

Safety Data Sheet

File version: 1

Cadmium sulfate, 1M

SDS Date: 28 Nov 2016

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 1M Cadmium sulfate
PRODUCT CODES: 1008155
1008156
MANUFACTURER: Rigaku Reagents
ADDRESS: 9009 New Trails Drive
The Woodlands, TX 77381
USA
PHONE: +1 (281) 362-2300
EMAIL: ReagentOrders@Rigaku.com

CHEMICAL NAME: Cadmium sulfate
CHEMICAL FAMILY: Cadmium compounds
CHEMICAL FORMULA: CdSO₄

PREPARED BY: Rigaku Reagents

SECTION 1 NOTES:**SECTION 2: HAZARDS IDENTIFICATION****EMERGENCY OVERVIEW:**

OSHA HAZARDS: Carcinogen, target organ effect, highly toxic by inhalation, toxic by ingestion, teratogen, reproductive hazard, mutagen

TARGET ORGANS: Lungs, kidney, bone, prostate, blood, pancreas, liver, male reproductive system.

GHS CLASSIFICATION

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

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

Signal word: Danger

Hazard statement(s):

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.
H400 Very toxic to aquatic life.

Precautionary statement(s):

P201 Obtain special instructions before use.
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P273 Avoid release to the environment.
P284 Wear respiratory protection.
P310 Immediately call a POISON CENTER or doctor/ physician.

POTENTIAL HEALTH EFFECTS:

EYES: May cause eye irritation.

SKIN: May be harmful if absorbed through skin. May cause skin irritation.

INGESTION: Toxic if swallowed.

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INHALATION: May be fatal if inhaled. May cause respiratory tract irritation.

SECTION 2 NOTES:**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

INGREDIENTS: Cadmium sulfate, De-ionized water

CADMIUM SULFATE:

<u>CAS NO.</u>	<u>% WT</u>	<u>% VOL</u>
10124-36-4	20.847	
	<u>ppm</u>	<u>mg/m3</u>
OSHA PEL-TWA: OSHA PEL STEL :		
ACGIH TLV-TWA: ACGIH TLV STEL:		0.0020

SECTION 3 NOTES:**SECTION 4: FIRST AID MEASURES**

EYES: Flush eyes with water as a precaution.

SKIN: Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

INGESTION: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

INHALATION: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

SECTION 4 NOTES:**SECTION 5: FIRE-FIGHTING MEASURES****FLASH POINT:**

F: No data available
C: No data available

AUTOIGNITION TEMPERATURE:

F: No data available
C: No data available

NFPA HAZARD CLASSIFICATION

HEALTH: 3 FLAMMABILITY: 0 REACTIVITY: 0

HMIS HAZARD CLASSIFICATION

HEALTH: 4 FLAMMABILITY: 0 REACTIVITY: 0

EXTINGUISHING MEDIA: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

HAZARDOUS DECOMPOSITION PRODUCTS: Hazardous decomposition products formed under fire conditions. - Sulfur oxides, Cadmium/cadmium oxides

SECTION 5 NOTES: The product itself does not burn.

SECTION 6: ACCIDENTAL RELEASE MEASURES

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PERSONAL PRECAUTIONS: Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

ENVIRONMENTAL PRECAUTIONS: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

SECTION 6 NOTES:

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep container tightly closed in a dry and well-ventilated place.

SECTION 7 NOTES:

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

EYE PROTECTION: Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

SKIN PROTECTION: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

WORK HYGIENIC PRACTICES: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

SECTION 8 NOTES:

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: clear, colorless

PHYSICAL STATE: liquid, clear

pH AS SUPPLIED: No data available

pH (Other): No data available

BOILING POINT:

F: No data available

C: No data available

FREEZING POINT:

F: No data available

C: No data available

VAPOR PRESSURE (mmHg): No data available

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Safety Data Sheet

File version: 1

Cadmium sulfate, 1M

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F: No data available**C:** No data available**VAPOR DENSITY (AIR = 1):** No data available**SPECIFIC GRAVITY (H₂O = 1):** No data available

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F: No data available**C:** No data available**EVAPORATION RATE:** No data available**SOLUBILITY IN WATER:** Soluble**VISCOSITY:** No data available

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F: No data available**C:** No data available**SECTION 9 NOTES:**

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable under recommended storage conditions.**CONDITIONS TO AVOID (STABILITY):** No data available**INCOMPATIBILITY (MATERIAL TO AVOID):** Strong oxidizing agents**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:** Hazardous decomposition products formed under fire conditions. - Sulfur oxides, Cadmium/cadmium oxides. Other decomposition products - no data available**SECTION 10 NOTES:**

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:**ORAL LD50:** Rat - 280 mg/kg**INHALATION LC50:** No data available**DERMAL LD50:** Intraperitoneal - mouse - 6.9 mg/kg**SKIN CORROSION/IRRITATION:** No data available**SERIOUS EYE DAMAGE/EYE IRRITATION:** No data available**RESPIRATORY OR SKIN SENSITIZATION:** No data available**GERM CELL MUTAGENICITY:** May alter genetic material. In vivo tests showed mutagenic effects.

Genotoxicity in vitro - rat – Liver: DNA damage

Genotoxicity in vitro - mouse – lymphocyte: Mutation in mammalian somatic cells.

Genotoxicity in vivo - mouse – Intraperitoneal: Micronucleus test

CARCINOGENICITY:**IARC:** 1 - Group 1: Carcinogenic to humans (Cadmium sulfate)**NTP:** 1 - Group 1: Carcinogenic to humans (Cadmium sulfate) Known to be human carcinogen. The reference note has been added by TD based on the background information of the NTP. (Cadmium sulfate)**OSHA:** 1910.1027 (Cadmium sulphate)**REPRODUCTIVE TOXICITY:****RAT – ORAL:**

Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea).

Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

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May cause reproductive disorders.

SECTION 11 NOTES: 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.

SECTION 12: ECOLOGICAL INFORMATION

TOXICITY:

TOXICITY TO FISH MORTALITY: LC50 - Pimephales promelas (fathead minnow) - 0.2 mg/l - 90.0 h

TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES: Immobilization EC50 - Daphnia magna (Water flea) - 0.15 mg/l - 48 h

PERSISTENCE AND DEGRADABILITY

No data available

BIOACCUMULATIVE POTENTIAL

No data available

MOBILITY IN SOIL

No data available

PBT AND vPvB ASSESSMENT

No data available

SECTION 12 NOTES: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life.

SECTION 13: DISPOSAL CONSIDERATIONS

PRODUCT: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

CONTAMINATED PACKAGING: Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION

PROPER SHIPPING NAME: Cadmium compounds (Cadmium sulfate)
HAZARD CLASS: 6.1
ID NUMBER: 2570
PACKING GROUP: III
MARINE POLLUTANT: No
POISON INHALATION HAZARD: No

WATER TRANSPORTATION

PROPER SHIPPING NAME: CADMIUM COMPOUND (Cadmium sulfate)
HAZARD CLASS: 6.1
ID NUMBER: 2570
PACKING GROUP: III EMS-No: F-A, S-A
MARINE POLLUTANT: No

AIR TRANSPORTATION

PROPER SHIPPING NAME: Cadmium compounds (Cadmium sulfate)
HAZARD CLASS: 6.1
ID NUMBER: 2570
PACKING GROUP: III

SECTION 14 NOTES:

Safety Data Sheet

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SECTION 15: REGULATORY INFORMATION

OSHA HAZARDS: Carcinogen, target organ effect, highly toxic by inhalation, toxic by ingestion, teratogen, reproductive hazard, mutagen**SARA 302 COMPONENTS:** No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.**SARA 313 COMPONENTS:** The following components are subject to reporting levels established by SARA Title III, Section 313:

	<u>CAS-No.</u>
Cadmium sulfate	10124-36-4

SARA 311/312 HAZARDS: Acute health hazard, chronic health hazard**MASSACHUSETTS RIGHT TO KNOW COMPONENTS:**

	<u>CAS-No.</u>
Cadmium sulfate	10124-36-4

PENNSYLVANIA RIGHT TO KNOW COMPONENTS:

	<u>CAS-No.</u>
Cadmium sulfate	10124-36-4
Water	7732-18-5

NEW JERSEY RIGHT TO KNOW COMPONENTS:

	<u>CAS-No.</u>
Cadmium sulfate	10124-36-4
Water	7732-18-5

CALIFORNIA PROP. 65 COMPONENTS:

WARNING! This product contains a chemical known to the State of California to cause cancer.

	<u>CAS-No.</u>
Cadmium sulfate	10124-36-4

WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

	<u>CAS-No.</u>
Cadmium sulfate	10124-36-4

SECTION 15 NOTES:

SECTION 16: OTHER INFORMATION

DISCLAIMER: The above information is believed to be correct but does not necessarily include all information and should be used only as a guide. The information in this document is based on our current knowledge and applies to the product with regard to appropriate safety precautions. This document does not represent any guarantee of the properties of the product. Rigaku Reagents will not be held liable for any damage resulting from handling or contact with the above product.