# Chemical Safety Data Sheet MSDS / SDS

## Cobalt dinitrate SDS

Revision Date:2024-04-25 Revision Number:1



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

### Product identifier

Product name: Cobalt dinitrate

CAS: 10141-05-6

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

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.

Uses advised against: none

### Company Identification

Company: Chemicalbook.in

Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090

Telephone: +91 9550333722

## SECTION 2: Hazards identification

### Classification of the substance or mixture

Skin sensitization, Category 1
Respiratory sensitization, Category 1

Germ cell mutagenicity, Category 2
Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1
Carcinogenicity, Category 1B
Reproductive toxicity, Category 1B

**GHS label elements, including precautionary statements**

Pictogram(s)

Signal word Danger

**Hazard statement(s)**

H317 May cause an allergic skin reaction
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
H341 Suspected of causing genetic defects
H410 Very toxic to aquatic life with long lasting effects

**Precautionary statement(s)**

**Prevention**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P284 [In case of inadequate ventilation] wear respiratory protection.
P203 Obtain, read and follow all safety instructions before use.
P273 Avoid release to the environment.

**Response**

P302+P352 IF ON SKIN: Wash with plenty of water/...
P333+P317 If skin irritation or rash occurs: Get medical help.
P321 Specific treatment (see ... on this label).
P362+P364 Take off contaminated clothing and wash it before reuse.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342+P316 If experiencing respiratory symptoms: Get emergency medical help immediately.
P318 IF exposed or concerned, get medical advice.
P391 Collect spillage.

### Storage

P405 Store locked up.

### Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

### Other hazards which do not result in classification

no data available

## SECTION 3: Composition/information on ingredients

### Substance

| | |
|---|---|
| Chemical name: | Cobalt dinitrate |
| Common names and synonyms: | Cobalt dinitrate |
| CAS number: | 10141-05-6 |
| EC number: | 233-402-1 |
| Concentration: | 100% |

## SECTION 4: First aid measures

### Description of necessary first-aid measures

### If inhaled

Fresh air, rest. Refer for medical attention.

### Following skin contact

First rinse with plenty of water for at least 15 minutes, then remove contaminated clothes and rinse again.

### Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

### Following ingestion

Rinse mouth. Give one or two glasses of water to drink. Refer for medical attention .

### Most important symptoms/effects, acute and delayed

Inhalation causes shortness of breath and coughing; permanent disability may occur. Ingestion causes pain and vomiting. Contact with eyes or skin causes irritation. (USCG, 1999)

### Indication of immediate medical attention and special treatment needed, if necessary

Call for medical aid. ...If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. ...Remove contaminated clothing and shoes. Flush affected areas with plenty of water. If swallowed and victim is conscious, have victim drink water, or mild, and have victim induce vomiting. if swallowed and victim is unconscious, or having convulsions, do nothing except keep victim warm.

## SECTION 5: Firefighting measures

### Suitable extinguishing media

Use water spray. ...Wear goggles and self-contained breathing apparatus. Flood discharge area with water.

### Specific hazards arising from the chemical

Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. Behavior in Fire: May increase the intensity of fire (USCG, 1999)

### Special protective actions for fire-fighters

In case of fire in the surroundings, use appropriate extinguishing media.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations. Do NOT absorb in saw-dust or other combustible absorbents.

### Environmental precautions

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations. Do NOT absorb in saw-dust or other combustible absorbents.

### Methods and materials for containment and cleaning up

For solid: Sweep into a beaker. Dilute with sufficient water. Add soda ash. Mix and neutralize with 6M HCl. Drain into the sewer with abundant water. Hexahydrate

## SECTION 7: Handling and storage

### Precautions for safe handling

NO contact with combustible substances or reducing agents. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### Conditions for safe storage, including any incompatibilities

Provision to contain effluent from fire extinguishing. Separated from combustible substances. Well closed. Store in an area without drain or sewer access.Keep well closed in a cool place. Hexahydrate

## SECTION 8: Exposure controls/personal protection

### Control parameters

### Occupational Exposure limit values

TLV: (as Co): 0.02 mg/m3, as TWA; A3 (confirmed animal carcinogen with unknown relevance to humans); BEI issued.MAK: (as Co, inhalable fraction): skin absorption (H); sensitization of respiratory tract and skin (SAH); carcinogen category: 2; germ cell mutagen group: 3A

### Biological limit values

no data available

### Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### Individual protection measures, such as personal protective equipment (PPE)

### Eye/face protection

Wear safety goggles or eye protection in combination with breathing protection.

### Skin protection

Protective gloves. Protective clothing.

### Respiratory protection

Use local exhaust or breathing protection.

### Thermal hazards

no data available

## SECTION 9: Physical and chemical properties and safety characteristics

| | |
|---|---|
| Physical state: | Solid. Crystalline. |
| Colour: | Pale red. |
| Odour: | no data available |
| Melting point/freezing point: | 55°C |
| Boiling point or initial boiling point and boiling range: | 2900°C(lit.) |
| Flammability: | Not combustible but enhances combustion of other substances. Gives off irritating or toxic fumes (or gases) in a fire. |

| | |
|---|---|
| Lower and upper explosion limit/flammability limit: | no data available |
| Flash point: | 4°C (Toluene) |
| Auto-ignition temperature: | no data available |
| Decomposition temperature: | 100-105°C |
| pH: | no data available |
| Kinematic viscosity: | no data available |
| Solubility: | Soluble in water |
| Partition coefficient n-octanol/water: | no data available |
| Vapour pressure: | no data available |
| Density and/or relative density: | 2.49. Temperature:20 °C. |
| Relative vapour density: | no data available |
| Particle characteristics: | no data available |

## SECTION 10: Stability and reactivity

**Reactivity**

Decomposes on heating. This produces toxic gases including nitrogen oxides. Reacts with combustible substances. This generates fire hazard.

**Chemical stability**

no data available

### Possibility of hazardous reactions

Not flammable ... May incr the intensity of fire. ... Contact with wood and paper may cause fire. /Hexahydrate/Mixtures of metal/nonmetal nitrates with alkyl esters may explode, owing to the formation of alkyl nitrates; mixtures of a nitrate with phosphorus, tin (II) chloride or other reducing agents may react explosively [Bretherick, 1979 p. 108-109].

### Conditions to avoid

no data available

### Incompatible materials

Explosive reaction with ammonium hexacyanoferrate (ii) at 220 deg C. Potentially explosive reaction with carbon.

### Hazardous decomposition products

When heated to decomposition it emits toxic fumes of /nitric oxide/.

## SECTION 11: Toxicological information

### Acute toxicity

Oral: LD50 - rat (male/female) - 691 mg/kg bw. Remarks:This is the LD50 for the cobalt compound tested.

Inhalation: no data available

Dermal: LD50 - rat (male/female) - > 2 000 mg/kg bw.

### Skin corrosion/irritation

no data available

### Serious eye damage/irritation

no data available

### Respiratory or skin sensitization

no data available

### Germ cell mutagenicity

no data available

### Carcinogenicity

no data available

### Reproductive toxicity

no data available

### STOT-single exposure

The substance is irritating to the eyes, skin and respiratory tract.

### STOT-repeated exposure

Repeated or prolonged contact may cause skin sensitization. Repeated or prolonged inhalation may cause asthma. Ingestion may cause effects on the bone marrow, heart and thyroid. This substance is possibly carcinogenic to humans. Animal tests show that this substance possibly causes toxicity to human reproduction or development.

### Aspiration hazard

A harmful concentration of airborne particles can be reached quickly when dispersed.

## SECTION 12: Ecological information

### Toxicity

Toxicity to fish: LC50 - Pimephales promelas - 54.1 mg/L - 96 h.

Toxicity to daphnia and other aquatic invertebrates: NOEC - Chironomus tentans - 72.3 mg/L - 96 h.

Toxicity to algae: NOEC - Dunaliella tertiolecta - 4 671.8 µg/L - 96 h.

Toxicity to microorganisms: EC10 - activated sludge - 3.73 mg/L - 30 min.

### Persistence and degradability

no data available

### Bioaccumulative potential

Food Chain Concn Potential: Bioconcentration of 200-1000 fold only under constant exposure. Not significant in spill conditions. Hexahydrate

### Mobility in soil

no data available

### Other adverse effects

no data available

## SECTION 13: Disposal considerations

### Disposal methods

### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

## SECTION 14: Transport information

### UN Number

ADR/RID: Not dangerous goods. (For reference only, please check.)
IMDG: Not dangerous goods. (For reference only, please check.)
IATA: Not dangerous goods. (For reference only, please check.)

### UN Proper Shipping Name

ADR/RID: Not dangerous goods. (For reference only, please check.)
IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### Transport hazard class(es)

ADR/RID: Not dangerous goods. (For reference only, please check.)
IMDG: Not dangerous goods. (For reference only, please check.)
IATA: Not dangerous goods. (For reference only, please check.)

### Packing group, if applicable

ADR/RID: Not dangerous goods. (For reference only, please check.)
IMDG: Not dangerous goods. (For reference only, please check.)
IATA: Not dangerous goods. (For reference only, please check.)

### Environmental hazards

ADR/RID: Yes
IMDG: Yes
IATA: Yes

### Special precautions for user

no data available

### Transport in bulk according to IMO instruments

no data available

## SECTION 15: Regulatory information

### Safety, health and environmental regulations specific for the product in question

### European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

### EC Inventory

Listed.

### United States Toxic Substances Control Act (TSCA) Inventory

Listed.

**China Catalog of Hazardous chemicals 2015**

Listed.

**New Zealand Inventory of Chemicals (NZIoC)**

Listed.

**(PICCS)**

Listed.

**Vietnam National Chemical Inventory**

Listed.

**IECSC)**

Listed.

**Korea Existing Chemicals List (KECL)**

Listed.

## SECTION 16: Other information

**Abbreviations and acronyms**

CAS: Chemical Abstracts Service

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

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

**References**

IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg

Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

ECHA - European Chemicals Agency, website: https://echa.europa.eu/

**Other Information**

Anyone who has shown symptoms of asthma due to this substance should avoid all further contact. The symptoms of asthma often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential. Depending on the degree of exposure, periodic medical examination is suggested. Do NOT take working clothes home.