

Plasmaterials, Inc.
 2268 Research Drive
 Livermore, CA 94550
 Ph: (925) 447-4030 Fx: (925) 447-4031
<http://plasmaterials.com>

MATERIAL SAFETY DATA SHEET

Section 1- PRODUCT IDENTIFICATION

COMPOSITION CdS	PRODUCT NAME Cadmium Sulfide, Cadmium Monosulfide, Greenockite
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Section 2- HAZARDOUS INGREDIENTS

Note: Products under normal conditions do not represent an inhalation, ingestion or contact health hazard.

MATERIAL OR COMPONENT	CAS NUMBER	WT%	EXPOSURE LIMITS	
			OSHA PEL (Mg/M3)	ACGIH TLV(MG/M3)
CdS	1306-23-6	100%	0.2mg/m3 (Cd)	40mg/m3

Section 3- PHYSICAL DATA

MATERIAL IS (AT NORMAL CONDITIONS) <input type="checkbox"/> Liquid <input type="checkbox"/> Solid <input type="checkbox"/> Gas <input type="checkbox"/> Other	APPEARANCE AND ODOR Yellow-orange crystalline powder. Odorless.
MELTING POINT (BASE METAL) 1750° at 100 atm	SPECIFIC GRAVITY

Section 4- FIRE AND EXPLOSION

Flash Point (Method Used) N/A	Flammable Limits Not Flammable	LEL N/A	UEL N/A
EXTINGUISHING MEDIA Dry chemical- Do not use water			
SPECIAL FIRED FIGHTING PROCEDURES Wear a self-contained breathing apparatus and full protective clothing to prevent contact with skin and eyes.			
UNUSUAL FIRE AND EXPLOSION HAZARDS When heated to decomposition it emits very toxic fumes of Cd and Sox. Many sulfides react violently with powerful oxidizers to cause explosion and fire hazards. Moderate fire hazard when exposed to flame or by spontaneous chemical reaction.			

Section 5- REACTIVITY DATA	
STABILITY Stable	INCOMPATABILITY (MATERIALS TO AVOID) Strong acids, strong bases and oxidizers.
CONDITIONS TO AVOID Heat	
HAZARDOUS DECOMPOSITION PRODUCTS Cd, CdO, S & SOx	

Section 6- HEALTH HAZARD GUIDE
MAJOR EXPOSURE HAZARD <input type="checkbox"/> Inhalation <input type="checkbox"/> Skin <input type="checkbox"/> Skin Absorption <input type="checkbox"/> Eye Contact <input type="checkbox"/> Ingestion
EFFECTS OF OVEREXPOSURE INHALATION: Affects the respiratory tract; the kidneys may be affected also. May cause dryness of throat, cough, headache, a sense of constriction in the chest, shortness of breath and vomiting. More severe exposure results in marked lung changes, with persistent cough, pain in chest, severe dyspnea and prostration, which may terminate fatally. The urine is frequently dark. SKIN CONTACT: May cause itching, irritation and dermatitis. It may cause softening of the skin if hydrogen sulfide is released. EYE CONTACT: May cause burning sensation, irritation, redness, and watering of the eyes. SEE NOTE:
EMERGENCY & FIRST AID PROCEDURES INHALATION: Remove from exposed area to fresh air immediately. EYE CONTACT: Wash eyes immediately with water occasionally lifting upper and lower lids, until no evidence of the chemical remains. INGESTION: Give 1-2 glasses of milk or water to induce vomiting.

Section 7- SPILL OR LEAK PROCEDURES
SPILL OR LEAK PROCEDURES Wear a self-contained breathing apparatus and full protective clothing. Isolate the area of the spill and insure proper ventilation. Keep water/moisture out of area. Vacuum up spill using high efficiency unit and place in container for proper disposal. Do not raise dust during clean up.
WASTE DISPOSAL METHODS Dispose of in accordance with applicable Federal, State & Local regulations.

Section 8- SPECIAL PROTECTION
RESPIRATORY Wear NIOSH-approved dust-mist-fume cartridge respirator.
VENTILATION Local exhaust: maintain exposure below TLV level. Mechanical: not recommended. Special: handle in a dry, inert, controlled environment.
EYE PROTECTION & PROTECTIVE CLOTHING Safety glasses, neoprene gloves are recommended. Wear protective clothing to prevent contamination of skin and clothes.

Section 9- SPECIAL PRECAUTIONS

Store in tightly closed containers in a cool, dry place. Wash hands and face thoroughly after handling and before eating.

NOTE:

Cadmium compounds are experimental carcinogens. The oral toxicity of Cd and its compounds is high. However, when these materials are inhaled the irritant and emetic action is violent. The little amount of the Cd is absorbed and fatal poison does not as a rule ensue. Cases of human Cd poisoning have been reported from ingestion of food and beverages prepared or stored on Cd-plated containers. The inhalation of fumes or dusts of Cd primarily affect the respiratory tract and kidneys. Even brief exposure to high concentrations may result in pulmonary edema and death. Usually the edema is not massive, with little pleural effusion. In fatal cases, fatty degeneration of the liver and acute inflammatory changes in the kidneys have been noted; ingestion of the Cd resulting in a gastrointestinal type of poisoning resembling food poisoning in its symptoms. Inhalation of dust or fumes may cause dryness of the throat, cough, headache, a sense of constriction in the chest, shortness of breath and vomiting. More severe exposure results in marked lung changes, with persistent cough, pain in the chest, severe dyspnea, and prostration, which may terminate fatally. X-ray changes are usually similar to those seen in broncho-pneumonia. The urine is frequently dark.

These symptoms are usually delayed for some hours after exposure and fatal concentrations may be breathed without sufficient discomfort. There is some evidence of teratogenicity. Ingestion of Cd results in sudden nausea, salivation, vomiting, diarrhea, abdominal pain and discomfort.

Sulfides have variable toxicity. They cause softening and irritation of the skin. If taken by mouth they are corrosive and irritation through the liberation of H₂S and free alkali. H₂S is especially toxic. Sulfides of the heavy metals are generally insoluble and hence have little toxic action except through the liberation of H₂S.

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