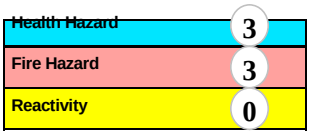
GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment
		 See Section 15.

Section 1. Chemical Product and Company Identification

Common Name/ Trade Name	**Cadmium metal powder**
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248
Commercial Name(s)	Not available.
Synonym	Not available.
Chemical Name	Cadmium
Chemical Family	Metal. (Inert material.)
Chemical Formula	Cd
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248

Catalog Number(s).	C1006
CAS#	7440-43-9
RTECS	EU9800000
TSCA	TSCA 8(b) inventory: Cadmium metal powder
CI#	Not applicable.

IN CASE OF EMERGENCY
CHEMTREC (24hr) 800-424-9300

CALL (310) 516-8000

Section 2.Composition and Information on Ingredients

		Exposure Limits			
Name	**CAS #**	**TWA (mg/m^3)**	**STEL (mg/m^3)**	**CEIL (mg/m^3)**	**% by Weight**
1) Cadmium metal powder	7440-43-9	0.01			100

Toxicological Data on Ingredients

Cadmium metal powder:
ORAL (LD50): Acute: 2330 mg/kg [Rat]. 890 mg/kg [Mouse].
VAPOR (LC50): Acute: 8 mg/l 4 hours [Rat].

Section 3. Hazards Identification

Potential Acute Health Effects

Very hazardous in case of inhalation. Hazardous in case of ingestion. Slightly hazardous in case of skin contact (irritant), of eye contact (irritant). Severe over-exposure can result in death.

Potential Chronic Health Effects

CARCINOGENIC EFFECTS: Classified 1 (Proven for human.) by IARC, 1 (Clear evidence.) by NTP, + (Proven.) by OSHA. Classified A2 (Suspected for human.) by ACGIH.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
The substance may be toxic to blood, kidneys, lungs, upper respiratory tract, prostate.
Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Continued on Next Page

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.
Skin Contact	Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.
Serious Skin Contact	Not available.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Serious Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Flammable.
Auto-Ignition Temperature	250°C (482°F)
Flash Points	Not available.
Flammable Limits	Not available.
Products of Combustion	Some metallic oxides.
Fire Hazards in Presence of Various Substances	Highly flammable in presence of open flames and sparks, of heat. Slightly flammable to flammable in presence of oxidizing materials, of metals.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive in presence of heat, of oxidizing materials, of metals.
Fire Fighting Media and Instructions	Flammable solid. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.
Special Remarks on Fire Hazards	Cadmium dust or powder ignites spontaneously in air and is flammable and explosive when exposed to heat or flame, or by chemical reaction with oxidizing agents, metals, hydrozoic acid, selenium, tellurium, zinc.
Special Remarks on Explosion Hazards	Cadmium explodes on contact with hydrozoic acid. It causes a violent or explosive reaction when heated with ammonium nitrate. Cadmium dust or powder ignites spontaneously in air and is flammable and explosive when exposed to heat or flame, or by chemical reaction with oxidizing agents, metals, hydrozoic acid, selenium, tellurium, zinc.

Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large Spill	Flammable solid. Stop leak if without risk. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Continued on Next Page

Section 7. Handling and Storage

Precautions	Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, metals, acids.
Storage	Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	TWA: 0.01 (mg/m^3) from ACGIH (TLV) [United States] Inhalation TWA: 0.002 (mg/m^3) from ACGIH (TLV) [United States] Inhalation Respirable. TWA: 0.01 (mg/m^3) [Canada] Total. TWA: 0.002 (mg/m^3) [Canada] Respirable. Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance	Solid. (Lustrous solid. Solid metallic powder.)	**Odor**	Odorless.
Molecular Weight	112.4 g/mole	**Taste**	Not available.
pH (1% soln/water)	Not applicable.	**Color**	Silvery.

Boiling Point	765°C (1409°F)
Melting Point	320.9°C (609.6°F)
Critical Temperature	Not available.
Specific Gravity	8.64(Water = 1)
Vapor Pressure	Not applicable.
Vapor Density	Not available.
Volatility	Not available.
Odor Threshold	Not available.
Water/Oil Dist. Coeff.	Not available.
Ionicity (in Water)	Not available.
Dispersion Properties	Not available.
Solubility	Insoluble in cold water, hot water. Soluble in acids and ammonium nitrate solution.

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Heat, ignition sources, incompatible materials, dust generation, moisture/moist air
Incompatibility with various substances	Reactive with oxidizing agents, metals, acids.

Continued on Next Page

Corrosivity	Not considered to be corrosive for metals and glass.
Special Remarks on Reactivity	Slowly oxidized by moist air to form Cadmium Oxide. Cadmium reacts with dilute nitric acid, and has a slow reaction with hot hydrogen chloride (hydrochloric acid). Cadmium has a rapid reaction with nitryl fluoride when heated. Cadmium in powder or granular form may explode when mixed with air. Cadmium dust or powder ignites spontaneously in air and is flammable and explosive when exposed to heat or flame, or by chemical reaction with oxidizing agents, metals, hydrozoic acid, selenium, tellurium, zinc. Also incompatible with elemental sulfur, dilute nitric acid, hot hydrochloric acid.
Special Remarks on Corrosivity	Not available.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Inhalation. Ingestion.
Toxicity to Animals	**WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.** Acute oral toxicity (LD50): 890 mg/kg [Mouse]. Acute toxicity of the vapor (LC50): 8 mg/l 4 hours [Rat]. Acute toxicity of the dust (LC50): 25 mg/m^3 0.5 hours [Rat].
Chronic Effects on Humans	**CARCINOGENIC EFFECTS**: Classified 1 (Proven for human.) by IARC, 1 (Clear evidence.) by NTP, + (Proven.) by OSHA. Classified A2 (Suspected for human.) by ACGIH. May cause damage to the following organs: blood, kidneys, lungs, upper respiratory tract, prostate.
Other Toxic Effects on Humans	Very hazardous in case of inhalation. Hazardous in case of ingestion. Slightly hazardous in case of skin contact (irritant).
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	May cause adverse reproductive effects and birth defects (teratogenic). May cause cancer
Special Remarks on other Toxic Effects on Humans	Acute Potential Health Effects: Skin: May cause skin irritation and dermatitis. Eyes: Can cause eye irritation. Inhalation: May be fatal if inhaled. Inhalation of Cadmium fumes or dust causes respiratory tract irritation and the Cadmium is readily absorbed after inhalation. The absorbed Cadmium accumulates throughout the body, especially in the liver and kidneys. Inhalation of fumes or dust can cause "fume metal fever" , a condition characterized by flu-like symptoms. Symptoms may include shivering, sweating, headache, weakness, body pains, chest pain, difficulty breathing, sore throat, coughing, tracheobronchitis, pulmonary edema, pneumonitis. Other symptoms may include dizziness, irritability, nausea, vomiting, diarrhea. Ingestion: Symptoms of acute ingestion may include abdominal pain, burning sensation, nausea, vomiting, salivation, muscle cramps, vertigo, shock, unconciousness, convulsions. Chronic Potential Health Effects: Ingestion or Inhalation: Chronic inhalation of dust or fumes or chronic ingestion of Cadmium dust poses a health hazard. Cadmium is eliminated from the body very slowly and accumulates in the body with increasing age and duration of exposure. Signs and symptoms of chronic exposure include gastrointestinal effects, generalized pain, kidney damage, loss of sense of smell, nasal discharge, nose and throat irritation, rhinitis, nasal septum ulceration, olfactory nerve damage, lack of appetite, weight loss, nausea, tooth discoloration (yellow teeth), bone structure defects and microfractures, osteomalacia, liver damage, anemia, eosinophilia, pulmonary emphysema, chronic bronchitis, bronchopneumonia.

Section 12. Ecological Information

Ecotoxicity	Ecotoxicity in water (LC50): 0.0004-0.003 mg/l 96 hours [Fish (pimephales promelas)]. 0.002-0.24 mg/l 96 hours [Fish (cyprinus carpio)]. 0.0.003-0.006 mg/l 96 hours [Fish (oncorhynchus mykiss)]. 0.016 mg/l 96 hours [Fish (oryzias latipes)]. 21.1 mg/l 96 hours [Fish (lepomis macrochirus)]. 0.0244 mg/l 48 hours [Daphnia (daphnia)].
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Continued on Next Page

Toxicity of the Products of Biodegradation	The products of degradation are less toxic than the product itself.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Disposal

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

DOT Classification	CLASS 4.1: Flammable solid. CLASS 6.1: Poisonous material.
Identification	UNNA: 3179 : Flammable Solid, Toxic, Inorganic, n.o.s(Cadmium metal, powder) PG: II
Special Provisions for Transport	Marine Pollutant
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Cadmium metal powder
California prop. 65: This product contains the following ingredients for which the State of California has found to cause reproductive harm (male) which would require a warning under the statute: Cadmium metal powder
California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: Cadmium metal powder
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Cadmium metal powder
Connecticut hazardous material survey.: Cadmium metal powder
Illinois toxic substances disclosure to employee act: Cadmium metal powder
Illinois chemical safety act: Cadmium metal powder
New York release reporting list: Cadmium metal powder
Rhode Island RTK hazardous substances: Cadmium metal powder
Pennsylvania RTK: Cadmium metal powder
Minnesota: Cadmium metal powder
Michigan critical material: Cadmium metal powder
Massachusetts RTK: Cadmium metal powder
Massachusetts spill list: Cadmium metal powder
New Jersey: Cadmium metal powder
New Jersey spill list: Cadmium metal powder
Louisiana spill reporting: Cadmium metal powder
California Director's List of Hazardous Substances: Cadmium metal powder
TSCA 8(b) inventory: Cadmium metal powder
SARA 313 toxic chemical notification and release reporting: Cadmium metal powder
CERCLA: Hazardous substances.: Cadmium metal powder: 10 lbs. (4.536 kg)

California Proposition 65 Warnings

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Cadmium metal powder

California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: Cadmium metal powder

Other Regulations

Continued on Next Page

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances (EINECS No. 231-152-8).
Canada: Listed on Canadian Domestic Substance List (DSL).
China: Listed on National Inventory.
Japan: Listed on National Inventory (ENCS).
Korea: Listed on National Inventory (KECI).
Philippines: Listed on National Inventory (PICCS).
Australia: Listed on AICS.

Other Classifications

WHMIS (Canada)

CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC).
CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC)

R11- Highly flammable.
R26- Very toxic by inhalation.
R45- May cause cancer.
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R62- Possible risk of impaired fertility.
R63- Possible risk of harm to the unborn child.
R68- Possible risks of irreversible effects.
R48/23/24/25- Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.

S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S53- Avoid exposure - obtain special instructions before use.
S60- This material and its container must be disposed of as hazardous waste.
S61- Avoid release to the environment. Refer to special instructions/Safety data sheets.

HMIS (U.S.A.)

Health Hazard	3
Fire Hazard	3
Reactivity	0
Personal Protection	E

National Fire Protection Association (U.S.A.)

Health
Flammability
Reactivity
Specific hazard

WHMIS (Canada) (Pictograms)

DSCL (Europe) (Pictograms)

TDG (Canada) (Pictograms)

ADR (Europe) (Pictograms)

Protective Equipment

Gloves.

Lab coat.

Continued on Next Page

Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Safety glasses.

Section 16. Other Information

MSDS Code	**C3020X**
References	Not available.
Other Special Considerations	Uses: Electroplating of automotive, aircraft, and electonic parts; marine equipment and industrial machinery; in preparation of cadmium sulfides, cadmium selenides and mixtures containing these salts for use as pigments; in fire protection systems, machinery enamels, baking enamels, batteries; chemical intermediate for pigments, plastic stabilizers; catalysts; soft solder and solder for aluminum; reactor control rods; consituent of low melting or easily fusible alloys.

Validated by Sonia Owen on 5/14/2012.

Verified by Sonia Owen.

Printed 7/2/2012.

CALL (310) 516-8000

Notice to Reader