

Material Safety Data Sheet

Cadmium sulfide, 98.8%

ACC# 97199

Section 1 - Chemical Product and Company Identification

MSDS Name: Cadmium sulfide, 98.8%

Catalog Numbers: AC196930000, AC196931000, AC196935000, AC9657998

Synonyms: Cadmopur Yellow; Cadmium monosulfide; Cadmium sulphide.

Company Identification:

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
1306-23-6	Cadmium sulfide	98.8	215-147-8

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: brown to orange powder.

Warning! Causes eye irritation. May cause skin irritation. May cause respiratory and digestive tract irritation. Cancer suspect agent. May cause lung damage. May cause kidney damage.

Target Organs: Blood, kidneys, respiratory system, prostate.

Potential Health Effects

Eye: Causes eye irritation. Causes redness and pain. May cause chemical conjunctivitis.

Skin: May cause skin irritation.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause kidney damage. Ingestion may result in a decomposition to hydrogen sulfide in the stomach with systemic poisoning. May cause worsening of asthma in asthmatics. Individuals sensitive to sulfides may experience stomach upset, chest tightness or wheezing.

Inhalation: Inhalation of fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count. May cause lung damage. Olfactory fatigue may occur. May cause salivation, nausea, vomiting, abdominal pain, fever, and labored breathing. Can produce delayed pulmonary edema.

Chronic: Cadmium and compounds may cause lung, liver and kidney damage and lung and prostate cancer in humans. May cause lung damage. Chronic exposure may cause blood effects. May cause kidney damage.

Section 4 - First Aid Measures

Eyes: Immediately 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. Wash clothing before reuse.

Ingestion: Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician: Treat symptomatically.

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. Use water spray to keep fire-exposed containers cool. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

Extinguishing Media: Do NOT get water inside containers. For small fires, use dry chemical, carbon dioxide, or water spray. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. Cool containers with flooding quantities of water until well after fire is out.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

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

Spills/Leaks: Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Minimize dust generation and accumulation. Avoid contact with skin and eyes. Avoid ingestion and inhalation.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Do not store in metal containers. Keep containers tightly closed.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. 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 sulfide	0.01 mg/m3 TWA (as Cd); 0.002 mg/m3 TWA (respirable fraction, as Cd) (listed under Cadmium compounds).	none listed	2.5 æg/m3 Action Level (as Cd); 5 æg/m3 PEL (as Cd. Do not eat, drink or chew t obacco 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 sulfide: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear safety glasses and chemical goggles if splashing is possible.

Skin: Wear appropriate protective gloves and clothing to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Respirators: Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

Section 9 - Physical and Chemical Properties

Physical State: Powder

Appearance: brown to orange

Odor: None reported.

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate:Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point:> 999 deg C

Decomposition Temperature:Not available.

Solubility: 0.13 mg/100g (18 c)

Specific Gravity/Density:4.8200 g/cm3

Molecular Formula:CdS

Molecular Weight:144.46

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, dust generation, excess heat, strong oxidants.

Incompatibilities with Other Materials: Acids - strong oxidizing agents.

Hazardous Decomposition Products: Oxides of sulfur, hydrogen sulfide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 1306-23-6: EV3150000

LD50/LC50:

CAS# 1306-23-6:

Oral, mouse: LD50 = 1166 mg/kg;

Oral, rat: LD50 = 7080 mg/kg;

Oral, rat: LD50 = 1166 mg/kg (vendor's

Carcinogenicity:

CAS# 1306-23-6:

- **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. Occupational inhalation of cadmium is correlated with an increased lung and prostate cancer risk. Refer to Patty's Industrial Hygiene and Toxicology and IARC vol.11 for a more detailed discussion.

Teratogenicity: No information found

Reproductive Effects: No information found

Mutagenicity: Mutagenic effects have occurred in experimental animals.

Neurotoxicity: No information found

Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.

Environmental: Terrestrial: May migrate in the environment in the form of nitrate, chloride, carbonate complexes, hydroxide complexes, ammonia complexes, and as chelated and other organo-metallic complexes resulting from decay of plant and animal matter and humus. Aquatic: Relatively mobile in the aquatic environment and may be transported in solution as either hydrated cations or as organic or inorganic complexes. No evidence was found indicating that photolysis is an important mechanism in determining the fate of cadmium compounds in the aquatic environment.

Physical: No information available.

Other: For more information, see "HANDBOOK OF ENVIRONMENTAL FATE AND EXPOSURE DATA."

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

	US DOT	Canada TDG
Shipping Name:	CADMIUM COMPOUNDS	CADMIUM COMPOUND (CADMIUM SULFIDE)
Hazard Class:	6.1	6.1
UN Number:	UN2570	UN2570
Packing Group:	III	III

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 1306-23-6 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.

Section 313

This material contains Cadmium sulfide (listed as Cadmium compounds), 98.8%, (CAS# 1306-23-6) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 1306-23-6 (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# 1306-23-6 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# 1306-23-6 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 sulfide, 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 40 Limited evidence of a carcinogenic effect.

R 53 May cause long-term adverse effects in the aquatic environment.

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

Safety Phrases:

S 22 Do not breathe dust.

S 36/37 Wear suitable protective clothing and gloves.

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

S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

WGK (Water Danger/Protection)

CAS# 1306-23-6: 1

Canada - DSL/NDSL

CAS# 1306-23-6 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1B, D2A, D2B.

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# 1306-23-6 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 9/02/1997

Revision #4 Date: 10/03/2005

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.