SDS
SAFETY DATA SHEET

METAL-X™ LITE

COMPOSITION / INFORMATION ON INGREDIENTS

- Chemical characterization: Manganese dioxide coated ZEOSORB

Component	Chem. Composition	Formula	CAS-Nr.	Conc. w/w
ZEOSORB	Clinoptilolite	$(Ca,K_2,Na_2,Mg)_4Al_8Si_{40}O_{96}•24H_2O$	12173-10-3	>85%
Manganese dioxide	Manganese dioxide	MnO_2	1313-13-9	>10%
Hydrated Lime	Calcium hydroxide	$Ca(OH)_2$	1305-62-0	<5%

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non hazardous and/or present at amounts below reportable limits.

HAZARD IDENTIFICATION

Component	CAS-Nr.	Conc.	OSHA PEL TWA 8/40h	OSHA PEL CEILING	ACGIH TLV	Listed Carcinogenic		
		w/w	mg/m^3	mg/m^2	mg/m^2	NTP	IARC	OSHA
ZEOSORB	12173-10-3	>85%	15 (total dust)	N/A	N/A	No	No	No
Manganese dioxide	1313-13-9	>10%	5 (as Mn)	5	0.2 (as Mn)	No	No	No
Hydrated lime	1305-62-0	<5%	15 (total dust) 5 (respirable)	N/A	10	No	No	No

Classification of the substance or mixture

- **Classification according to Regulation (EC) No. 1272/2008**
  This product does not require labeling or classification according to 2008/1272/EC.
- **Classification according to Directives 67/548/EEC and 1999/45/EC**
  This product does not require labeling or classification according to Directive 67/548/EEC or 1999/45/EC.

Labeling:

- **Labeling according to Regulation (EC) No 1272/2008**
  This product does not require labeling according to 2008/1272/EC.
- **Labeling according to Directive 67/548/EEC or 1999/45/EC**
  This product does not require labeling according to 67/548/EEC or 1999/45/EC

Emergency Overview:

Contact can cause irritation to eyes, skin, respiratory system, and gastrointestinal tract.

Potential health effects:

Inhalation: May cause mild irritation to the respiratory tract. Long-term exposure may cause permanent damage. No components are listed by NTP, OSHA or IARC as a carcinogen.
Ingestion: Not expected to be a health hazard via ingestion. This product can cause mild irritation of gastrointestinal tract if swallowed in small amounts. Large amounts may cause gastrointestinal disturbances. Symptoms may include irritation, nausea, vomiting, abdominal pain, diarrhea.
Skin Contact: May cause mild irritation.
Eye Contact: May cause irritation of eyes. Abrasive action of dust particulate may damage eye.
Aggravation of Pre-existing Conditions: Contact may aggravate disorders of the eyes, skin, central nervous system disorders, gastrointestinal tract, and respiratory system (such as bronchitis, emphysema and asthma).

FIRST-AID MEASURES

- **General Information:**
  Take off contaminated clothes. Wash immediately with plenty of water. Continue rinsing for at least 10 minutes. If any symptom persists, seek medical attention.
- **Eye contact**: Rinse immediately with plenty of running water. Continue for at least 15 minutes. Seek medical advice the irritation persists.
- **Skin contact**: If irritation occurs wash immediately with plenty of water and non-abrasive soap. Continue for at least 15 minutes. Obtain medical advice if there are persistent symptoms..
- **Inhalation**: Remove patient to fresh air, allow to rest and keep warm. In case of unconsciousness place patient stably in side position for transportation. Obtain medical advice.
- **Ingestion:** First rinse mouth with water. Immediately give 1-2 glasses of water, if victim is fully conscious. Seek medical attention.

FIRE-FIGHTING MEASURES

- Not considered to be a fire hazard. However, the material contains manganese dioxide which is a strong oxidizing agent and may increase the burning rate of combustibles
- **Flash point:** Not available
- **Extinguishing media:** Any means suitable for extinguishing surrounding fire
- **Unsuitable extinguishing media:** none known
- **Exposure hazards:** none known
- **Combustion products**: At high temperatures the carbon oxides is released
- **Protective equipment:** Firefighters and other exposed, wear self-contained breathing apparatus and protective suit.

ACCIDENTAL RELEASE MEASURES

- Contain the discharged material.
- **Personal precautions:** Wear eye protection and protective clothing.
- **Environmental precautions:** Keep out of drains and water courses.
- **Methods for cleaning up:** Vacuum or sweep up material and placed in a designated waste container. Avoid dust formation.
- **Disposal method**: The material be disposed in accordance with applicable local, state and federal regulations.

HANDLING AND STORAGE

- **Handling:** Normal chemical handling. Dust mask should be used when large quantities are used in the absence of good local exhaust ventilation. Avoid the formation and deposition of dust. Take precautionary measures to avoid static charges. Wash hands after handling.
- **Storage:** Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Store in a cool, dry area. Keep container closed when not in use. Product or component is a powerful oxidizer, hence it should not be stored near organic matter or other strong reductive substances or incompatible materials such as hydrogen peroxide and sodium peroxide. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

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EXSPOSURE CONTROL/ PERSONAL PROTECTION

Exposure limit: no specific value; the national exposure limit for dust should be observed.

Personal protective equipment:

- **Ventilation System**: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.
- **Respiratory protection** (NIOSH Approved)**:** If the exposure limit is exceeded, a half-face dust/mist respirator may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece dust/mist respirator may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator.
- **Eye protection:** Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.
- **Skin protection:** Wear appropriate protective clothing. Avoid skin contact with the spilled product.

WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

PHYSICAL AND CHEMICALS PROPERTIES

General Information:	
Physical State	solid
Appearance	black granules
Odor	odorless
Granule size	0.6 - 1.4 mm
Flash point:	N/A
Melting point:	N/A
Bulk density:	1060 kg/m^3
Solubility in water at 20°C:	Not soluble

STABILITY AND REACTIVITY

- **Stability:** Stable under ordinary conditions of use and storage
- **Materials to avoid:** Manganese Dioxide is a powerful oxidizing agent, therefore it should not be heated or rubbed with organic matter or other easily oxidizable substances such as sulfur, magnesium, powder of zinc or aluminum, etc. Act as a catalyst in hydrogen peroxide fast decomposition. Keep away from heat and flammable materials.
- **Conditions to Avoid:** Dusting and incompatibles
- **Hazardous decomposition products:** If stored and handled properly – none known.

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TOXICOLOGICAL INFORMATION

Information on toxicological effects

Zeolite / Clinoptilolite:

Acute toxicity (LD/LC_{50} values relevant for classification):
Oral LD_{50}, rat: **N/A** [dosage 20,000 mg/kg (max.) didn't show any adverse effect]
Dermal LD_{50}, rat: **N/A** [dosage 5,000 mg/kg (max.) didn't show any adverse effect]

Manganese Dioxide:

Acute toxicity (LD/LC_{50} values relevant for classification):
Oral **LD_{50}, rat:** **3478 mg/kg**
Dermal (subcutaneous) **LD_{50}, rat:** **422 mg/kg**

Chronic toxicity (LD/LC_{50} values relevant for classification):
Inhalation **LD_{50}, rat:** **1.82 mg/m^3, 34 hours/35 days**

Hydrated Lime:

Acute toxicity (LD/LC_{50} values relevant for classification):
Oral LD_{50}, rat: **7340 mg/kg**

ECOLOGICAL INFORMATION

- **Eco toxicity:** No data available. Presents no hazard to the environment.
- **Environmental fate:** No data available

The product has not been tested. The statement has been derived from the properties of the individual components.

DISPOSAL CONSIDERATIONS

- **General Information:** This product as manufactured, is not a RCRA, listed hazardous waste and does not exhibit any characteristics of a hazardous waste, including toxicity.
- **Component Waste number:** No EPA Waste Numbers are applicable for this product's components.
- **Recommendation:** Disposal must be made according to official regulations.
- **Disposal method:** This product is generally suitable for landfill disposal. Follow all applicable Federal, State, and local laws, rules, and regulations regarding the proper disposal of this material. If this product has been altered or contaminated with other hazardous materials, appropriate waste analysis may be necessary to determine proper method for disposal. A qualified environmental professional should determine waste characterization, disposal, and treatment methods for this material in accordance with applicable Federal, State and local regulations and requirements. Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

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TRANSPORT INFORMATION

- **Land Transport (ADR/RID/ADN):** Not classified as dangerous good under transport regulations
- **Sea Transport (IMDG/IMO):** Not classified as dangerous good under transport regulations
- **Air Transport (IATA/ICAO):** Not classified as dangerous good under transport regulations

METAL X® is not classified as a hazardous material by US DOT and is not regulated by the Transportation of Dangerous Goods (TDG) when shipped by any mode of transport.

REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
Labeling according to Regulation (EC) No 1272/2008

The substance does not require classification or labeling under the CLP regulation.

Components listed in federal regulations:

Component	CAS No.	TSCA	RCRA	CERCLA	SARA 311/312	SARA 313	SARA 302
ZEOSORB	12173-10-3	Yes	No	No	immediate health	No	No
Manganese dioxide	1313-13-9	Yes	No	Yes	Yes (as compound)	No	No
Hydrated lime	1305-62-0	Yes	No	No	No	No	No

California Prop. 65 (Safe drinking water and Toxic Enforcement Act of 1986): There are no chemicals present known to the state of California to cause cancer or reproductive toxicity.

Components listed in international regulations

Component	CAS No.	AICS	DSL	ECL	EINECS	ENCS	Philippines
ZEOSORB	12173-10-3	Yes	No	-	Yes	Yes	-
Manganese dioxide	1313-13-9	Yes	Yes	Yes	Yes	Yes	Yes
Hydrated lime	1305-62-0	Yes	No	Yes	Yes	Yes	Yes

Not listed or not regulated by the following inventories: CDTA, Chemical Weapon Convention

NFPA Ratings

Component	CAS No.	Health	Flammability	Reactivity	Others
ZEOSORB	12173-10-3	1	0	0	-
Manganese dioxide	1313-13-9	2	0	0	Oxidizer
Hydrated lime	1305-62-0	2	0	0	alkaline

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OTHER INFORMATION

- This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product feature and shall not establish a legally valid contractual relationship.
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METAL-X™ LITE

CHEMICAL PRODUCT & COMPANY IDENTIFICATION

1	CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Product Name: **Metal X Lite**

Application: POE Filtration, Catalytic Filtration.
Iron, Manganese and Hydrogen Sulfide removal.
Reduction of Arsenic, Lead, Zinc, Copper and Heavy Metals from Drinking Water Treatment. Waste Water Treatment.

Company Identification/Supplier SWP/ Scientific World Products

55 Chastain Rd. NW
Kennesaw, Ga 30144

HAZARDS IDENTIFICATION

Emergency information (9:00am - 5:00pm) Phone: (800) 934-0051

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