

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: August 22, 2020

1 Identification

- **Product identifier**
- **Trade name: Cadmium Nitrate**
- **Product code:** CD4008
- **CAS Number:**
10022-68-1
- **Recommended use and restriction on use**
- **Recommended use:** Laboratory chemicals
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
AquaPhoenix Scientific, Inc.
860 Gitts Run Road
Hanover, PA 17331 USA
Tel +1 (717)632-1291
Toll-Free: (866)632-1291
info@aquaphoenixsci.com
- **Distributor:**
AquaPhoenix Scientific
860 Gitts Run Road,
Hanover, PA 17331
(717) 632-1291
- **Emergency telephone number:**
ChemTel Inc.
(800)255-3924 (North America)
+1 (813)248-0585 (International)

2 Hazard(s) identification

- **Classification of the substance or mixture**
- Acute Tox. 3 H301 Toxic if swallowed.
- Acute Tox. 2 H330 Fatal if inhaled.
- 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 lung, the kidneys and the bone tissue through prolonged or repeated exposure.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms:**



GHS06 GHS08

- **Signal word:** Danger
- **Hazard statements:**

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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 lung, the kidneys and the bone tissue through prolonged or repeated exposure.

· **Precautionary statements:**

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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

P301+P310 If swallowed: Immediately call a poison center/doctor.

P330 Rinse mouth.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P314 Get medical advice/attention if you feel unwell.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

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

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **CAS No. Description**

10022-68-1 Nitric acid, cadmium salt, tetrahydrate

4 First-aid measures

· **Description of first aid measures**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Take affected persons out into the fresh air.

· **After inhalation:**

Supply fresh air.

Call a doctor immediately.

Provide oxygen treatment if affected person has difficulty breathing.

· **After skin contact:**

Brush off loose particles from skin.

Immediately rinse with water.

If skin irritation is experienced, consult a doctor.

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- **After eye contact:**
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
- **Most important symptoms and effects, both acute and delayed:**
Breathing difficulty
Coughing
Gastric or intestinal disorders when ingested.
Methaemoglobinaemia
- **Danger:**
Danger of impaired breathing.
Toxic if swallowed.
Fatal if inhaled.
Causes damage to the lung, the kidneys and the bone tissue through prolonged or repeated exposure.
May damage fertility or the unborn child.
May cause genetic defects.
May cause cancer.
- **Indication of any immediate medical attention and special treatment needed:**
Medical supervision for at least 48 hours.
If necessary oxygen respiration treatment.
Later observation for pneumonia and pulmonary edema.
If medical advice is needed, have product container or label at hand.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** No relevant information available.
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.
Wear fully protective suit.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Isolate area and prevent access.
For large spills, evacuate area and contact authorities to perform cleanup.
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.
Use respiratory protective device against the effects of fumes/dust/aerosol.
- **Environmental precautions** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up**

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Sweep up and place into an appropriate container.
Send for recovery or disposal in suitable receptacles.

· **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:**

Use only in well ventilated areas.
Provide suction extractors if dust is formed.
Do not dry clean dust covered objects and floors. Wash thoroughly with plenty of water.

· **Information about protection against explosions and fires:**

Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**

· **Requirements to be met by storerooms and receptacles:** Avoid storage near extreme heat.

· **Information about storage in one common storage facility:**

Store away from foodstuffs.
Do not store together with acids.
Store away from flammable substances.

· **Further information about storage conditions:**

Store in cool, dry conditions in well sealed receptacles.
Keep containers tightly sealed.

· **Specific end use(s)** No relevant information available.

8 Exposure controls/personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

10022-68-1 Nitric acid, cadmium salt, tetrahydrate

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
EL (Canada)	Long-term value: 0.01 0.002* mg/m ³ as Cd; ACGIH A2, IARC 1; *respirable
LMPE (Mexico)	Long-term value: 0.002* mg/m ³ * fracción respirable; A2, IBE; como Be

· **Exposure controls**

· **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.

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Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

- **Engineering controls:** Provide adequate ventilation.
- **Breathing equipment:** Suitable respiratory protective device recommended.
- **Protection of hands:**



Protective gloves

- **Material of gloves**
Nitrile rubber, NBR
Butyl rubber, BR
Neoprene gloves
Natural rubber, NR
Sensibilization by the components in the glove materials is possible.

- **Eye protection:**



Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment**
No relevant information available.

9 Physical and chemical properties

· Information on basic physical and chemical properties

· Appearance:

Form: Powder

Color: White

· **Odor:** Not determined.

· **Odor threshold:** Not determined.

· **pH-value:** Not applicable.

· **Melting point/Melting range:** 59 °C (138.2 °F)

· **Boiling point/Boiling range:** 132 °C (269.6 °F)

· **Flash point:** The product is not flammable.

· **Flammability (solid, gaseous):** Product is not flammable.

· **Auto-ignition temperature:** Not determined.

· **Decomposition temperature:** Not determined.

· **Danger of explosion:** Product does not present an explosion hazard.

· Explosion limits

Lower: Not determined.

Upper: Not determined.

· **Oxidizing properties:** Non-oxidizing.

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· Vapor pressure:	Not determined.
· Density at 20 °C (68 °F):	2.46 g/cm ³ (20.53 lbs/gal)
· Bulk density:	1100 kg/m ³
· Relative density:	Not determined.
· Vapor density:	Not applicable.
· Evaporation rate:	Not applicable.
· Solubility in / Miscibility with Water at 20 °C (68 °F):	2150 g/l
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· Other information	No relevant information available.

10 Stability and reactivity

- **Reactivity:** No relevant information available.
- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**
Toxic fumes may be released if heated above the decomposition point.
Contact with acids releases toxic gases.
Reacts with flammable substances.
- **Conditions to avoid** No relevant information available.
- **Incompatible materials**
Acids.
Flammable materials.
- **Hazardous decomposition products**
Under fire conditions only:
Nitrogen oxides (NO_x)
Toxic metal oxide smoke

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
Toxic if swallowed.
Fatal if inhaled.
- **LD/LC50 values that are relevant for classification:**
- 10022-68-1 Nitric acid, cadmium salt, tetrahydrate**
- Oral | LD50 | 300 mg/kg (rat)
- **Primary irritant effect:**

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- **On the skin:** Based on available data, the classification criteria are not met.
- **On the eye:** Based on available data, the classification criteria are not met.
- **Sensitization:** Based on available data, the classification criteria are not met.

· **IARC (International Agency for Research on Cancer):**

Substance is not listed.

· **NTP (National Toxicology Program):**

K

· **OSHA-Ca (Occupational Safety & Health Administration):**

Substance is listed.

· **Probable route(s) of exposure:**

Ingestion.
Inhalation.
Eye contact.
Skin contact.

· **Acute effects (acute toxicity, irritation and corrosivity):**

Toxic if swallowed.
Fatal if inhaled.

· **Repeated dose toxicity:** Danger of serious damage to health by prolonged exposure.

· **Germ cell mutagenicity:** May cause genetic defects.

· **Carcinogenicity:** May cause cancer.

· **Reproductive toxicity:** May damage fertility or the unborn child.

· **STOT-single exposure:** Based on available data, the classification criteria are not met.

· **STOT-repeated exposure:**

Causes damage to the lung, the kidneys and the bone tissue through prolonged or repeated exposure.

· **Aspiration hazard:** Based on available data, the classification criteria are not met.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity**

Toxic for aquatic organisms
Very toxic to aquatic life with long lasting effects.

· **Persistence and degradability** No relevant information available.

· **Bioaccumulative potential:** No relevant information available.

· **Mobility in soil:** No relevant information available.

· **Additional ecological information**

· **General notes:**

Danger to drinking water if even extremely small quantities leak into the ground.
Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment can not be excluded.

· **Other adverse effects** No relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

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The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· UN-Number	
· DOT, ADR/RID/ADN, IMDG, IATA	UN2570
· UN proper shipping name	
· DOT, IMDG, IATA	CADMIUM COMPOUND
· ADR/RID/ADN	2570 CADMIUMVERBINDUNG (Cadmiumnitrat-Tetrahydrat)
· Transport hazard class(es)	
· DOT	
	
· Class	6.1
· Label	6.1
· ADR/RID/ADN	
 	
· Class	6.1 (T5)
· Label	6.1
· IMDG, IATA	
	
· Class	6.1
· Label	6.1
· Packing group	
· DOT, ADR/RID/ADN, IMDG, IATA	I
· Environmental hazards	
· Marine pollutant:	
 Yes	

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|--|---------------------------|
| · Special precautions for user | Warning: Toxic substances |
| · Hazard identification number (Kemler code): | 60 |
| · EMS Number: | 6.1-04 |

- | | |
|--|-----------------|
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
|--|-----------------|

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **United States (USA)**
- **SARA**

· **Section 302 (extremely hazardous substances):**

Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**

Substance is listed.

· **TSCA (Toxic Substances Control Act)**

All ingredients are listed or exempt.

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

Substance is listed.

· **Chemicals known to cause developmental toxicity for females:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity for males:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity:**

Substance is not listed.

· **EPA (Environmental Protection Agency):**

Substance is not listed.

· **IARC (International Agency for Research on Cancer):**

1

· **Canadian Domestic Substances List (DSL):**

All ingredients listed on DSL or NDSL.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

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IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
OSHA: Occupational Safety & Health Administration
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 2: Acute toxicity – Category 2
Muta. 1B: Germ cell mutagenicity – Category 1B
Carc. 1B: Carcinogenicity – Category 1B
Repr. 1B: Reproductive toxicity – Category 1B
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

Sources

Website, European Chemicals Agency (echa.europa.eu)
Website, US EPA Substance Registry Services (ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do)
Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6
Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.
Safety Data Sheets, Individual Manufacturers

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