

SAFETY DATA SHEET

Version: v1

Revision Date: 2025-09-12

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : Cadmium nitrate tetrahydrate
Product Number : C102676
Brand : aladdin
CAS-No. : 10022-68-1

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

Identified uses : Laboratory chemicals, Manufacture of substances.

1.3 Company

Company : ALADDIN SCIENTIFIC CORPORATION
Address : 14078 Meridian Parkway,
Riverside, CA. 92518
Telephone : +1 (833) 552-7181
Fax : no data available

1.4 Emergency telephone number

CHEMTREC®, Inside the USA : 1-800-424-9300
CHEMTREC®, Outside the USA :

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute Oral Toxicity Category 3

Acute Dermal Toxicity Category 4

Acute Inhalation Toxicity - Dusts and Mists Category 2

Germ Cell Mutagenicity Category 1B

Carcinogenicity Category 1B

Reproductive Toxicity Category 1B

Specific target organ toxicity - (repeated exposure) Category 1

Acute aquatic toxicity Category 1

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Chronic aquatic toxicity Category 1

2.2 GHS Label elements, including precautionary statements

Pictogram



Danger

Signal word

Hazard statement(s)

H301	Toxic if swallowed
H302	Harmful if swallowed
H312	Harmful in contact with skin
H330	Fatal if inhaled
H332	Harmful if inhaled
H340	May cause genetic defects
H350	May cause cancer
H360	May damage fertility or the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash hands [and ...] thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.
P284	[In case of inadequate ventilation] Wear respiratory protection.
P320	Specific treatment is urgent (see ... on this label).
P321	Specific treatment (see ... on this label).
P330	Rinse mouth.
P391	Collect spillage.
P302+P352	IF ON SKIN: wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P362+P364	Take off contaminated clothing and wash it before reuse.
P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container to an approved waste disposal plant.
P203	Obtain, read and follow all safety instructions before use.
P301+P316	IF SWALLOWED: Get emergency medical help immediately.
P301+P317	IF SWALLOWED: Get medical help.

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P318	if exposed or concerned, get medical advice.
P317	Get emergency medical help.
P316	Get emergency medical help immediately.
P319	Get medical help if you feel unwell.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: no data available
Formula	: CdN2O6.4H2O
Molecular weight	: 308.48
CAS No.	: 10022-68-1
EC-NO.	: 233-710-6

Component	Classification	Concentration
Cadmium nitrate tetrahydrate		
	no data available	AR, ≥99%

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

If inhaled

Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

In case of skin contact

Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

In case of eye contact

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

If swallowed

Do NOT induce vomiting. Call a physician or poison control center immediately.

4.2 Most important symptoms and effects, both acute and delayed

no data available

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray. Carbon dioxide (CO₂). Dry chemical. Chemical foam

Unsuitable extinguishing media

no data available

5.2 Special hazards arising from the substance or mixture

Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Do not allow run-off from fire-fighting to enter drains or water courses.

5.3 Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

5.4 Further information

no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

6.2 Environmental precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Sweep up and shovel into suitable containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid dust formation. Use only under a chemical fume hood. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance. Keep away from clothing and other combustible materials.

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7.2 Conditions for safe storage, including any incompatibilities

Do not store near flammable materials. Keeping the container sealed in a dry, cool, and well ventilated place is beneficial. Hygroscopic, Dry and store with argon filling.

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166(EU).

Skin protection

Gloves must be checked before use. Please use proper methods to remove the gloves (do not touch the outer surface of the gloves), and avoid any skin parts contacting the product. After use, please handle the contaminated gloves carefully according to relevant laws and regulations and effective laboratory rules and procedures. Please clean and blow dry the protective gloves selected for your hands must meet the specifications given in regulation (EU) 2016 / 425 and the en 374 standard derived from it.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance

form: Powder, Crystals and/or Chunks color: White

b) Odour

no data available

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c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	59.5°C
f) Initial boiling point and boiling range	132°C
g) Flash point	no data available
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	no data available
n) Water solubility	no data available
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties N	no data available
t) Oxidizing properties N	no data available

9.2 Other safety information

no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

Incompatible products. Exposure to moist air or water. Combustible material. Excess heat

10.5 Incompatible materials

Organic materials. Metals. copper. Reducing Agent. Strong reducing agents. Combustible material.

10.6 Hazardous decomposition products

Nitrogen oxides (NO_x).

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute toxicity estimate Oral - Not tested on animals - 100,1 mg/kg

(Expert judgment)

Acute toxicity estimate Inhalation - Not tested on animals - 0,051 mg/l

(Expert judgment)

Acute toxicity estimate Dermal - Not tested on animals - 1.100,1 mg/kg

(Expert judgment)

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

May cause genetic defects. Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Result: negative Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Cadmium chloride Test Type: comet assay Test system: mammalian cells Result: positive Remarks: (in analogy to similar products) The value is given in analogy to the following substances: cadmium sulphate Test Type: In vitro mammalian cell gene mutation test Test system: mammalian cells Result: positive Remarks: (in analogy to similar products)

Carcinogenicity

no data available

Reproductive toxicity

May damage the unborn child. May damage fertility.

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

Causes damage to organs through prolonged or repeated exposure. - Kidney, Bone

Aspiration hazard

no data available

Additional Information

Acute inhalation exposure to cadmium fumes may cause "metal fume fever" with flu-like symptoms of weakness, fever, headache, chills, nausea, vomiting, dizziness, sweating, muscular pain, cough and difficulty breathing. Acute pulmonary edema may develop within

24 hours and reaches a maximum by three days. The first chronic effect of exposure to cadmium is generally kidney damage, manifested by

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excretion of excessive protein in the urine, followed by anemia, teeth discoloration and loss of smell. Cadmium also is believed to cause pulmonary emphysema and bone disease.

SECTION 12: Ecological information**12.1 Toxicity**

Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 0,0132 mg/l - 96 h

Remarks: (ECOTOX Database)

(referred to the cation)

Toxicity to daphnia and other aquatic invertebrates LC50 - Daphnia magna (Water flea) - 0,023 mg/l - 48 h

Remarks: (referred to the cation)

(ECOTOX Database)

12.2 Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

The product may be accumulated in organisms.

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

Hazard for drinking water supplies. Discharge into the environment must be avoided.

SECTION 13:**13.1 Disposal considerations****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information**DOT (US)**

UN number: 2570

Packing group: III

Class: 6.1(5.1)

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Proper shipping name: CADMIUM
COMPOUND (Cadmium nitrate
tetrahydrate)

Environmental Hazards: No

Reportable Quantity(RQ): no data
available

Poison Inhalation Hazard: no data
available

IMDG

UN number: 2570

Packing group: III

EMS-No: no data available

Proper shipping name: CADMIUM COMPOUND (Cadmium nitrate tetrahydrate)

IATA

UN number: 2570

Packing group: III

Class: 6.1(5.1)

Proper shipping name: CADMIUM COMPOUND (Cadmium nitrate tetrahydrate)

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

SECTION 16: Other information

Prepared By

Regulatory Affairs

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Revision Summary

SDS sections updated v1

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