results of PBT and vPvB assessment</p> <p>PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.</p>
<p>12.6 Other adverse effects</p> <p>None.</p>

<p>Section 13. Disposal considerations</p>
<p>13.1 Waste treatment methods</p> <p>Dispose in accordance with Federal, State, and Local regulations.</p>

<p>Section 14. Transport information</p>
<p>14.1 UN Number</p> <p>DOT, IMDG, IATA: No hazmat labels required. Not Division 5.1 by UN Test for Oxidizing Solids O.1 (formula with silver oxide), otherwise de minimis quantities of hazardous materials in accordance with 49 CFR 173.4b and IATA DGR 2.6.10.</p>
<p>14.2 UN Proper shipping name</p> <p>DOT, IMDG, IATA: No hazmat labels required. Not Division 5.1 by UN Test for Oxidizing Solids O.1 (formula with silver oxide), otherwise de minimis quantities of hazardous materials in accordance with 49 CFR 173.4b and IATA DGR 2.6.10.</p>
<p>14.3 Transport hazard class(es)</p> <p>DOT, IMDG, IATA: No hazmat labels required. Not Division 5.1 by UN Test for Oxidizing Solids O.1 (formula with silver oxide), otherwise de minimis quantities of hazardous materials in accordance with 49 CFR 173.4b and IATA DGR 2.6.10.</p>
<p>14.4 Packing group</p> <p>DOT, IMDG, IATA: No hazmat labels required. Not Division 5.1 by UN Test for Oxidizing Solids O.1 (formula with silver oxide), otherwise de minimis quantities of hazardous materials in accordance with 49 CFR 173.4b and IATA DGR 2.6.10.</p>
<p>14.5 Environmental hazards</p> <p>DOT, IMDG, IATA: No hazmat labels required. Not Division 5.1 by UN Test for Oxidizing Solids O.1 (formula with silver oxide), otherwise de minimis quantities of hazardous materials in accordance with 49 CFR 173.4b and IATA DGR 2.6.10.</p>

14.6 Special precautions for user

No additional information.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

Section 15. Regulatory information

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

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because the data is specific to the pure substance and may not be relevant to the product as a whole.

Barium Hydroxide: US Federal Regulations

SARA 311/312: Acute Health Hazard yes, Chronic Health Hazard no, Fire Hazard no, Sudden Release of Pressure Hazard no, Reactivity Hazard no

SARA 313: toxic chemical notification and release reporting (listed as Barium Compounds)

TSCA 12(b): no

Carbon: US Federal Regulations

SARA 302: no

SARA 311/312: Acute Health Hazard no, Chronic Health Hazard no, Fire Hazard yes, Sudden Release of Pressure Hazard no, Reactivity Hazard no

Graphite: US Federal Regulations

SARA 302: no

SARA 311/312: Acute Health Hazard yes, Chronic Health Hazard yes, Fire Hazard no, Sudden Release of Pressure Hazard no, Reactivity Hazard no

SARA 313: no

TSCA 12(b): no

Silver Oxide: US Federal Regulations

SARA 313: no

SARA 355: no

Silver Zeolite: US Federal Regulations

SARA 302: no

SARA 311/312: Acute Health Hazard no, Chronic Health Hazard no, Fire Hazard no, Sudden Release of Pressure Hazard no, Reactivity Hazard no

SARA 313: no

15.2 Chemical safety assessment

Has not been carried out.

Section 16. Other information

Indication of changes: Revision 2, dated June 22, 2017.

Supersedes Rev. 1, June 1, 2017.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. Although the information in this Safety Data Sheet was obtained from sources which we believe to be reliable, it cannot be guaranteed. In addition, this information may be used in a manner beyond our knowledge or control. The information is, therefore, provided without representation or warranty expressed or implied.