

SAFETY DATA SHEET

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

1.1 Product identifiers

Product name	Cobalt chloride
CAS number	7791-13-1
Synonyms	Cobalt muriate hexahydrate; Cobaltous chloride hexahydrate

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

Identified uses	Laboratory chemicals
-----------------	----------------------

1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

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 4
Acute inhalation toxicity - dusts and mists	Category 4
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 1B
Reproductive toxicity	Category 1B

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Danger

Hazard statements

May cause an allergic skin reaction
May cause allergy or asthma symptoms or breathing difficulties if inhaled
Suspected of causing genetic defects
May cause cancer by inhalation
May damage fertility
Harmful if swallowed or if inhaled

Precautionary statements

Prevention Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area.
In case of inadequate ventilation wear respiratory protection
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves
Do not breathe dust/fume/gas/mist/vapors/spray

Response IF exposed or concerned: Get medical attention/advice

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

Skin IF ON SKIN: Wash with plenty of soap and water
If skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse

Ingestion IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
Rinse mouth

Storage Store locked up

Disposal Dispose of contents/container to an approved waste disposal plant

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

Very toxic to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Cobalt (II) Chloride	Cobalt muriate hexahydrate; Cobaltous chloride hexahydrate	7791-13-1	>95%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

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

None reasonably foreseeable. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction. 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

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	Water spray, carbon dioxide (CO ₂), dry chemical, alcohol-resistant foam.
Unsuitable extinguishing media	No information available

5.2 Specific hazards arising from the substance or mixture

Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Do not allow run-off from fire-fighting to enter drains or water courses

5.3 Special protective equipment and precautions 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

Flash Point No information available

Autoignition Temperature No information available

Explosion limits

Upper No information available

Lower No information available

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

NFPA

Health	Flammability	Instability	Physical hazards
3	0	0	N/A

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Avoid dust formation. Ensure adequate ventilation. 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. Should not be released into the environment.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

6.4 Reference to other sections

See section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling

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

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatibilities

Strong oxidizing agents. Metals.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

US. ACGIH Threshold Limit Values

Component	Type	Value
Cobalt (II) Chloride	TWA	0.02 mg/m ³

8.2 Exposure controls

Appropriate engineering controls

Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Control of environmental exposure

No information available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State

Solid Crystalline

Appearance	Reddish violet
Odor	Odorless
Odor Threshold	No information available
pH	4.6 50 g/l aq. Sol
Melting Point/Range	86 °C / 186.8 °F
Boiling Point/Range	No information available
Evaporation Rate	No information available
Flammability (solid)	Not applicable
Flammability or explosive limit	No information available
Vapor Pressure	Negligible
Vapor Density	Not applicable
Density	1.92 g/cm ³
Solubility	Soluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temp	No information available
Decomposition Temp	400 °C
Viscosity	Not applicable
Molecular Formula	Cl ₂ Co . 6 H ₂ O
Molecular Weight	237.93
VOC Content(%)	No information available
Oxidizing properties	No information available

9.2 Other safety information

No information available

SECTION 10: Stability and reactivity

10.1 Reactivity

None known, based on information available

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

None under normal processing

10.4 Conditions to avoid

Avoid dust formation. Incompatible product. Exposure to moisture. Excess heat.

10.5 Incompatible materials

Strong oxidizing agents, Metals.

10.6 Hazardous decomposition products

Cobalt oxides, Hydrogen chloride gas.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Cobalt(II) chloride	766 mg/kg	Not listed	Not listed

Skin corrosion/irritation

No information available

Serious eye damage/eye irritation

No information available

Respiratory or skin sensitization

May cause sensitization by skin contact

Germ cell mutagenicity

Mutagenic effects have occurred in humans. Possible risk of irreversible effects.

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Cobalt(II) chloride	7791-13-1	Group 2B	Reasonably anticipated	A3	Listed	Not listed

Specific target organ toxicity - single exposure

None known

Specific target organ toxicity - repeated exposure

None known

Reproductive toxicity

Experiments have shown reproductive toxicity effects on laboratory animals. May impair fertility.

Chronic effects

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

11.2 Additional Information

Tumorigenic effects have been reported in experimental animals.

SECTION 12: Ecological information

12.1 Toxicity

Product		Species	Test Results
Cobalt (II) Chloride	EC50	Microtox	16 mg/L - 15 min as Co++
	EC50	Microtox	160 mg/L - 5 min as Co++

	EC50	Microtox	2.8 mg/L - 30 min as Co++
--	------	----------	---------------------------

12.2 Persistence and degradability

Based on information available. May persist

12.3 Bio accumulative potential

No information available

12.4 Mobility in soil

Will likely be mobile in the environment due to its water solubility. Log Pow:
0.85

12.5 Results of PBT and vPvB assessment

No information available

12.6 Endocrine disrupting properties

No information available

12.7 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)

UN-no.	UN3077
Proper Shipping Name	Environmentally hazardous substances, solid, n.o.s
Technical Name	Cobalt (II) chloride hexahydrate
Hazard Class	9

IMDG

UN-no.	UN3077
Proper Shipping Name	Environmentally hazardous substances, solid, n.o.s
Technical Name	Cobalt (II) chloride hexahydrate
Hazard Class	9

IATA

UN-no.	UN3077
Proper Shipping Name	Environmentally hazardous substances, solid, n.o.s
Technical Name	Cobalt (II) chloride hexahydrate
Hazard Class	9

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not applicable

CERCLA Hazardous Substance List (40 CFR 302.4)

Not applicable

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

See section 2 for more information

SARA 313 (TRI reporting)

Listed - Threshold Values %: 0.1

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Listed

Safe Drinking Water Act

Not applicable

US state regulations

US. Massachusetts RTK - Substance List

Not listed

US. New Jersey Worker and Community Right-to-Know Act

Listed

US. Pennsylvania Worker and Community Right-to-Know Law

Listed

California Proposition 65

Not listed

SECTION 16: Other information

Issue date: 07/24/2024

Revision 1: 07/03/2025

SECTION 17: Disclaimer

The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.