

1 Identification

Product identifier

Product name: Cadmium sulfate, anhydrous

Stock number: 11861

CAS Number:

10124-36-4

EC number:

233-331-6

Index number:

048-009-00-9

Relevant identified uses of the substance or mixture and uses advised against.

Identified use: SU24 Scientific research and development

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc.

30 Bond Street

Ward Hill, MA 01835-8099

Tel: 800-343-0660

Fax: 800-322-4757

Email: tech@alfa.com

www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency telephone number:

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

2 Hazard(s) identification

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)



GHS06 Skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.

Acute Tox. 2 H330 Fatal if inhaled.



GHS08 Health hazard

Muta. 1B H340 May cause genetic defects.

Carc. 1B H350 May cause cancer.

Repr. 1B H360 May damage fertility or the unborn child.

STOT RE 1 H372 Causes damage to the kidneys, the liver, the reproductive system, the blood and the brain through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.

Hazards not otherwise classified No information known.

Label elements

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

Hazard pictograms



GHS06 GHS08

Signal word

Danger

Hazard statements

H301 Toxic if swallowed.

H330 Fatal if inhaled.

H340 May cause genetic defects.

H350 May cause cancer.

H360 May damage fertility or the unborn child.

H372 Causes damage to the kidneys, the liver, the reproductive system, the blood and the brain through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P284 [In case of inadequate ventilation] wear respiratory protection.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor/...

P320 Specific treatment is urgent (see on this label).

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification

D1A - Very toxic material causing immediate and serious toxic effects

D2A - Very toxic material causing other toxic effects



Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH 3 Health (acute effects) = 3

FIRE 0 Flammability = 0

REACTIVITY 1 Physical Hazard = 1

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Product name: Cadmium sulfate, anhydrous

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3 Composition/information on ingredients

Chemical characterization: Substances
CAS# Description:
10124-36-4 Cadmium sulfate, anhydrous
Identification number(s):
EC number: 233-331-6
Index number: 048-009-00-9

4 First-aid measures

Description of first aid measures
General information
Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing has been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.
After skin contact
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.
After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor.
After swallowing Do not induce vomiting; immediately call for medical help.
Information for doctor
Most important symptoms and effects, both acute and delayed No further relevant information available.
Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents Product is not flammable. Use fire-fighting measures that suit the surrounding fire.
Special hazards arising from the substance or mixture
If this product is involved in a fire, the following can be released:
Sulfur oxides (SOx)
Cadmium oxide
Advice for firefighters
Protective equipment:
Wear self-contained respirator.
Wear fully protective impervious suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Environmental precautions: Do not allow product to reach sewage system or any water course.
Methods and material for containment and cleaning up:
Dispose of contaminated material as waste according to section 13.
Ensure adequate ventilation.
Prevention of secondary hazards: No special measures required.
Reference to other sections
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

Handling
Precautions for safe handling
Handle under dry protective gas.
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.
Open and handle container with care.
Information about protection against explosions and fires: The product is not flammable
Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility:
Store away from water/moisture.
Store away from oxidizing agents.
Further information about storage conditions:
Store under dry inert gas.
This product is hygroscopic.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Protect from humidity and water.
Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Control parameters
Components with limit values that require monitoring at the workplace:

10124-36-4 Cadmium sulfate, anhydrous (100.0%)

PEL (USA)	Long-term value: 0.005 mg/m ³ as Cd; see 29 CFR 1910.1027
REL (USA)	See Pocket Guide App. A
TLV (USA)	Long-term value: 0.01 0.002* mg/m ³ as Cd; *respirable fraction; BEI

(Contd. on page 3)
USA

Product name: Cadmium sulfate, anhydrous	
EL (Canada)	Long-term value: 0.01 mg/m³ as Cd; ACIGH A1, IARC 1
(Contd. of page 2)	
Ingredients with biological limit values:	
10124-36-4 Cadmium sulfate, anhydrous (100.0%)	
BEI (USA)	5 µg/g creatinine Medium: urine Time: not critical Parameter: Cadmium (background) 5 µg/L Medium: blood Time: not critical Parameter: Cadmium (background)
Additional information: No data	
Exposure controls	
Personal protective equipment	
General protective and hygienic measures	
The usual precautionary measures for handling chemicals should be followed.	
Keep away from foodstuffs, beverages and feed.	
Remove all soiled and contaminated clothing immediately.	
Wash hands before breaks and at the end of work.	
Store protective clothing separately.	
Maintain an ergonomically appropriate working environment.	
Breathing equipment: Use self-contained respiratory protective device in emergency situations.	
Recommended filter device for short term use:	
Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.	
Protection of hands:	
Impervious gloves	
Check protective gloves prior to each use for their proper condition.	
The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.	
Material of gloves Nitrile rubber, NBR	
Penetration time of glove material (in minutes) 480	
Glove thickness 0.11 mm	
Eye protection: Safety glasses	
Body protection: Protective work clothing.	
9 Physical and chemical properties	
Information on basic physical and chemical properties	
General Information	
Appearance:	
Form:	Powder
Color:	White
Odor:	Odorless
Odor threshold:	Not determined.
pH-value:	Not applicable.
Change in condition	
Melting point/Melting range:	1000 °C (1832 °F)
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined
Flammability (solid, gaseous)	Not determined.
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Auto igniting:	Not determined.
Danger of explosion:	
Not determined.	
Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Vapor pressure:	Not applicable.
Density at 20 °C (68 °F):	4.691 g/cm³ (39.146 lbs/gal)
Relative density	Not determined.
Vapor density	Not applicable.
Evaporation rate	Not applicable.
Solubility in / Miscibility with	
Water at 20 °C (68 °F):	1130 g/l
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
dynamic:	Not applicable.
kinematic:	Not applicable.
Other information	
No further relevant information available.	
10 Stability and reactivity	
Reactivity No information known.	
Chemical stability Stable under recommended storage conditions.	
Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications.	
Possibility of hazardous reactions Reacts with strong oxidizing agents	
Conditions to avoid No further relevant information available.	
Incompatible materials:	
Water/moisture	
Oxidizing agents	
Hazardous decomposition products:	
Sulfur oxides (SOx)	
Cadmium oxide	
11 Toxicological information	
Information on toxicological effects	
Acute toxicity:	
Fatal if inhaled.	
(Contd. on page 4)	
USA	



Product name: Cadmium sulfate, anhydrous	
<div>Toxic if swallowed. The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.</div> <div>LD/LC50 values that are relevant for classification:</div> <div>Oral LD50 280 mg/kg (rat)</div> <div>Skin irritation or corrosion: May cause irritation Eye irritation or corrosion: May cause irritation Sensitization: No sensitizing effects known. Germ cell mutagenicity: May cause genetic defects. The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance. Carcinogenicity: May cause cancer. IARC-1: Carcinogenic to humans: sufficient evidence of carcinogenicity. EPA-B1: Probable human carcinogen, limited evidence of carcinogenicity from epidemiologic studies. Carcinogen as defined by OSHA. ACGIH A2: Suspected human carcinogen: Agent is carcinogenic in experimental animals at dose levels, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) considered relevant to worker exposure. Available epidemiologic studies are conflicting or insufficient to confirm an increased risk of cancer in exposed humans. NTP-K: Known to be carcinogenic: sufficient evidence from human studies. Reproductive toxicity: May damage fertility or the unborn child. The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance. Specific target organ system toxicity - repeated exposure: Causes damage to the kidneys, the liver, the reproductive system, the blood and the brain through prolonged or repeated exposure. Route of exposure: Oral, Inhalative. Specific target organ system toxicity - single exposure: No effects known. Aspiration hazard: No effects known. Subacute to chronic toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.</div>	

12 Ecological information	
<div>Toxicity</div> <div>Aquatic toxicity: No further relevant information available.</div> <div>Persistence and degradability No further relevant information available.</div> <div>Bioaccumulative potential No further relevant information available.</div> <div>Mobility in soil No further relevant information available.</div> <div>Ecotoxical effects:</div> <div>Remark: Very toxic for aquatic organisms</div> <div>Additional ecological information:</div> <div>General notes:</div> <div>Do not allow product to reach ground water, water course or sewage system, even in small quantities.</div> <div>Danger to drinking water if even extremely small quantities leak into the ground.</div> <div>Also poisonous for fish and plankton in water bodies.</div> <div>May cause long lasting harmful effects to aquatic life.</div> <div>Avoid transfer into the environment.</div> <div>Very toxic for aquatic organisms</div> <div>Results of PBT and vPvB assessment</div> <div>PBT: Not applicable.</div> <div>vPvB: Not applicable.</div> <div>Other adverse effects No further relevant information available.</div>	

13 Disposal considerations	
<div>Waste treatment methods</div> <div>Recommendation Consult state, local or national regulations to ensure proper disposal.</div> <div>Uncleaned packagings:</div> <div>Recommendation: Disposal must be made according to official regulations.</div>	

14 Transport information	
UN-Number DOT, IMDG, IATA	UN2570
UN proper shipping name DOT IMDG IATA	Cadmium compounds (Cadmium sulfate, anhydrous) CADMIUM COMPOUND (Cadmium sulphate, anhydrous), MARINE POLLUTANT CADMIUM COMPOUND (Cadmium sulphate, anhydrous)
Transport hazard class(es) DOT, IMDG	<div></div>
Class Class Label IATA Class	6.1 Toxic substances. 6.1 (T5) Toxic substances 6.1 6.1 Toxic substances.
Packing group DOT, IMDG, IATA	III
Environmental hazards: Marine pollutant (IMDG):	Environmentally hazardous substance, solid; Marine Pollutant Yes (PP) Symbol (fish and tree)
Special precautions for user EMS Number:	Warning: Toxic substances F-A,S-A
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

Product name: Cadmium sulfate, anhydrous	
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Transport/Additional information:	
DOT	Yes (PP)
Marine Pollutant (DOT):	
Remarks:	Special marking with the symbol (fish and tree).
UN "Model Regulation":	UN2570, Cadmium compounds (Cadmium sulfate, anhydrous), 6.1, III

15 Regulatory information	
Safety, health and environmental regulations/legislation specific for the substance or mixture	
GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)	
Hazard pictograms	
 	
GHS06 GHS08	
Signal word Danger	
Hazard statements	
H301 Toxic if swallowed.	
H330 Fatal if inhaled.	
H340 May cause genetic defects.	
H350 May cause cancer.	
H360 May damage fertility or the unborn child.	
H372 Causes damage to the kidneys, the liver, the reproductive system, the blood and the brain through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.	
Precautionary statements	
P260 Do not breathe dust/fume/gas/mist/vapours/spray.	
P284 [In case of inadequate ventilation] wear respiratory protection.	
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor/...	
P320 Specific treatment is urgent (see on this label).	
P405 Store locked up.	
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.	
National regulations	
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.	
All components of this product are listed on the Canadian Domestic Substances List (DSL).	
SARA Section 313 (specific toxic chemical listings)	
10124-36-4 Cadmium sulfate, anhydrous	
California Proposition 65	
Prop 65 - Chemicals known to cause cancer	
10124-36-4 Cadmium sulfate, anhydrous	
Prop 65 - Developmental toxicity Substance is not listed.	
Prop 65 - Developmental toxicity, female Substance is not listed.	
Prop 65 - Developmental toxicity, male Substance is not listed.	
Information about limitation of use:	
Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.	
For use only by technically qualified individuals.	
Other regulations, limitations and prohibitive regulations	
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.	
This substance is included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH).	
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.	
Substance is not listed.	
Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.	
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.	

16 Other information	
Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.	
Department issuing SDS: Global Marketing Department	
Date of preparation / last revision 11/24/2015 / -	
Abbreviations and acronyms:	
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)	
IMDG: International Maritime Code for Dangerous Goods	
DOT: US Department of Transportation	
IATA: International Air Transport Association	
PP: Severe Marine Pollutant	
EINECS: European Inventory of Existing Commercial Chemical Substances	
CAS: Chemical Abstracts Service (division of the American Chemical Society)	
HMIS: Hazardous Materials Identification System (USA)	
WHMIS: Workplace Hazardous Materials Information System (Canada)	
LC50: Lethal concentration, 50 percent	
LD50: Lethal dose, 50 percent	
vPvB: very Persistent and very Bioaccumulative	
ACGIH: American Conference of Governmental Industrial Hygienists (USA)	
OSHA: Occupational Safety and Health Administration (USA)	
NTP: National Toxicology Program (USA)	
IARC: International Agency for Research on Cancer	
EPA: Environmental Protection Agency (USA)	
USA	