



Safety Data Sheet

In accordance with CFR 1910.1200 (OSHA HCS)

SDS No. 157

Date of review: October 11, 2018

1 Identification of substance and company

Product name: **Cadmium sulfate, hydrate**
Product code: 11501, 14604
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:

H301 Toxic if swallowed
H330 Fatal if inhaled
H340 May cause genetic defects
H350 May cause cancer
H360 May damage fertility or the unborn child
H372 Causes damage to organs through prolonged or repeated exposure
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
P260 Do not breathe dust or mist
P264 Wash skin thoroughly after handling
P270 Do not eat, drink or smoke when using this product
P271 Use only outdoors or in a well-ventilated area
P273 Avoid release to the environment
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection
P284 Wear respiratory protection
P301+310+330 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. Rinse mouth.
P304+340+310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
P308+313 IF exposed or concerned: Get medical advice/attention
P391 Collect spillage
P403+233 Store in a well-ventilated place. Keep container tightly closed
P405 Store locked up
P501 Dispose of contents/ container to an approved waste disposal plant

GHS Classification:

Acute toxicity, Oral - 3
Acute toxicity, Inhalation - 2
Germ cell mutagenicity - 1B
Carcinogenicity - 1B
Reproductive toxicity - 1B
Specific target organ toxicity - repeated exposure - 1
Acute aquatic toxicity - 1
Chronic aquatic toxicity - 1

Hazards not otherwise classified:

None

HMIS ratings (scale 0-4):	Health hazard:	3*
	Flammability:	0
	Physical hazard:	0

3 Composition/Information on ingredients

Chemical name:	Cadmium sulfate, hydrate
Designation:	
CAS number:	7790-84-3
EC number:	233-331-6
Formula:	CdSO ₄ · ⁸ / ₃ H ₂ O
Synonyms:	None known

4 First aid measures

After inhalation:	Move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
After skin contact:	Take off contaminated clothing and shoes immediately. 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. Consult a physician.
After ingestion:	Do NOT induce vomiting. 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:	Exposure can cause nausea, headache, and vomiting. Poison by ingestion, however, the irritating and emetic action is so violent that little of the cadmium has time to be absorbed and fatal poisoning rarely ensues. Inhalation of dust causes damage to the kidneys and lungs. Brief exposure by inhalation to high concentrations may result in pulmonary edema and death. Fatal concentration may be inhaled without sufficient discomfort to warn a worker to leave the exposure.
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 cadmium 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, metal powders, hydrogen azide, zinc, selenium and tellurium
Further information about storage conditions:	No data available

8 Exposure controls/personal protection

Ventilation requirements:	Local exhaust, chemical fume hood
Components with exposure limits that require monitoring:	OSHA PEL: TWA 0.005 mg(Cd)/m ³ ACGIH TLV: TWA 0.002 mg(Cd)/m ³ ; Kidney damage, suspected human carcinogen
Additional information:	No additional data available
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: (Use only NIOSH or CEN approved Equipment)	Filter-dust, fume, mist; respirator equipped with HEPA
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:	Powder
Color:	White
Odor:	Odorless
Odor threshold:	No data available
Molecular Weight (Calculated):	256.51
pH	No data available
Melting point/freezing point/range:	41.5 C
Boiling point/range:	No data available
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
Vapor density:	No data available
Specific gravity:	3.09
Bulk density:	No data available
Solubility in/Miscibility with water:	1130 g/L @ 0 C
Partition coefficient n-octanol/water:	No data available
Viscosity:	No data available
Other information:	No additional data

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, contact with incompatibles
Materials to be avoided:	See section 7 for information on proper handling and storage
Dangerous reactions:	Strong oxidizers, metal powders, hydrogen azide, zinc, selenium and tellurium
Hazardous decomposition products: (thermal and other)	Oxides of cadmium and sulfur (SOx)

11 Toxicological information

LD/LC50 values that are relevant for classification:	oral-rat LD ₅₀ : 107 mg/kg inhalation-rat LC ₅₀ : > 0.0046 mg/L:3H
Irritation or corrosion of skin:	No data available
Irritation or corrosion of eyes:	No data available
Primary irritant or corrosive effect:	
on the skin:	May cause irritation
on the eye:	May cause irritation
Sensitization:	No data available
Potential health effects:	
Inhalation:	May be fatal
Ingestion:	May be fatal
Skin:	May cause irritation
Eyes:	May cause irritation
Signs and symptoms of exposure:	Exposure can cause nausea, headache, and vomiting. Poison by ingestion, however, the irritating and emetic action is so violent that little of the cadmium has time to be absorbed and fatal poisoning rarely ensues.

Inhalation of dust causes damage to the kidneys and lungs. Brief exposure by inhalation to high concentrations may result in pulmonary edema and death. Fatal concentration may be inhaled without sufficient discomfort to warn a workman to leave the exposure.

Acute inhalation exposure to cadmium fumes may cause "metal fume fever" with flu-like symptoms of weakness, fever headache, chills, nausea, vomiting, dizziness, sweating, muscular pain, cough and difficulty breathing. Acute pulmonary edema may develop within 24 hours and reaches a maximum by three days. The first chronic effect of exposure to cadmium is generally kidney damage, manifested by excretion of excessive protein in the urine, followed by anemia, teeth discoloration and loss of smell. Cadmium also is believed to cause pulmonary emphysema and bone disease. Effects due to ingestion may include, headache, diarrhea, muscle weakness, seizures, liver injury may occur.

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known

Carcinogenicity:

EPA-A: Human carcinogen: sufficient evidence from epidemiologic studies

IARC-1: Carcinogenic to humans: sufficient evidence of carcinogenicity

NTP-1: Known to be carcinogenic: sufficient evidence from human studies

Carcinogen as defined by OSHA

ACGIH-A1: Confirmed human carcinogen: Agent is carcinogenic to humans based on epidemiologic studies

Additional information:

No data available

12 Ecotoxicological information

Toxicity:

Toxicity to fish:

Channel catfish LC₅₀: 4.48 mg/L:96H

Toxicity to daphnia and other aquatic invertebrates:

Daphnia pulex EC₅₀: 0.042 mg/L:48H

Toxicity to algae:

No data available

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

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:

Cadmium compounds

Technical name:

Cadmium sulfate

DOT Hazard Class:

6.1

UN Identification number:

UN2570

Label(s):

PGIII and Marine Pollutant

Packing group:

III

North American Emergency Response

Guidebook No.:

154

Air transport ICAO-TI and IATA-DGR:



Proper shipping name:

Cadmium compounds

Technical name:

Cadmium sulfate

DOT Hazard Class:

6.1

UN Identification number:

UN2570

Label(s):

Toxic and Marine Pollutant

Packing group:

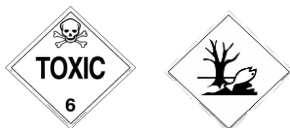
III

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Guidebook No.:

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UPS Ground / FedEx Ground



Proper shipping name: Cadmium compounds
Technical name: Cadmium sulfate
DOT Hazard Class: 6.1
UN Identification number: UN2570
Label(s): PGIII and Marine Pollutant
Packing group: III
North American Emergency Response Guidebook No.: 154

UPS Air



Proper shipping name: Cadmium compounds
Technical name: Cadmium sulfate
DOT Hazard Class: 6.1
UN Identification number: UN2570
Label(s): DOT-SP-8249 and Marine Pollutant
Packing group: III
North American Emergency Response Guidebook No.: 154

15 Regulatory information

SARA Section 302 Extremely Hazardous components and corresponding TPQs: Not subject
SARA Section 311 / 312 hazards: Acute Health Hazard, Chronic Health Hazard
SARA Section 313 components: This product contains chemical(s) subject to the reporting requirements of Section 313 of the Emergency Planning & Community Right-to-know Act of 1986 and 40CFR372
California Proposition 65 components: WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm
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.