



Safety Data Sheet

In accordance with CFR 1910.1200 (OSHA HCS)

SDS No. 621

Review Date: February 24, 2021

1 Identification of substance and company

Product name: **Cobalt (II) Sulfate, Heptahydrate**
Product code: 13112, C2732
Relevant use and restrictions on use: Research and product development
Manufacturer/Supplier: Noah Technologies Corporation
1 Noah Park
San Antonio, Texas 78249-3419
Phone: 210-691-2000
Fax: 210-691-2600
Web site: www.noahtech.com
Emergency information: CHEMTREC
800-424-9300

2 Hazards identification

Emergency Overview:

Pictogram(s):



Signal word(s):

Danger

Hazard statements:

H302 - Harmful if swallowed
H317 - May cause an allergic skin reaction
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H350 - May cause cancer
H360 - May damage fertility or the unborn child
H410 Very toxic to aquatic life with long lasting effects

Precautionary statements:

P201 Obtain special instructions before use
P202 Do not handle until all safety precautions have been read and understood
P261 - Avoid breathing dust / fume / gas / mist / vapors / spray
P264 - Wash skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
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
P285 In case of inadequate ventilation wear respiratory protection
P301+312+330 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
P302+352 IF ON SKIN: Wash with plenty of soap and water
P304+341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308+313 - IF exposed or concerned: Get medical advice/attention
P333+313 - If skin irritation or rash occurs: Get medical advice/attention
P363 Wash contaminated clothing before reuse
P391 Collect spillage
P405 Store locked up
P501 Dispose of contents/ container to an approved waste disposal plant

GHS Classification:

Acute toxicity, Oral - 4
Respiratory sensitization - 1
Skin sensitization - 1
Carcinogenicity - 1B
Reproductive toxicity - 1B
Acute aquatic toxicity - 1
Chronic aquatic toxicity - 1

Hazards not otherwise classified:

None

HMIS ratings (scale 0-4):	Health hazard:	2*
	Flammability:	0
	Physical hazard:	0

3 Composition/Information on ingredients

Chemical name:	Cobalt (II) sulfate, heptahydrate
Designation:	
CAS number:	10026-24-1
EC number:	233-334-2
Formula:	CoSO ₄ ·7H ₂ O
Synonyms:	Cobaltous sulfate, Cobalt monosulfate

4 First aid measures

After inhalation:	Move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
After skin contact:	Wash off with soap and plenty of water. Consult a physician.
After eye contact:	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
After ingestion:	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Information for doctor:	Show this safety data sheet to the doctor in attendance
Symptoms/effects; acute and delayed:	If ingested, may cause vomiting and nausea. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Immediate medical attention and special treatment needed:	See above

5 Fire-fighting measures

Suitable and unsuitable extinguishing agents:	Water spray, alcohol-resistant foam, dry chemical or carbon dioxide
Special hazards caused by the material, its products of combustion or resulting gases:	Oxides of cobalt and sulfur (SO _x)
Special fire fighting procedures:	Wear self-contained breathing apparatus and fully protective fire fighting equipment/clothing
Unusual fire and explosion hazard:	No available data

6 Accidental release measures

Person-related safety precautions:	Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.
Measures for environmental protection:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
Measures for cleaning/collecting:	Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for proper disposal.
Additional information:	See Section 7 for information on safe handling See Section 8 for information on personal protective equipment See Section 13 for information on disposal See Section 15 for regulatory information

7 Handling and storage

Information for safe handling:	Avoid contact with skin and eyes. Avoid dust formation. Provide appropriate exhaust ventilation.
Information about protection against explosions and fires:	No data available
Storage requirements to be met by storerooms and containers:	Keep container tightly closed in a dry and well-ventilated place
Incompatibility (avoid contact with):	Strong oxidizers and bases. Product is hygroscopic and will adsorb moisture from the atmosphere

8 Exposure controls/personal protection

Ventilation requirements:	Local exhaust, chemical fume hood
Components with exposure limits that require monitoring:	OSHA PEL: TWA 0.1 mg(Co)/m ³ ACGIH TLV: TWA 0.02 mg(Co)/m ³
General protective and hygienic measures:	The usual precautionary measures for handling chemicals should be adhered to Keep away from foodstuffs, beverages and food Instantly remove any soiled and impregnated garments Wash hands during breaks and at the end of the work Avoid contact with the eyes and skin
Personal protective equipment:	
Respiratory protection:	Filter-dust, fume, mist; respirator equipped with HEPA
(Use only NIOSH or CEN approved Equipment)	
Hand protection:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique.
Eye protection:	Safety glasses, goggles

Skin protection:	Completely covering work attire with full length apron
Additional protective equipment:	Sufficient to prevent contact. Emergency eyewash and safety shower
Precautionary labeling:	Wash thoroughly after handling Do not get in eyes, on skin or on clothing Do not breathe dust, vapor, mist, gas Keep away from heat, sparks, and open flames Empty container may contain hazardous residues

9 Physical and chemical properties

Physical state:	Crystalline powder
Color:	Red-brown
Odor:	Odorless
Odor threshold:	No data available
Molecular Weight (Calculated):	154.99
pH	4 @ 100 g/L @ 20 C
Melting point/freezing point/range:	96.8 C
Boiling point/range:	420 C (- 7H2O)
Sublimation temperature/start:	No data available
Decomposition temperature:	No data available
Flammability (solid, gas):	Non-flammable
Flash point:	No data available
Autoignition temperature:	No data available
Danger of explosion:	No data available
Flammable limits:	
Lower:	No data available
Upper:	No data available
Evaporation Rate:	No data available
Vapor pressure (mm Hg):	No data available
Relative density:	1.948 g/cm3
Bulk density:	~ 0.9 g/cm3
Solubility in/Miscibility with water:	604 g/L @ 3 C
Partition coefficient n-octanol/water:	No data available
Viscosity:	No data available
Other information:	No additional information

10 Stability and reactivity

Reactivity:	No data available
Chemical stability:	Stable under recommended storage conditions
Possibility of hazardous reactions:	No data available
Conditions to be avoided:	Heat
Materials to be avoided:	Strong oxidizers and bases.
Dangerous reactions:	No data available
Hazardous decomposition products:	Oxides of cobalt and sulfur (SOx)

11 Toxicological information

LD/LC50 values that are relevant for classification:	oral-rat LD ₅₀ : 582 mg/kg
Irritation or corrosion of skin:	No data available
Irritation or corrosion of eyes:	No data available
Primary irritant or corrosive effect:	
on the skin:	No data available
on the eye:	No data available
Sensitization:	respiratory sensitizer, skin sensitizer
Potential health effects:	
Inhalation:	Material is irritating to mucous membranes and upper respiratory tract
Ingestion:	May cause nausea and vomiting
Skin:	Mild irritation
Eyes:	Moderate irritation
Signs and symptoms of exposure:	Suspect carcinogen. Harmful if inhaled or swallowed. May impair fertility. Poison by intravenous and intraperitoneal routes. Moderately toxic by ingestion. Cobalt has a low toxicity by ingestion. Ingestion of soluble salts produces nausea and vomiting by local irritation. In animals, administration of cobalt salts produces an increase in the total red cell mass of the blood. There have been reports of hematologic, digestive and pulmonary changes in humans. Cobalt is an experimental neoplastigen and tumorigen. It is an experimental carcinogen of the connective tissue and lungs.
Carcinogenicity:	IARC- 2B: Possibly carcinogenic to humans NTP-R: Reasonably anticipated to be a carcinogen RTECS: contains tumorigenic and/or carcinogenic and/or neoplastic data for components in this product
Additional information:	To the best of our knowledge the acute and chronic toxicity of this substance is not fully known

12 Ecotoxicological information

Toxicity:	
Toxicity to fish:	fathead minnow LC ₅₀ : 1.866 mg/L:96H
Toxicity to daphnia and other aquatic invertebrates:	water flea LC ₅₀ : 0.39 mg/L:48H
Toxicity to algae:	Pseudokirchneriella subcapitata ErC ₅₀ : 0.095 mg/L:72H
Persistence and degradability:	
Biodegradability:	No data available
Bioaccumulative potential:	
Bioaccumulation:	No data available
Mobility in soil:	No data available
Other adverse effects:	Very toxic to aquatic life with long lasting effects An environmental hazard cannot be excluded in the event of unprofessional handling or disposal

13 Disposal considerations

Recommendation:	Consult state, local or national regulation for proper disposal Allow professional disposal company to handle waste Must be specially treated under adherence to official regulations
Unclean packagings recommendation:	Disposal must be made according to official regulations

14 Transport information

Land transport DOT



Proper shipping name:	Environmentally hazardous substance, solid, n.o.s.
Technical name:	Cobalt (II) sulfate, heptahydrate
DOT Hazard Class:	9
UN Identification number:	UN3077
Label(s):	Class 9
Packing group:	III
North American Emergency Response Guidebook No.:	171

Air transport ICAO-TI and IATA-DGR:



Proper shipping name:	Environmentally hazardous substance, solid, n.o.s.
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UPS Ground / FedEx Ground



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UPS Air



Proper shipping name:	Environmentally hazardous substance, solid, n.o.s.
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UN Identification number:	UN3077
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15 Regulatory information

SARA Section 302 Extremely Hazardous components and corresponding TPQs:	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302
SARA Section 311 / 312 hazards:	Acute Health Hazard, Chronic Health Hazard
SARA Section 313 components:	The following components are subject to reporting levels established by SARA Title III, Section 313: Cobalt (II) sulfate, heptahydrate / CAS No. 10026-24-1 / Revision Date: 2009-07-17
California Proposition 65 components:	WARNING! This product contains a chemical known to the State of California to cause cancer: Cobalt (II) sulfate, heptahydrate / CAS No. 10026-24-1 / Revision Date: 2009-07-17
TSCA:	Product is listed on TSCA Inventory

16 Other information

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulation are subject to change and the conditions of handling and use, or misuse are beyond our control. NOAH MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use.