

# MATERIAL SAFETY DATA SHEET

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Date: January 16, 2009 Revision No.: 4  
Prepared by: Steven .W. Gentile - Bulk Transfer Coordinator – GF Industries  
Product Name: Copper Hydroxide Sludge  
Source: Heritage Environmental LLC c/o GF Industries  
5122 E. Storey Road  
Coolidge, AZ 85228

Emergency Telephone Number: (520) 773-4167

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## 1. CHEMICAL COMPOSITION

SiO <sub>2</sub>	-	25% - 35%	S	-	1% - 2%
Al <sub>2</sub> O <sub>3</sub>	-	.5% - 2.5 %	Cr	-	.1% - .5 %
Fe <sub>2</sub> O <sub>3</sub>	-	.5% - 4 %	Cd	-	.02% - .5%
Ca O	-	7% - 9 %	Ni	-	.01% - 2%
Pb	-	.2% - .4 %	Cu	-	5% - 40%
Sn	-	.1% - .5 %	Ag	-	.5 oz - 20 oz/ton
Zn	-	.1% - 1 %	Au	-	.1 oz - 2.5 oz/ton
H <sub>2</sub> O	-	30% - 50%	Pd	-	.1 oz - 2.5 oz/ton

## 2. PHYSICAL DATA

### BOILING POINT

N/AP

### FREEZING POINT

N/AP

### VISCOSITY UNITS, TEMP

N/AP

### VAPOR PRESSURE

N/AP

### VAPOR SP GR

N/AP

### OTHER CHEMICAL REACTIVITY

N/AP

### PH

N/AP

### DRY POINT

N/AP

### VOLATILE CHARACTERISTICS

N/AP

### SOLUBILITY IN WATER

Slight

### STABILITY

Stable

### HAZARDOUS POLYMERIZATION

Not expected to occur

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**APPEARANCE AND ODOR**

Grey to black to red to brown to blue colored wet filter cake

**CONDITIONS TO AVOID**

Not Applicable

**MATERIALS TO AVOID**

Strong acids, alkalis, hydrofluoric acid, and powerful oxidizers.

**HAZARDOUS DECOMPOSITION PRODUCTS**

Burning or excessive heating may produce carbon monoxide and other harmful gasses/vapors including oxides and/or other compounds of sulfur and heavy metals.

**2. FIRE AND EXPLOSION**

FLASH POINT METHOD= ( )

N/AP

AUTOIGNITION TEMP. METHOD= ( )

N/AP

FLAMMABLE LIMITS (% VOLUME IN AIR)

LOWER: N/AP

UPPER: N/AP

**NFPA HAZARD RATINGS**

HEALTH HAZARD RATING : (1) SLIGHT

FIRE HAZARD RATING : (0) INSIGNIFICANT

REACTIVITY HAZARD RATING : (0) INSIGNIFICANT

**FIRE AND EXPLOSION HAZARDS**

Not Applicable

**EXTINGUISHING MEDIA**

Not Applicable

**SPECIAL FIREFIGHTING PROCEDURES**

Not Applicable

**3. HEALTH HAZARD DATA**

**SUMMARY OF ACUTE HEALTH HAZARDS**

Inhalation of dust may cause discomfort, coughing and shortness of breath. Eye contact with dust may cause eye irritation and corneal damage.

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**ROUTE OF EXPOSURE - INHALATION -- PRIMARY ROUTE**

Dust may cause discomfort, coughing, and shortness of breath.

**ROUTE OF EXPOSURE - EYE CONTACT -- PRIMARY ROUTE**

Mechanical irritation may result from an accumulation of dust particles in the eye.

**ROUTE OF EXPOSURE - SKIN CONTACT**

No significant signs or symptoms indicative of any adverse health effects are expected to occur.  
Dust may be irritating to the skin upon contact.

**ROUTE OF EXPOSURE - INGESTION**

No significant health effects are expected to occur upon short-term exposure.

**SUMMARY OF CHRONIC HAZARDS AND SPECIAL HEALTH EFFECTS**

Long term continuous eye contact with the aluminum oxide component of this material may cause eye damage. The silicon dioxide component of this material may cause pulmonary fibrosis after prolonged and repeated inhalation of the dust. Personnel with impaired pulmonary function or a preexisting chronic respiratory disease should avoid breathing this product.

**5. PROTECTIVE EQUIPMENT / CONTROL MEASURES**

**RESPIRATORY PROTECTION**

For dust concentrations above exposure limits, use a NIOSH/MSHA-approved dust mask, supplied air or self-contained air respirator. Respirator use should follow OSHA 29CFR1910.134 or equivalent.

**EYE PROTECTION**

Safety glasses with side shields or chemical-type goggles should be worn to prevent injury if flying particles or high dust/particulate concentrations are present. Contact lenses should not be worn.

**SKIN PROTECTION**

Not normally considered a skin hazard. When skin contact results from normal use, practice good personal hygiene. Wash hands and other exposed areas with soap and water before eating, drinking or smoking.

**ENGINEERING CONTROLS**

Use adequate ventilation to keep dust particulates below exposure control levels. Special ventilation may be required for handling material at elevated temperatures.

**OTHER HYGENIC AND WORK PRACTICES**

Emergency eye wash fountains should be available in the vicinity of any potential exposure to dust.

**4. EMERGENCY AND FIRST AID**

**INHALATION**

Immediately remove from contaminated area to fresh air. Administer oxygen, if necessary, and immediately obtain medical attention if there is any breathing difficulty.

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#### EYE CONTACT

Flush eyes with clean, low-pressure water for 15 minutes, occasionally lifting the eyelids. If pain or redness persists after flushing, obtain medical attention.

#### SKIN CONTACT

Remove contaminated clothing. Remove/brush excess material from contaminated area; then wash skin with soap and water.

#### INGESTION

Rinse mouth. Drink 1-2 glasses of water or milk. Do not induce vomiting unless directed by medical personnel.

#### EMERGENCY MEDICAL TREATMENT PROCEDURES

See above procedures.

### **7. SPILL, LEAK AND DISPOSAL PROCEDURES**

#### PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED

Contain spill and evacuate non-essential personnel. On hard surfaces, spill may create a slipping hazard. Equip cleanup crews with proper protective equipment and advise of hazards. Clean up by vacuuming and placing spilled or contaminated material into closed containers. Sweeping or shoveling may also be used but may produce higher dust levels. Consult with an environmental professional for the federal, state and local cleanup and reporting requirements for spills and releases.

#### WASTE DISPOSAL METHODS

Maximize recovery for reuse or recycling. Consult environmental professional to determine if state or federal regulations would classify spilled or contaminated material as a hazardous waste. Use only approved transporters, recyclers, treatment, storage or disposal facilities. Comply with all federal, state and local laws pertaining to waste management.

### **8. ADDITIONAL REQUIREMENTS**

#### HANDLING, STORAGE AND DECONTAMINATION PROCEDURES

Good housekeeping must be practiced during storage, transfer, handling and use of this material to avoid excessive dust accumulation. Parts and equipment containing this material should be washed prior to personnel contact in order to avoid the generation of dust. Use only properly grounded electrical/mechanical equipment. Use proper protective equipment. Avoid eye/skin contact and prolonged or repeated breathing of dust. Use good personal hygiene practices. Wash hands with plenty of soap and water before eating, drinking, smoking or use of toilet facilities. Do not use gasoline, solvents (naphthas, kerosene, etc.), or harsh-abrasive skin cleaners for washing exposed skin areas. Take a shower after work. Contaminated clothing should be laundered before reuse.

#### GENERAL COMMENTS

Since specific exposure standards/control limits have not been established, the occupational exposure limits for nuisance dust are suggested as minimum control guidelines. The OSHA permissible exposure limits for "nuisance particles (total dust)" are not listed because they are less restrictive than the ACGIH limits. Some of the information presented and conclusions drawn herein are from sources other than direct test data on the mixture itself.

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SUPPLEMENTAL TOXICOLOGY INFORMATION  
Not Applicable

**9. DISCLAIMERS**

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