



CHEMICALS & EQUIPMENT

# SAFETY DATA SHEET

## 1. Identification

### Product identifier

Product Name COBALT NITRATE, HEXAHYDRATE, PRACTICAL

### Other means of identification

Product Code(s) ADG-00013

UN/ID no UN1477

Synonyms None

### Recommended use of the chemical and restrictions on use

Recommended use No information available

Restrictions on use No information available

### Details of the supplier of the safety data sheet

#### Supplier Address

Adva Tech Group Inc.  
100 S. Saunders Road Suite 150,  
Lake Forest, IL 60045  
(224) 659-6379

### Emergency telephone number

Emergency Telephone Chemtrec 1-800-424-9300

## 2. Hazard(s) identification

### Classification

Acute toxicity - Oral	Category 4
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 2
Reproductive toxicity	Category 2
Oxidizing solids	Category 2

**Hazards not otherwise classified (HNOC)** Not applicable

### Label elements

Danger

## Hazard statements

Harmful if swallowed  
May cause allergy or asthma symptoms or breathing difficulties if inhaled  
May cause an allergic skin reaction  
Suspected of causing genetic defects  
Suspected of causing cancer  
Suspected of damaging fertility or the unborn child  
May intensify fire; oxidizer



**Appearance** Crystals or flakes **Physical state** Solid **Odor** Odorless

### Precautionary Statements - Prevention

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Wear protective gloves/protective clothing/eye protection/face protection  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Avoid breathing dust/fume/gas/mist/vapors/spray  
In case of inadequate ventilation wear respiratory protection  
Contaminated work clothing must not be allowed out of the workplace  
Keep away from heat  
Keep/Store away from clothing/ combustible materials  
Take any precaution to avoid mixing with combustibles

### Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention  
IF ON SKIN: Wash with plenty of water and soap  
If skin irritation or rash occurs: Get medical advice/attention  
Wash contaminated clothing before reuse  
IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing  
If experiencing respiratory symptoms: Call a POISON CENTER or doctor  
IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell  
Rinse mouth  
In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish

### Precautionary Statements - Storage

Store locked up.

### Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

### Other information

No information available.

## 3. Composition/information on ingredients

### Substance

Chemical name	CAS No	Weight-%	Trade secret
Cobalt Nitrate, Hexahydrate	10026-22-9	100	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

## 4. First-aid measures

### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention.
<b>Inhalation</b>	May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical advice/attention.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area.
<b>Skin contact</b>	IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. Wash with soap and water. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. May produce an allergic reaction. Get immediate medical advice/attention.
<b>Self-protection of the first aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

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

<b>Symptoms</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives.
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### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	May cause sensitization in susceptible persons. Treat symptomatically.
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## 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Use water. Do not use dry chemicals or foams. CO <sub>2</sub> or Halon may provide limited control. Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. Cool containers with flooding quantities of water until well after fire is out. CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Large Fire</b>	
<b>Unsuitable extinguishing media</b>	Dry chemical. Foam.
<b>Specific hazards arising from the chemical</b>	These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Runoff may create fire or explosion hazard. Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact. May cause sensitization by skin contact.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	none.
<b>Sensitivity to static discharge</b>	yes.
<b>Special protective equipment for fire-fighters</b>	not move cargo or vehicle if cargo has been exposed to heat. oxidizer. May ignite combustibles (wood, paper, oil, clothing, etc.). Move containers from fire area if you can do it without risk. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn.
Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. Do	

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See section 8 for more information. Stop leak if you can do it without risk. Use personal protective equipment as required.

**Other information** Keep combustibles (wood, paper, oil, etc) away from spilled material. DO NOT GET WATER INSIDE CONTAINERS. Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

### Methods and material for containment and cleaning up

**Methods for containment** Stop leak if you can do it without risk. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.

**Methods for cleaning up** With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Flush area with flooding quantities of water. Prevent product from entering drains. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.

## 7. Handling and storage

### Precautions for safe handling

**Advice on safe handling** Use personal protection equipment. Avoid contact with skin, eyes or clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Use with local exhaust ventilation. Handle in accordance with good industrial hygiene and safety practice. Provide extract ventilation to points where emissions occur. In case of insufficient ventilation, wear suitable respiratory equipment. Take off contaminated clothing and wash before reuse.

### Conditions for safe storage, including any incompatibilities

**Storage Conditions** Deliquescent. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Do not store near combustible materials. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep out of the reach of children. Store locked up.

## 8. Exposure controls/personal protection

### Control parameters

**Exposure Limits** The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

### Appropriate engineering controls

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

### Individual protection measures, such as personal protective equipment

**Eye/face protection** Tight sealing safety goggles.

**Hand protection** Wear suitable gloves. Impervious gloves.

<b>Skin and body protection</b>	Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Wear fire/flammable resistant/retardant clothing.
<b>Respiratory protection</b>	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
<b>General hygiene considerations</b>	Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical state</b>	Solid
<b>Appearance</b>	Crystals or flakes
<b>Color</b>	red
<b>Odor</b>	Odorless
<b>Odor threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	4.0 (10%)	None known
Melting point / freezing point	55 °C / 131 °F	None known
Boiling point / boiling range	no data available	None known
Flash point	no data available	None known
Evaporation rate	no data available	None known
Flammability (solid, gas)	no data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Vapor density	no data available	None known
Relative density Water	1.88	None known
solubility	Very soluble in water	None known
Solubility(ies)	Soluble in Acetone Soluble in organic solvents	None known
Partition coefficient	No data available	None known
Autoignition temperature	no data available	None known
Decomposition temperature		None known
Kinematic viscosity	no data available	None known
Dynamic viscosity	No data available	None known

### Other information

<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>Softening point</b>	No information available
<b>Molecular weight</b>	291.03 g/mol
<b>VOC Content (%)</b>	No information available
<b>Liquid Density</b>	No information available

Bulk density 8000 kg/m<sup>3</sup>

## 10. Stability and reactivity

**Reactivity** Oxidizer.

**Chemical stability** May cause fire or explosion; strong oxidizer.

**Possibility of hazardous reactions** None under normal processing.

**Conditions to avoid** Heat, flames and sparks. Incompatible materials.

**Incompatible materials** Organic material. Combustible material. Hydrocarbons.

**Hazardous decomposition products** None known based on information supplied.

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

**Inhalation** Specific test data for the substance or mixture is not available. May cause sensitization in susceptible persons. (based on components).

**Eye contact** Specific test data for the substance or mixture is not available.

**Skin contact** Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). May cause sensitization by skin contact.

**Ingestion** Specific test data for the substance or mixture is not available. May cause additional affects as listed under "Inhalation". Harmful if swallowed. (based on components).

### Symptoms related to the physical, chemical and toxicological characteristics

**Symptoms** Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing. Itching. Rashes. Hives.

### Acute toxicity

#### Numerical measures of toxicity

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Cobalt Nitrate, Hexahydrate 10026-22-9	= 691 mg/kg ( Rat )	-	-

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Skin corrosion/irritation** No information available. **Serious eye damage/eye irritation** No information available.

**Respiratory or skin sensitization** May cause sensitization by inhalation. May cause sensitization by skin contact.

**Germ cell mutagenicity** Contains a known or suspected mutagen. Classification based on data available for ingredients. Suspected of causing genetic defects.

**Carcinogenicity** Contains a known or suspected carcinogen. Classification based on data available for ingredients. Suspected of causing cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Cobalt Nitrate, Hexahydrate 10026-22-9	-	Group 2B - Monograph 52 [1991] Cobalt and Cobalt compounds	-	-

## Legend

<b>Reproductive toxicity</b>	Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. Suspected of damaging fertility or the unborn child.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.
<b>Other adverse effects</b>	No information available.
<b>Interactive effects</b>	No information available.

## 12. Ecological information

<b>Ecotoxicity</b>	The environmental impact of this product has not been fully investigated.
<b>Persistence and degradability</b>	No information available.
<b>Bioaccumulation</b>	Inherently biodegradable.
<b>Other adverse effects</b>	No information available.

## 13. Disposal considerations

### Waste treatment methods

**Waste from residues/unused** Should not be released into the environment. Dispose of in accordance with local **products** regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

## 14. Transport information

### DOT

<b>UN/ID no</b>	UN1477
<b>Proper Shipping Name:</b>	Nitrates, inorganic, n.o.s.
<b>Hazard class</b>	5.1
<b>Packing group:</b>	III
<b>Special Provisions</b>	IB8, IP3, T1, TP33
<b>Marine Pollutant</b>	Severe Marine Pollutant
<b>Description:</b>	UN1477, Nitrates, inorganic, n.o.s., 5.1, III
<b>Emergency Response Guide Number</b>	140

### TDG

<b>UN-No:</b>	UN1477
<b>Proper Shipping Name:</b>	Nitrates, inorganic, n.o.s.
<b>Hazard class</b>	5.1
<b>Packing Group:</b>	III
<b>Description:</b>	UN1477, Nitrates, inorganic, n.o.s., 5.1, III

### MEX

<b>UN-No</b>	UN1477
<b>Proper Shipping Name</b>	Nitrates, inorganic, n.o.s.
<b>Hazard class</b>	5.1
<b>Special Provisions</b>	223
<b>Packing Group</b>	III
<b>Description</b>	UN1477, Nitrates, inorganic, n.o.s., 5.1, III

### ICAO (air)

<b>UN-No:</b>	UN1477
<b>Proper Shipping Name:</b>	Nitrates, inorganic, n.o.s.
<b>Hazard class</b>	5.1
<b>Packing Group:</b>	III
<b>Special Provisions</b>	A3
<b>Description:</b>	UN1477, Nitrates, inorganic, n.o.s., 5.1, III

#### **IATA**

<b>UN number</b>	UN1477
<b>Proper Shipping Name:</b>	Nitrates, inorganic, n.o.s.
<b>Transport hazard class(es)</b>	5.1
<b>Packing group</b>	III
<b>Description:</b>	UN1477, Nitrates, inorganic, n.o.s., 5.1, III

#### **IMDG**

<b>UN number</b>	UN1477
<b>Proper shipping name</b>	Nitrates, inorganic, n.o.s.
<b>Transport hazard class(es)</b>	5.1
<b>Packing group</b>	III
<b>EmS-No</b>	F-A, S-Q
<b>Special Provisions</b>	223
<b>Marine pollutant</b>	NP1
<b>Description</b>	UN1477, Nitrates, inorganic, n.o.s., 5.1, III

#### **RID**

<b>UN number</b>	UN1477
<b>Proper Shipping Name:</b>	Nitrates, inorganic, n.o.s.
<b>Transport hazard class(es)</b>	5.1
<b>Packing group</b>	III
<b>Classification code</b>	O2
<b>Special Provisions</b>	511
<b>Description:</b>	UN1477, Nitrates, inorganic, n.o.s., 5.1, III
<b>Labels</b>	5.1

#### **ADR**

<b>UN number</b>	1477
<b>Proper Shipping Name:</b>	Nitrates, inorganic, n.o.s.
<b>Transport hazard class(es)</b>	5.1
<b>Packing group</b>	III
<b>Classification code</b>	O2
<b>Tunnel restriction code</b>	(E)
<b>Special Provisions</b>	511
<b>Description:</b>	1477, Nitrates, inorganic, n.o.s., 5.1, III, (E)
<b>Labels</b>	5.1

#### **ADN**

<b>UN/ID No</b>	UN1477
<b>Proper shipping name</b>	Nitrates, inorganic, n.o.s.
<b>Transport hazard class(es)</b>	5.1
<b>Packing Group</b>	III
<b>Classification code</b>	O2
<b>Special Provisions</b>	511
<b>Description</b>	UN1477, Nitrates, inorganic, n.o.s., 5.1, III
<b>Hazard label(s)</b>	5.1
<b>Limited quantity (LQ)</b>	5 kg
<b>Equipment Requirements</b>	PP

### **15. Regulatory information**

#### **International Inventories**

<b>TSCA</b>	Not listed
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<b>Note</b>	*Contact supplier for details. One or more substances in this product are either not listed
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on the US TSCA inventory, listed on the confidential US TSCA inventory or are otherwise exempted from inventory listing requirements

<b>DSL/NDSL</b>	Does not Comply
<b>EINECS/ELINCS</b>	Does not Comply
<b>ENCS</b>	This product complies with ENCS:
<b>IECSC</b>	This product complies with China:
<b>KECL</b>	Does not Comply
<b>PICCS</b>	Complies
<b>AICS</b>	All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances **ENCS**

- Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Cobalt Nitrate, Hexahydrate - 10026-22-9	0.1 1.0

**SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

This product does not contain any substances regulated under applicable state right-to-know regulations

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

## 16. Other information

### NFPA

Health hazards 2

Flammability 0

Instability 1

Physical and chemical properties OX

### HMIS

Health hazards 2 \*

Flammability 0

Physical hazards 1

Personal protection X

*Chronic Hazard Star Legend*

*\* = Chronic Health Hazard*

### Key or legend to abbreviations and acronyms used in the safety data sheet

#### **Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit) Ceiling Maximum limit value

#### **Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEL(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act U.S.

Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

Organization for Economic Co-operation and Development High Production Volume Chemicals Program Organization

for Economic Co-operation and Development Screening Information Data Set

World Health Organization

**Revision date** 02-August-2021

**Revision Note** No information available.

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**