

# Safety Data Sheet

Material Name: MAG-CARBON BRIQUETTES

SDS ID: 00228023

## \*\*\* Section 1 - PRODUCT AND COMPANY IDENTIFICATION \*\*\*

**Material Name:** MAG-CARBON BRIQUETTES

### Manufacturer Information

CMC Cometals  
CONTACT:  
2050 Center Avenue, Suite 250  
Ft. Lee, NJ 07024  
Mfg Contact: CMC Cometals

EMERGENCY

### Synonyms

## \*\*\* Section 2 - HAZARDS IDENTIFICATION \*\*\*

### EMERGENCY OVERVIEW

**Health Hazards:** No significant target effects reported.

**Physical Hazards:** Dust/air mixtures may ignite or explode.

### POTENTIAL HEALTH EFFECTS

#### Inhalation

**Short Term:** irritation, difficulty breathing

**Long Term:** irritation, chest pain, difficulty breathing, lung damage

#### Skin

**Short Term:** irritation

**Long Term:** irritation, skin disorders

#### Eye

**Short Term:** irritation

**Long Term:** irritation

#### Ingestion

**Short Term:** irritation, nausea, vomiting, diarrhea, stomach pain

**Long Term:** irritation

## \*\*\* Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS \*\*\*

CAS	Component	Percent	Symbol(s)	Risk Phrase(s)
1309-48-4	MAGNESIUM OXIDE 215-171-9	60 - 70	---	---
7440-44-0	CARBON 231-153-3	10 - 23	F	R:11
Not Available	ORGANIC MATTER	7.0 - 8.5	---	---
7631-86-9	SILICON DIOXIDE 231-545-4	4 - 7	---	---
1305-78-8	CALCIUM OXIDE 215-138-9	1 - 4	C	R:34
1344-28-1	ALUMINUM OXIDE 215-691-6	1.0 - 3.0	---	---
7732-18-5	WATER 231-791-2	0 - 3	---	---

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1309-37-1	FERRIC OXIDE RED 215-168-2	0.75 - 2.0	---	---
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## Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: magnesium inorganic compounds, Graphite, synthetic, Organic matter, Aluminium compounds, Aluminum insoluble compounds, Aluminium oxides, Aluminum Oxide (135152-65-7), Iron oxides.

### \*\*\* Section 4 - FIRST AID MEASURES \*\*\*

#### Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

#### Skin

Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

#### Eyes

Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

#### Ingestion

If a large amount is swallowed, get medical attention.

### \*\*\* Section 5 - FIRE FIGHTING MEASURES \*\*\*

See Section 9 for Flammability Properties

NFPA Ratings: Health: 1 Fire: 1 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

#### Flammable Properties

Slight fire hazard. Dust/air mixtures may ignite or explode.

#### Extinguishing Media

carbon dioxide, regular dry chemical, regular foam, water

#### Fire Fighting Measures

Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

### \*\*\* Section 6 - ACCIDENTAL RELEASE MEASURES \*\*\*

#### Occupational spill/release

Collect spilled material in appropriate container for disposal. Keep out of water supplies and sewers.

### \*\*\* Section 7 - HANDLING AND STORAGE \*\*\*

#### Handling Procedures

Use methods to minimize dust.

#### Storage Procedures

Store and handle in accordance with all current regulations and standards. Avoid generating dust. See original container for storage recommendations. Keep separated from incompatible substances.

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## \*\*\* Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION \*\*\*

### Component Exposure Limits

#### MAGNESIUM OXIDE (1309-48-4)

ACGIH: 10 mg/m<sup>3</sup> TWA (inhalable fraction)

NIOSH: 750 mg/m<sup>3</sup> IDLH (fume)

OSHA (US): 15 mg/m<sup>3</sup> TWA (fume, total particulate)

Mexico: 10 mg/m<sup>3</sup> TWA (as Mg, fume)

#### CARBON (7440-44-0)

OSHA (US): 15 mg/m<sup>3</sup> TWA (total dust); 5 mg/m<sup>3</sup> TWA (respirable fraction)

Mexico: 2 mg/m<sup>3</sup> TWA (dust)

#### SILICON DIOXIDE (7631-86-9)

NIOSH: 6 mg/m<sup>3</sup> TWA

3000 mg/m<sup>3</sup> IDLH

OSHA (US): 20 mppcf TWA; ((80)/(% SiO<sub>2</sub>)) mg/m<sup>3</sup> TWA

#### CALCIUM OXIDE (1305-78-8)

ACGIH: 2 mg/m<sup>3</sup> TWA

NIOSH: 2 mg/m<sup>3</sup> TWA

25 mg/m<sup>3</sup> IDLH

OSHA (US): 5 mg/m<sup>3</sup> TWA

Mexico: 2 mg/m<sup>3</sup> TWA

#### ALUMINUM OXIDE (1344-28-1)

ACGIH: 1 mg/m<sup>3</sup> TWA (respirable fraction)

OSHA (US): 15 mg/m<sup>3</sup> TWA (total dust); 5 mg/m<sup>3</sup> TWA (respirable fraction)

Mexico: 10 mg/m<sup>3</sup> TWA

#### FERRIC OXIDE RED (1309-37-1)

ACGIH: 5 mg/m<sup>3</sup> TWA (respirable fraction)

NIOSH: 5 mg/m<sup>3</sup> TWA (as Fe, dust and fume)

2500 mg/m<sup>3</sup> IDLH (as Fe, dust and fume)

OSHA (US): 10 mg/m<sup>3</sup> TWA (fume)

Mexico: 5 mg/m<sup>3</sup> TWA

10 mg/m<sup>3</sup> STEL (as Fe)

### Ventilation

Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

### PERSONAL PROTECTIVE EQUIPMENT

#### Eyes/Face

Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

#### Protective Clothing

Wear appropriate chemical resistant clothing.

#### Glove Recommendations

Wear appropriate chemical resistant gloves.

#### Respiratory Protection

Under conditions of frequent use or heavy exposure, respiratory protection may be needed.

Respiratory protection is ranked in order from minimum to maximum.

Consider warning properties before use.

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Any air-purifying half-mask respirator equipped with organic vapor cartridge(s) in combination with an N95, R95, or P95 filter. The following filters may also be used: N99, R99, P99, N100, R100 or P100.

Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted organic vapor canister having an N100, R100, or P100 filter.

Any powered, air-purifying respirator with a tight-fitting facepiece, organic vapor cartridge(s) and high-efficiency particulate filter(s).

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode.

## **For Unknown Concentrations or Immediately Dangerous to Life or Health -**

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

## **\*\*\* Section 9 - PHYSICAL AND CHEMICAL PROPERTIES \*\*\***

<b>Physical State:</b>	Solid	<b>Appearance:</b>	Not available
<b>Physical Form:</b>		<b>Odor:</b>	Not Available
<b>Odor Threshold:</b>	Not available	<b>Melting Point:</b>	Not available
<b>Boiling Point:</b>	Not applicable	<b>Vapor Pressure:</b>	Not applicable
<b>Vapor Density (air = 1):</b>	Not applicable	<b>Density:</b>	Not available
<b>Specific Gravity (water = 1):</b>	Not available	<b>Water Solubility:</b>	Not available
<b>Coeff. Water/Oil Dist:</b>	Not available		

## **\*\*\* Section 10 - STABILITY AND REACTIVITY \*\*\***

### **Chemical Stability**

Stable at normal temperatures and pressure.

### **Conditions to Avoid**

Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.

### **Materials to Avoid**

oxidizing materials

SILICON DIOXIDE:

CHLORINE TRIFLUORIDE: Fire hazard.

FLUORINE: Fire hazard.

HYDROCHLORIC ACID + WATER: Explosion hazard with gel form.

HYDROFLUORIC ACID: Dissolves, releasing silicon tetrafluoride.

HYDROGEN FLUORIDE: Incompatible.

HYDROGENATED VEGETABLE OILS: Incompatible.

MAGNESIUM (POWDERED): Explosion hazard on heating in the presence of moisture.

MANGANESE TRIFLUORIDE: May react violently on heating, releasing silicon tetrafluoride.

OXIDIZERS (STRONG): Fire and explosion hazard.

OXYGEN DIFLUORIDE: Explosion hazard under certain conditions and in the presence of moisture.

OZONE: Potential explosion hazard at low temperatures if organic material is

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present.

PHOSPHORIC ACID (CONCENTRATED): Attacks on heating.

SODIUM (BURNING): Reacts with finely divided silica.

VINYL ACETATE (VAPOR): May react vigorously with gel form.

XENON HEXAFLUORIDE: May react explosively by forming xenon trioxide.

ALUMINUM OXIDE (ALUMINA):

CHLORINATED RUBBER (HOT): Incompatible.

CHLORINE TRIFLUORIDE: Violent reaction and possible ignition.

ETHYLENE OXIDE: May initiate explosive polymerization.

HALOCARBONS: Exothermic reaction above 200 C.

HALOCARBONS + METALS: Exothermic reaction at ambient temperatures.

OXYGEN DIFLUORIDE: Exothermic reaction.

SODIUM NITRATE: May form explosive mixture.

VINYL ACETATE: Possible vigorous reaction.

CALCIUM OXIDE:

ACIDS: May cause exothermic reaction.

BORIC ACID + CALCIUM CHLORIDE (FUSED): May cause incandescent reaction.

BROMINE PENTAFLUORIDE: May cause violent reaction, ignition often occurring.

CHLORINE TRIFLUORIDE: May cause violent reaction, ignition often occurring.

ETHANOL: May cause possible ignition and explosion if exposed to moisture or heat.

FLUORINE: May cause incandescent exothermic reaction.

HYDROGEN FLUORIDE: May cause violent, incandescent reaction.

INTERHALOGEN COMPOUNDS: Ignition.

ORGANIC MATERIALS: Fire and explosion hazard.

PHOSPHORUS PENTOXIDE: May cause violent reaction if warmed or moistened.

CARBON:

ALKALI METALS: Contact may result in an exothermic reaction with ignition or an explosion.

AMMONIUM NITRATE: Possible explosion when heated.

AMMONIUM PERCHLORATE: Possible explosion on heating.

BROMATES: Contact is likely to result in ignition or an explosion.

CALCIUM HYPOCHLORITE: Possible explosion on heating.

CHLORATES: Contact is likely to result in ignition or an explosion.

CHLORINE MONOXIDE: Explodes.

CHROMATES: Incompatible.

DICHLORINE OXIDE: Explosion reaction.

HALOGENS: Contact of carbon with any halogen is liable to result in ignition or an explosion.

INTERHALOGENS: Contact of carbon with any interhalogen is liable to result in ignition or an explosion.

IODATES: Contact is likely to result in ignition or an explosion.

IODINE PENTOXIDE: Explodes when warmed.

METAL NITRATES: Contact is likely to result in ignition or an explosion.

NITRIC ACID: Violent reaction.

NITROGEN OXIDE: Ignition with incandescence.

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NITROGEN TRIFLUORIDE: Explosion at reduced temperatures.  
OILS (UNSATURATED): Fire and explosion hazard.  
OXIDES: Contact with many oxides is likely to result in ignition or an explosion.  
OXIDIZERS (STRONG): Fire and explosion hazard.  
OXOSALTS: Contact is likely to result in ignition or an explosion.  
OXYGEN: May result in ignition or an explosion.  
OXYGEN DIFLUORIDE: Possible explosion.  
OZONE: Fire hazard.  
PEROXIDES: Contact is likely to result in ignition or an explosion.  
PEROXYFORMIC ACID: Violent oxidation.  
PEROXYFUROIC ACID: Explosive decomposition.  
POTASSIUM PERMANGANATE: Ignition on heating.  
SODIUM SULFIDE: May undergo spontaneous heating.  
TRIOXYGEN DIFLUORIDE: Ignition with possible explosion.  
FERRIC OXIDE RED:  
ALUMINUM: Intense, exothermic reaction on ignition; may explode in the presence of water.  
ALUMINUM-MAGNESIUM ALLOY (MOLTEN) + WATER: Violent reaction.  
ALUMINUM-MAGNESIUM-ZINC ALLOY: May produce sparks on impact.  
CALCIUM ACETYLIDE: Burns violently when ignited.  
CALCIUM HYPOCHLORITE: May explode.  
CARBON MONOXIDE: Possible explosion.  
CESIUM ACETYLIDE (CESIUM CARBIDE): Incandescent on warming.  
ETHYLENE OXIDE: Violently polymerizes, liberating heat.  
GUANIDINIUM PERCHLORATE: Reduces the thermal stability of the salt.  
HYDRAZINE: Incompatible.  
HYDROGEN PEROXIDE: Decomposes.  
MAGNESIUM: Violent reaction.  
PERFORMIC ACID: Incompatible.  
RUBIDIUM ACETYLIDE: Reacts exothermically.  
MAGNESIUM OXIDE:  
ACIDS (STRONG): Violent reaction.  
ALKALIS (STRONG): May attack.  
ALUMINUM POWDER: May ignite or explode when heated.  
BROMINE PENTAFLUORIDE: Violent reaction.  
CHLORINE TRIFLUORIDE: May ignite.  
INTERHALOGENS: Incompatible.  
MAGNESIUM POWDER: May ignite or explode when heated.  
PHOSPHORUS PENTACHLORIDE: Incandesces brilliantly on heating.  
SULFUR (SUBLIMED): May ignite or explode when heated.

## Decomposition Products

oxides of carbon

## Possibility of Hazardous Reactions

Will not polymerize.

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## \*\*\* Section 11 - TOXICOLOGICAL INFORMATION \*\*\*

### Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

**CARBON (7440-44-0)**

Oral LD50 Rat: >10000 mg/kg

**SILICON DIOXIDE (7631-86-9)**

Oral LD50 Rat: >5000 mg/kg; Inhalation LC50 Rat: >2.2 mg/L/1H; Dermal LD50 Rabbit: >2000 mg/kg

**CALCIUM OXIDE (1305-78-8)**

Oral LD50 Rat: 500 mg/kg

**ALUMINUM OXIDE (1344-28-1)**

Oral LD50 Rat: >5000 mg/kg

**WATER (7732-18-5)**

Oral LD50 Rat: >90 mL/kg

**FERRIC OXIDE RED (1309-37-1)**

Oral LD50 Rat: >10000 mg/kg

### RTECS Acute Toxicity (selected)

The components of this material have been reviewed, and RTECS publishes the following endpoints:

**WATER (7732-18-5)**

Oral: >90 ml/kg oral rat LD50

### Component Carcinogenicity

**MAGNESIUM OXIDE (1309-48-4)**

ACGIH: A4 - Not Classifiable as a Human Carcinogen

**SILICON DIOXIDE (7631-86-9)**

IARC: Monograph 68 [1997]; Supplement 7 [1987] (Group 3 (not classifiable))

**ALUMINUM OXIDE (1344-28-1)**

ACGIH: A4 - Not Classifiable as a Human Carcinogen

DFG: Category 2 (considered to be carcinogenic for man, fibre dust)

**FERRIC OXIDE RED (1309-37-1)**

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Supplement 7 [1987]; Monograph 1 [1972] (Group 3 (not classifiable))

### RTECS Irritation

The components of this material have been reviewed, and RTECS publishes the following endpoints:

**SILICON DIOXIDE (7631-86-9)**

25 mg/24 hour(s) eyes rabbit mild

### Local Effects

**CALCIUM OXIDE (1305-78-8)**

Corrosive: inhalation, skin, eye, ingestion.

### Medical Conditions Aggravated by Exposure

respiratory disorders, respiratory disorders, respiratory disorders, respiratory disorders, skin disorders and allergies, skin disorders, eye disorders

### RTECS Tumorigenic

The components of this material have been reviewed, and RTECS publishes the following endpoints:

**MAGNESIUM OXIDE (1309-48-4)**

480 mg/kg intratracheal hamster TDLo (30 week(s))

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**ALUMINUM OXIDE (1344-28-1)**

200 mg/kg implant rat TD; 200 mg/kg implant rat TDLo; 90 mg/kg intrapleural rat TDLo

**FERRIC OXIDE RED (1309-37-1)**

135 mg/kg subcutaneous rat TDLo

## RTECS Reproductive Effects

The components of this material have been reviewed, and RTECS publishes the following endpoints:

**CARBON (7440-44-0)**

167 mg/kg subcutaneous rat TDLo (pregnant female 8 day(s), continuous)

## Additional Data

Interactions with drugs may occur.

## HEALTH EFFECTS

### Inhalation - Acute Exposure

**MAGNESIUM OXIDE:** The dust may cause respiratory tract irritation. Metal fume fever, an influenza-like illness, may occur if freshly formed magnesium oxide fumes composed of particles sized between 0.02-0.05 microns are inhaled in sufficient amounts. Symptoms may be delayed 4-12 hours and begin with a sudden onset of thirst, and a sweet, metallic or foul taste in the mouth. Other symptoms may include upper respiratory tract irritation accompanied by coughing and a dryness of the mucous membranes, lassitude and a generalized feeling of malaise. Fever, chills, muscular pain, mild to severe headache, nausea, occasional vomiting, exaggerated mental activity, profuse sweating, excessive urination, diarrhea, prostration and leukocytosis may also occur. Tolerance to fumes develops rapidly, but is quickly lost. All symptoms usually subside within 24-36 hours. **SILICON DIOXIDE:** Dusts may cause irritation of the respiratory tract and coughing. **METAL FUME FEVER:** Metal fume fever, an influenza-like illness, may occur due to the inhalation of freshly formed metal oxide particles sized below 1.5 microns and usually between 0.02-0.05 microns. Symptoms may be delayed 4-12 hours and begin with a sudden onset of thirst, and a sweet, metallic or foul taste in the mouth. Other symptoms may include upper respiratory tract irritation accompanied by coughing and a dryness of the mucous membranes, lassitude and a generalized feeling of malaise. Fever, chills, muscular pain, mild to severe headache, nausea, occasional vomiting, exaggerated mental activity, profuse sweating, excessive urination, diarrhea and prostration may also occur. Tolerance to fumes develops rapidly, but is quickly lost. All symptoms usually subside within 24-36 hours. **CARBON:** Inhalation of dust may cause slight mucous membrane irritation. **CALCIUM OXIDE:** May cause severe irritation of the mucous membranes with sore throat, coughing, and dyspnea. Bronchitis and pneumonitis have also been reported. Delayed pulmonary edema may occur in severe cases.

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## Inhalation - Chronic Exposure

MAGNESIUM OXIDE: May cause respiratory tract irritation, nasal catarrh, and coughing up of discolored sputum. Dusts may cause chronic bronchitis, emphysema, and bronchial asthma. SILICON DIOXIDE: Exposure to dusts of amorphous silica for 6 months to 30 years may result in silicosis with symptoms of cough, chest pain, dyspnea, tachypnea, marked weakness, and weight loss. This pulmonary insufficiency may be characterized by diffuse nodular fibrosis, distortion of bronchi, diminished chest expansion, decreased vital capacity, and compensatory and bullous emphysema. Although pulmonary fibrosis has been reported from workers exposed to amorphous silica, the crystalline form is the established cause of fibrotic response in the lung. However, the amorphous form has been reported as fibrogenic to a lesser extent. As the disease progresses, cor pulmonale, cardiorespiratory failure, and death may occur. METAL FUME FEVER: There is no form of chronic metal fume fever, however, repeated bouts with symptoms as described above are quite common. Resistance to the condition develops after a few days of exposure, but is quickly lost in 1 or 2 days. CARBON: Repeated or prolonged exposure may cause irritation and pulmonary disorders. Lung damage may result if sufficient exposure occurs. CALCIUM OXIDE: Depending on the concentration and duration of exposure, repeated or prolonged exposure may cause inflammation and ulceration of the nasal and buccal mucosa, perforation of the nasal septum, and possibly bronchial and gastrointestinal disturbances.

## Inhalation - Other Toxicity Information

FERRIC OXIDE RED: Chronic exposure may cause dyspnea and chronic bronchitis. Repeated exposure, usually from 6-10 years, to iron oxide dust or fume may cause a benign pneumoconiosis (siderosis) which may cause X-ray shadows that can be indistinguishable from fibrotic pneumoconiosis. See information on metal fume fever. ALUMINUM OXIDE (ALUMINA): Inhalation of high concentrations may cause coughing, shortness of breath, respiratory tract irritation due to mechanical action, unpleasant deposits in the nasal passages, and exacerbation of symptoms in persons with impaired pulmonary function. Humans exposed chronically to aluminum oxide, particle size approximately 1.2 microns, did not experience either systemic or respiratory adverse effects. Hydrated aluminum oxide, injected intratracheally, produced dense and numerous nodules of advanced fibrosis in rats, a reticulin network with occasional collagen fibers in mice and guinea pigs, and only a slight reticulin network in rabbits. A production process in which aluminum oxide (bauxite), iron, coke, and silica are fused at 2000 C poses a threat of Shaver's disease, a rapidly progressive and often fatal interstitial fibrosis of the lungs. See information on metal fume fever.

## Skin Contact - Acute Exposure

FERRIC OXIDE RED: No data available. SILICON DIOXIDE: Prolonged skin contact with dry particulate may cause drying of the skin. ALUMINUM OXIDE (ALUMINA): Contact may cause an irritant dermatitis accompanied by pruritis. CARBON: Contact may cause irritation. MAGNESIUM OXIDE: Particulates may cause slight irritation. CALCIUM OXIDE: Contact, especially with moist skin, may cause severe irritation with pain, redness, burns, and ulceration. Burns severe enough to be fatal have resulted from massive exposure.

## Skin Contact - Chronic Exposure

FERRIC OXIDE RED: No data available. SILICON DIOXIDE: No data available. ALUMINUM OXIDE (ALUMINA): No data available. CARBON: Repeated or prolonged contact may cause mechanical irritation. MAGNESIUM OXIDE: May cause eczema, edema, or hives. CALCIUM OXIDE: Effects depend on the concentration and duration of exposure. Repeated or prolonged contact may cause dermatitis, with desquamation and vesicular rash, fissuring and brittleness of the nails, or effects similar to acute exposure.

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## Eye Contact - Acute Exposure

FERRIC OXIDE RED: Particles of iron or iron compounds which become imbedded in the eye may cause siderosis with varied effects. Discoloring of the iris to yellowish green or brown is the earliest and most common sign of siderosis. SILICON DIOXIDE: Dusts may cause irritation with redness and pain. ALUMINUM OXIDE (ALUMINA): Dust may cause mechanical irritation with redness and possibly swelling of the conjunctiva. CARBON: Contact with dust may cause mechanical irritation. May also cause conjunctivitis. MAGNESIUM OXIDE: May cause slight irritation, redness, and pain. Abrasive action of dust can damage eyes. CALCIUM OXIDE: Upon contact, dust may react with moisture and protein in the eye and form clumps of moist compound, which are often lodged deep in the conjunctiva. The degree of injury depends on the concentration and duration of contact. There may be severe irritation, edema, hyperemia, pain, lacrimation, blurred vision, spasmodic blinking, corneal opacities, ulceration and perforation, sometimes with loss of vision.

## Eye Contact - Chronic Exposure

FERRIC OXIDE RED: No data available. SILICON DIOXIDE: No data available. ALUMINUM OXIDE (ALUMINA): No data available. CARBON: Repeated or prolonged exposure may cause mechanical irritation. MAGNESIUM OXIDE: Repeated or prolonged exposure may cause conjunctivitis. CALCIUM OXIDE: Effects depend on the concentration and duration of exposure. Repeated or prolonged contact may result in conjunctivitis or effects as in acute exposure.

## Ingestion - Acute Exposure

FERRIC OXIDE RED: No data available. SILICON DIOXIDE: The effects of ingestion are purely mechanical as the substance is inert chemically and biologically. ALUMINUM OXIDE (ALUMINA): No data available. CARBON: Extremely large doses may produce gastrointestinal disturbances. MAGNESIUM OXIDE: Magnesium salts are generally so slowly absorbed that oral administration causes nothing more than purging. If evacuation fails, mucosal irritation and absorption may occur. If ingested in sufficient quantities, may cause gastrointestinal disturbances. Symptoms may include irritation, nausea, vomiting, abdominal pain, and diarrhea. Systemically, magnesium may produce central nervous system depression, abolition of reflexes, and death from respiratory paralysis. ALKALINE CORROSIVES: May cause immediate pain, circumoral burns and corrosion of the mucous membranes which at first turn white and soapy and then become brown, edematous and ulcerated. There may be profuse salivation and difficulty or inability to swallow or speak. Even when there is no evidence of oral burns, the esophagus and stomach may be involved with burning pain, vomiting and diarrhea. The vomitus may be thick and slimy with mucous, and later contain blood and shreds of mucosa. Epiglottal edema may result in respiratory distress and possibly asphyxia. Shock with marked hypotension, weak and rapid pulse, shallow respiration, and clammy skin may occur. Circulatory collapse may ensue, and if uncorrected, lead to renal failure. In severe cases, esophageal or gastric perforation are possible and may be accompanied by mediastinitis, substernal pain, peritonitis, abdominal rigidity, and fever. Esophageal, and possibly gastric or pyloric stricture, may occur within a few weeks, but may be delayed for months or even years. Death may result within a short time from asphyxia, circulatory collapse, or aspiration of even minute amounts. If death is delayed it may be due to the complications of perforation, pneumonia, or the effects of stricture formation.

## Ingestion - Chronic Exposure

MAGNESIUM OXIDE: No data available. SILICON DIOXIDE: No data available. ALUMINUM OXIDE (ALUMINA): Some aluminum compounds cause constipation. ALKALINE CORROSIVES: Depending on the concentration, repeated ingestion may result in inflammatory and ulcerative effects on the oral mucous membranes and other effects as with acute ingestion. FERRIC OXIDE RED: No data available. CARBON: No data available.

## Ingestion - Other Toxicity Information

CALCIUM OXIDE: See information on alkaline corrosives.

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## \*\*\* Section 12 - ECOLOGICAL INFORMATION \*\*\*

### Component Analysis - Aquatic Toxicity

#### SILICON DIOXIDE (7631-86-9)

Fish: 96 Hr LC50 Brachydanio rerio: 5000 mg/L [static]

Algae: 72 Hr EC50 Pseudokirchneriella subcapitata: 440 mg/L

Invertebrate: 48 Hr EC50 Ceriodaphnia dubia: 7600 mg/L

#### CALCIUM OXIDE (1305-78-8)

Fish: 96 Hr LC50 Cyprinus carpio: 1070 mg/L [static]

## \*\*\* Section 13 - DISPOSAL CONSIDERATIONS \*\*\*

### Disposal Methods

Dispose in accordance with all applicable regulations.

### Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

## \*\*\* Section 14 - TRANSPORT INFORMATION \*\*\*

### US DOT Information

No Classification assigned.

### TDG Information

No Classification assigned.

### ADR Information

No Classification assigned.

### ADR Tunnel Code Restrictions

This list contains tunnel restriction codes for those substances and/or chemically related entries which are found in chapter 3.2 of the ADR regulations.

#### CARBON (7440-44-0)

### RID Information

No Classification assigned.

### IATA Information

No Classification assigned.

### ICAO Information

No Classification assigned.

### IMDG Information

No Classification assigned.

## \*\*\* Section 15 - REGULATORY INFORMATION \*\*\*

### U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

#### ALUMINUM OXIDE (1344-28-1)

SARA 313: 1.0 % de minimis concentration (fibrous forms)

#### SARA Section 311/312 (40 CFR 370 Subparts B and C)

# Safety Data Sheet

Material Name: MAG-CARBON BRIQUETTES

SDS ID: 00228023

Acute Health: No Chronic Health: Yes Fire: No Pressure: No Reactive: No

## U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
MAGNESIUM OXIDE	1309-48-4	Yes	Yes	Yes	Yes	Yes	Yes
CARBON (related to: Graphite, synthetic)	7440-44-0	No	Yes <sup>1</sup>	No	No	Yes <sup>1</sup>	Yes
SILICON DIOXIDE	7631-86-9	Yes	Yes	Yes	No	Yes	No
CALCIUM OXIDE	1305-78-8	Yes	Yes	Yes	Yes	Yes	Yes
ALUMINUM OXIDE	1344-28-1	Yes	Yes	Yes	Yes	Yes	Yes
FERRIC OXIDE RED	1309-37-1	Yes	Yes	Yes	Yes	Yes	Yes

Not regulated under California Proposition 65

## Canada

### Canada WHMIS

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

**MAGNESIUM OXIDE (1309-48-4)**

1 %

**SILICON DIOXIDE (7631-86-9)**

1 %

**CALCIUM OXIDE (1305-78-8)**

1 %

**ALUMINUM OXIDE (1344-28-1)**

1 %

**FERRIC OXIDE RED (1309-37-1)**

1 %

## Germany Water Classification

**MAGNESIUM OXIDE (1309-48-4)**

Number 5208, hazard class 1 - low hazard to waters

**CARBON (7440-44-0)**

Number 801, not considered hazardous to water

**SILICON DIOXIDE (7631-86-9)**

Number 849, not considered hazardous to water

**SILICON DIOXIDE (7631-86-9)**

Number 849, not considered hazardous to water

**CALCIUM OXIDE (1305-78-8)**

Number 322, hazard class 1 - low hazard to waters

**ALUMINUM OXIDE (1344-28-1)**

Number 1346, not considered hazardous to water

**FERRIC OXIDE RED (1309-37-1)**

Number 800, not considered hazardous to water

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## EU Marking and Labelling

This material is not classified

## Component Analysis - Inventory

Component	CAS	US	CA	EU	AU	PH	JP	KR	CN	NZ
MAGNESIUM OXIDE	1309-48-4	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
CARBON	7440-44-0	Yes	DSL	EIN	Yes	Yes	No	Yes	Yes	Yes
SILICON DIOXIDE	7631-86-9	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
CALCIUM OXIDE	1305-78-8	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
ALUMINUM OXIDE	1344-28-1	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
WATER	7732-18-5	Yes	DSL	EIN	Yes	Yes	No	Yes	Yes	Yes
FERRIC OXIDE RED	1309-37-1	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes

## \*\*\* Section 16 - OTHER INFORMATION \*\*\*

### Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

### Full text of R phrases in Section 3

**R11** Highly flammable.

**R34** Causes burns.

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## Other Information

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