

Material Safety Data Sheet

Cadmium Sulfate Anhydrous

ACC# 03800

Section 1 - Chemical Product and Company Identification

MSDS Name: Cadmium Sulfate Anhydrous

Catalog Numbers: C23-100, C23-500

Synonyms: Sulfuric acid cadmium salt

Company Identification:

Fisher Scientific

1 Reagent Lane

Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

| CAS# | Chemical Name | Percent | EINECS/ELINCS |
|------------|-----------------|---------|---------------|
| 10124-36-4 | Cadmium Sulfate | 100 | 233-331-6 |

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white solid.

Danger! Toxic. Cancer hazard. Harmful if swallowed. Causes eye and skin irritation. Contains cadmium. Avoid creating dust. Causes digestive and respiratory tract irritation. May cause blood abnormalities. May cause lung damage. May cause liver and kidney damage.

Target Organs: Kidneys, liver, lungs, skeletal structures.

Potential Health Effects

Eye: Causes eye irritation.

Skin: Causes skin irritation.

Ingestion: Harmful if swallowed. Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause unconsciousness.

Inhalation: Effects may be delayed. Causes respiratory tract irritation. Irritation may lead to chemical pneumonitis and pulmonary edema. May cause dyspnea (difficult or labored breathing). Damage may be delayed. May cause anemia. May cause cough, chest pain, fever, muscular cramps, and headache.

Chronic: May cause respiratory tract cancer. Prolonged or repeated exposure may cause permanent bone structure abnormalities. May cause liver and kidney damage. May cause anemia and other blood cell abnormalities. Chronic inhalation may cause pulmonary emphysema.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

Ingestion: Call a poison control center. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician: Treat symptomatically and supportively.

Antidote: The use of Calcium disodium EDTA as a chelating agent should be determined by qualified medical personnel.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Substance is noncombustible. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

Extinguishing Media: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash hands before eating. Use with adequate ventilation. Avoid contact with skin and eyes. Avoid ingestion and inhalation. Wash clothing before reuse.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

| Chemical Name | ACGIH | NIOSH | OSHA - Final PELs |
|-----------------|--|-------------|---|
| Cadmium Sulfate | 0.01 mg/m ³ TWA (as Cd); 0.002 mg/m ³ TWA (respirable fraction, as Cd) (listed under Cadmium compounds). | none listed | 2.5 æg/m ³ Action Level (as Cd); 5 æg/m ³ PEL (as Cd. Do not eat, drink or chew tobacco or gum or apply cosmetics in regulated areas. Carcinogen: dust can cause lung and kidney disease. See 29 CFR 1910.1027) (listed under Cadmium compounds). |

OSHA Vacated PELs: Cadmium Sulfate: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Appearance: white

Odor: odorless

pH: 3.5-6 (5% solution).

Vapor Pressure: Negligible.

Vapor Density: 7.2

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: Not applicable.

Freezing/Melting Point: 1832 deg F

Decomposition Temperature: Not available.

Solubility: 76% @ 0C in water.

Specific Gravity/Density: 4.69

Molecular Formula: CdSO₄

Molecular Weight: 208.4676

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: Incompatible materials, excess heat.

Incompatibilities with Other Materials: Violently reacts with magnesium and with aluminum powder when heated.

Hazardous Decomposition Products: Oxides of sulfur, irritating and toxic fumes and gases, toxic cadmium oxide fumes.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 10124-36-4: EV2700000

LD50/LC50:

CAS# 10124-36-4:

Oral, mouse: LD50 = 47 mg/kg;

Oral, rat: LD50 = 280 mg/kg;

Carcinogenicity:

CAS# 10124-36-4:

- **ACGIH:** A2 - Suspected Human Carcinogen (listed as 'Cadmium compounds').
- **California:** carcinogen, initial date 10/1/87 (listed as Cadmium compounds).
- **NTP:** Known carcinogen (listed as Cadmium compounds).
- **IARC:** Group 1 carcinogen (listed as Cadmium compounds).

Epidemiology: NIOSH cited recent epidemiological evidence of a significant excess of respiratory cancer deaths among a cohort of cadmium production workers, and concluded that cadmium and its compounds are potential carcinogens.

Teratogenicity: Experimental teratogenic effects have been reported.

Reproductive Effects: Experimental reproductive effects have been reported.

Mutagenicity: No information available.

Neurotoxicity: No information available.

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

| Shipping Name: | US DOT | Canada TDG |
|----------------|-------------------|---------------------------|
| | CADMIUM COMPOUNDS | No information available. |
| Hazard Class: | 6.1 | |
| UN Number: | UN2570 | |
| Packing Group: | III | |

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 10124-36-4 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 10124-36-4: immediate, delayed.

Section 313

This material contains Cadmium Sulfate (listed as Cadmium compounds), 100%, (CAS# 10124-36-4) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 10124-36-4 (listed as Cadmium compounds) is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA. CAS# 10124-36-4 is listed as a Toxic Pollutant under the Clean Water Act.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 10124-36-4 can be found on the following state right to know lists: California, (listed as Cadmium compounds), New Jersey, Pennsylvania, Minnesota, (listed as Cadmium compounds), Massachusetts.

California Prop 65

The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act:

WARNING: This product contains Cadmium Sulfate, listed as 'Cadmium compounds', a chemical known to the state of California to cause

cancer.

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T

Risk Phrases:

R 22 Harmful if swallowed.

R 49 May cause cancer by inhalation.

R 48/23/25 Toxic : danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

Safety Phrases:

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 53 Avoid exposure - obtain special instructions before use.

WGK (Water Danger/Protection)

CAS# 10124-36-4: 3

Canada - DSL/NDSL

CAS# 10124-36-4 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1A, D2A.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 10124-36-4 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 6/29/1998

Revision #3 Date: 2/10/2005

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.