

SAFETY DATA SHEET

Version: v1
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : Cobalt nitrate hexahydrate
Product Number : C112731
Brand : aladdin
CAS-No. : 10026-22-9

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)

Oxidizing solids (Category 2), H272

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 4), H332

Serious eye damage (Category 1), H318

Respiratory sensitization (Category 1), H334

Skin sensitization (Category 1), H317

Germ cell mutagenicity (Category 2), H341

Carcinogenicity (Category 1B), H350

Reproductive toxicity (Category 1B), H360F

Short-term (acute) aquatic hazard (Category 1), H400

Long-term (chronic) aquatic hazard (Category 1), H410

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H272	May intensify fire; oxidizer
H302	Harmful if swallowed
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H341	Suspected of causing genetic defects
H350	May cause cancer
H360	May damage fertility or the unborn child
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

P210	Keep away from heat, hot surface, sparks, open flames and other ignition sources. - No smoking.
P220	Keep away from clothing and other combustible materials.
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.
P272	Contaminated work clothing should not be allowed out of the workplace.
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.
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.
P333+P313	IF SKIN irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use ... to extinguish.
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.
P264+P265	Wash hands [and ...] thoroughly after handling. Do not touch eyes.
P301+P317	IF SWALLOWED: Get medical help.
P305+P354+P338	IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P318	if exposed or concerned, get medical advice.
P317	Get emergency medical help.
P319	Get medical help if you feel unwell.
P342+P316	If experiencing respiratory symptoms: Get emergency medical help immediately.

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

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: Cobaltous nitrate; Cobaltous nitrate hexahydrate; Cobalt(II) nitrate hexahydrate; Nitric acid,cobalt(II) salt; Cobalt nitrate
Formula	: $\text{CoN}_2\text{O}_6 \cdot 6\text{H}_2\text{O}$
Molecular weight	: 291.03
CAS No.	: 10026-22-9
EC-NO.	: 600-049-3

Component	Classification	Concentration
Cobalt nitrate hexahydrate		

Component	Classification	Concentration
	Ox. Sol. 2; Acute Tox. 4; Eye Dam. 1; Resp. Sens. 1; Skin Sens. 1; Muta. 2; Carc. 1B; Repr. 1B; Aquatic Acute 1; Aquatic Chronic 1; H272, H302, H318, H334, H317, H341, H350i, H360FD, H360F, H400, H410 Concentration limits: >= 0,01 %: Carc. 1B, H350i; M-Factor - Aquatic Acute: 10 - Aquatic Chronic: 1	PrimorTrace™, ≥99.99% metals basis

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

no data available

5.2 Special hazards arising from the substance or mixture

Nitrogen oxides (NOx), Cobalt/cobalt oxides. Not combustible. Has a fire-promoting effect due to release of oxygen.

Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed 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

Work under hood. Do not inhale substance/mixture. Keep away from open flames, hot surfaces and sources of ignition.

7.2 Conditions for safe storage, including any incompatibilities

Keep locked up or in an area accessible only to qualified or authorized persons. Do not store near combustible materials. Moisture sensitive.

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 EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it

Body Protection

Complete suit protecting against chemicals, 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 (EN 143) respirator cartridges as a backup to engineering controls. If the 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

no data available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	form: Granules, Crystals, Powder or chunks color: Red to Brown
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	55-56°C
f) Initial boiling point and boiling range	no data available
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

Heat. Exposure to moisture.

10.5 Incompatible materials

Organic materials, Reducing agents

10.6 Hazardous decomposition products

no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute toxicity estimate Oral - 434 mg/kg

(Calculation method)

LD50 Oral - Rat - male and female - 978 mg/kg

(OECD Test Guideline 401)

Skin corrosion/irritation

Skin - Rabbit Result: No skin irritation - 4 h (OECD Test Guideline 404) Remarks: (anhydrous substance) The value is given in analogy to the following substances: Cobalt(II) nitrate

Serious eye damage/eye irritation

Eyes - Rabbit Result: Causes serious eye damage. (OECD Test Guideline 405) Remarks: (anhydrous substance) The value is given in analogy to the following substances: Cobalt(II) nitrate

Respiratory or skin sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction.

Germ cell mutagenicity

Suspected of causing genetic defects.

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

no data available

Aspiration hazard

no data available

Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 90 d - NOAEL (No observed adverse effect level) - 3 mg/kg

RTECS: QU7355500

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Symptoms of an acute cobalt intoxication: diarrhoea, loss of appetite, drop in body temperature, drop in blood pressure. Toxic effect on kidneys (proteinuria, anuria), heart, and pancreas.

The following applies to nitrites/nitrates in general: methaemoglobinaemia after the uptake of large quantities.

somnolence

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish semi-static test LC50 - Pimephales promelas (fathead minnow) - 1,866 mg/l - 96 h

(US-EPA)

Remarks: (anhydrous substance)

The value is given in analogy to the following substances: Cobalt(II)

nitrate

Toxicity to daphnia and other aquatic invertebrates static test LC50 - Ceriodaphnia dubia (water flea) - 0,39 mg/l - 48 h

(US-EPA)

Remarks: (anhydrous substance)

The value is given in analogy to the following substances: Cobalt(II)

nitrate

Toxicity to algae static test ErC50 - Pseudokirchneriella subcapitata - 0,095 mg/l - 72h

(OECD Test Guideline 201)

Remarks: (anhydrous substance)

The value is given in analogy to the following substances: Cobalt(II)

nitrate

Toxicity to bacteria static test EC50 - activated sludge - 120 mg/l - 30 min

(OECD Test Guideline 209)

Remarks: (anhydrous substance)

The value is given in analogy to the following substances: Cobalt(II)

nitrate

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

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
no data available

SECTION 14: Transport information

DOT (US)		
UN number: 1477	Packing group: II	Class: 5.1
Proper shipping name: NITRATES, INORGANIC, N.O.S. (Cobaltous nitrate, available hexahydrate)	Reportable Quantity(RQ):no data	Poison Inhalation Hazard:no data available
Environmental Hazards: No		
IMDG		
UN number: 1477	Packing group: II	EMS-No:no data available

Proper shipping name: NITRATES, INORGANIC, N.O.S. (Cobaltous nitrate, hexahydrate)

IATA

UN number: 1477

Packing group: II

Class: 5.1

Proper shipping name: NITRATES, INORGANIC, N.O.S. (Cobaltous nitrate, hexahydrate)

SECTION 15: Regulatory information

The following laws, regulations, and standards provide corresponding provisions for the safe use, storage, transportation, loading and unloading, classification, and labeling of chemicals:

Catalogue of Hazardous Chemicals (2015 Edition): Listed

Classification and Variety Catalogue of Precursor Chemicals (2015 Edition): Not included

List of Hazardous Chemicals for Explosive Production (2017 Edition): Not included

List of Existing Chemical Substances in China: Listed

National Standards for Classification and Labeling of Chemicals (GB [30000.2-2013~30000.29-2013](#))

If applicable, the chemical meets the requirements of the Regulations on the Safety Management of Hazardous Chemicals.

SECTION 16: Other information

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Regulatory Affairs

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SDS sections updated v1

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