

SAFETY DATA SHEET

1. Identification

Product identifier: CADMIUM SULFATE

Other means of identification

Product No.: 1243

Recommended use and restriction on use

Recommended use: Not available.

Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company Name: Avantor Performance Materials, Inc.
Address: 3477 Corporate Parkway, Suite 200
Center Valley, PA 18034

Telephone: Customer Service: 855-282-6867

Fax:
Contact Person: Environmental Health & Safety
e-mail: info@avantormaterials.com

Emergency telephone number:

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

2. Hazard(s) identification

Hazard classification

Health hazards

Acute toxicity (Oral)	Category 3
Acute toxicity (Inhalation - dust and mist)	Category 2
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1B
Toxic to reproduction	Category 1B
Specific target organ toxicity - repeated exposure	Category 1

Environmental hazards

Chronic hazards to the aquatic environment	Category 1
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Label elements

Hazard symbol:



Signal word: Danger

Hazard statement: Fatal if inhaled.
Toxic if swallowed.
May cause cancer.
May cause genetic defects.
Causes damage to organs through prolonged or repeated exposure.
May damage fertility or the unborn child.
Very toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection. Wash hands thoroughly after handling. Avoid release to the environment.

Response: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER/doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. IF exposed or concerned: Get medical advice/attention. Specific treatment is urgent (see this label). Collect spillage.

Storage: Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

Chemical identity	Common name and synonyms	CAS number	Content in percent (%)*
CADMIUM SULFATE (HYDRATED FORM)		7790-84-3	99 - 100%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

Ingestion: Call a physician or poison control center immediately. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Inhalation: Move to fresh air. Get medical attention immediately. If breathing stops, provide artificial respiration. For breathing difficulties, oxygen may be necessary.

Skin contact: Wipe off excess material from skin. Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention immediately.

Most important symptoms/effects, acute and delayed

Symptoms: Fatal if inhaled. Toxic if swallowed.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed. Treat symptomatically.

5. Fire-fighting measures

General fire hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Keep unauthorized personnel away. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and material for containment and cleaning up: Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures: Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

Environmental precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid release to the environment.

7. Handling and storage

Precautions for safe handling:	Use personal protective equipment as required. Avoid contact with eyes, skin, and clothing. Do not breathe mist or vapor. Do not taste or swallow. Do not eat, drink or smoke when using the product. Use only with adequate ventilation. Wash hands thoroughly after handling. See Section 8 of the MSDS for Personal Protective Equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
Conditions for safe storage, including any incompatibilities:	Do not store in metal containers. Keep in a cool, well-ventilated place. Store in a dry place.

8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
CADMIUM SULFATE (HYDRATED FORM) - Respirable fraction. - as Cd	TWA	0.002 mg/m3	US. ACGIH Threshold Limit Values (2011)
CADMIUM SULFATE (HYDRATED FORM) - as Cd	TWA	0.01 mg/m3	US. ACGIH Threshold Limit Values (2011)
CADMIUM SULFATE (HYDRATED FORM)	TWA	0.005 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) (02 2006)
	OSHA_ACT	0.0025 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) (02 2006)

Biological limit values

Chemical identity	Exposure Limit values	Source
CADMIUM SULFATE (HYDRATED FORM) (Cadmium: Sampling time: Not critical.)	5 µg/l (Blood)	ACGIH BEL (03 2013)
	5 µg/g (Creatinine in urine)	ACGIH BEL (03 2013)

Exposure guidelines

US. ACGIH Threshold Limit Values	
	TWA
US. ACGIH Threshold Limit Values	
	TWA
US. ACGIH Threshold Limit Values	
US. ACGIH Threshold Limit Values	
US. NIOSH: Pocket Guide to Chemical Hazards	
US. NIOSH: Pocket Guide to Chemical Hazards	
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	
	REF
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	
	TWA
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	
	OSHA_ACT

US. OSHA Table Z-1-A (29 CFR 1910.1000)	
US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality)	
US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality)	
	ST ESL
US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality)	
	AN ESL

Appropriate engineering controls

No data available.

Individual protection measures, such as personal protective equipment

General information:	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.
Eye/face protection:	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection:	Chemical resistant gloves
Other:	Wear suitable protective clothing.
Respiratory protection:	In case of inadequate ventilation use suitable respirator. Air-purifying respirator with a high efficiency particulate filter.
Hygiene measures:	Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

9. Physical and chemical properties

Appearance

Physical state:	Solid
Form:	Crystals or powder.
Color:	Colorless
Odor:	Odorless
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	No data available.
Flash Point:	No data available.
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.

Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	3.08 (20 °C)
Solubility(ies)	
Solubility in water:	Freely Soluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Hazardous polymerization does not occur.
Conditions to avoid:	Heat, sparks, flames. Avoid conditions which create dust. Contact with incompatible materials.
Incompatible materials:	Oxidizing agents. Metals.
Hazardous decomposition products:	No data available.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	Toxic if swallowed.
Inhalation:	Fatal if inhaled. May cause irritation to the respiratory system.
Skin contact:	May cause irritation.
Eye contact:	May irritate eyes.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral	
Product:	No data available.
Dermal	
Product:	No data available.
Inhalation	
Product:	No data available.

Repeated dose toxicity

Product: No data available.

Skin corrosion/irritation

Product: May cause skin irritation.

Serious eye damage/eye irritation

Product: May irritate eyes.

Respiratory or skin sensitization

Product: Not a skin nor a respiratory sensitizer.

Carcinogenicity

Product: May cause cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

CADMIUM
SULFATE
(HYDRATED
FORM) Overall evaluation: 1. Carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

CADMIUM
SULFATE
(HYDRATED
FORM) Known To Be Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ cell mutagenicity

In vitro

Product: May cause genetic defects.

In vivo

Product: May cause genetic defects.

Reproductive toxicity

Product: May damage fertility or the unborn child.

Specific target organ toxicity - single exposure

Product: None known.

Specific target organ toxicity - repeated exposure

Product: Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard

Product: Not classified

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic invertebrates

Product: No data available.

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and degradability

Biodegradation

Product: There are no data on the degradability of this product.

BOD/COD ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration factor (BCF)

Product: Has the potential to bioaccumulate.

Partition coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in soil: The product is water soluble and may spread in water systems.

Other adverse effects: Very toxic to aquatic life with long lasting effects.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number:	UN 2570
UN proper shipping name:	Cadmium compounds(CADMIUM SULFATE)
Transport hazard class(es)	
Class(es):	6.1
Label(s):	6.1
Packing group:	III
Marine Pollutant:	Yes

IMDG

UN number:	UN 2570
UN proper shipping name:	CADMIUM COMPOUND(CADMIUM SULFATE)
Transport hazard class(es)	
Class(es):	6.1
Label(s):	6.1
EmS No.:	F-A, S-A
Packing group:	III
Marine Pollutant:	No

IATA

UN number:	UN 2570
Proper Shipping Name:	Cadmium compound(CADMIUM SULFATE)
Transport hazard class(es):	
Class(es):	6.1
Label(s):	6.1
Marine Pollutant:	No
Packing group:	III

15. Regulatory information

US federal regulations
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund amendments and reauthorization act of 1986 (SARA)
Hazard categories

<input checked="" type="checkbox"/> Acute (Immediate)	<input checked="" type="checkbox"/> Chronic (Delayed)	<input type="checkbox"/> Fire	<input type="checkbox"/> Reactive	<input type="checkbox"/> Pressure Generating
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SARA 302 Extremely hazardous substance

None present or none present in regulated quantities.

SARA 304 Emergency release notification

Chemical identity	RQ
CADMIUM SULFATE	
(HYDRATED FORM)	

SARA 311/312 Hazardous chemical

Chemical identity	Threshold Planning Quantity
CADMIUM SULFATE	500 lbs
(HYDRATED FORM)	

SARA 313 (TRI reporting)

Chemical identity	Reporting threshold for other users	Reporting threshold for manufacturing and processing
CADMIUM SULFATE	10000 lbs	25000 lbs.
(HYDRATED FORM)		

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US state regulations

US. California Proposition 65

CADMIUM SULFATE (HYDRATED FORM)	Carcinogenic.
CADMIUM SULFATE (HYDRATED FORM)	Developmental toxin.
CADMIUM SULFATE (HYDRATED FORM)	Male reproductive toxin.

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

CADMIUM SULFATE (HYDRATED FORM)	Listed
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US. Massachusetts RTK - Substance List

CADMIUM SULFATE (HYDRATED FORM)	Listed
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US. Pennsylvania RTK - Hazardous Substances

CADMIUM SULFATE (HYDRATED FORM)	Listed
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US. Rhode Island RTK

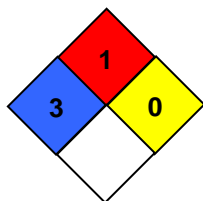
CADMIUM SULFATE (HYDRATED FORM)	Listed
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Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Japan (ENCS) List:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	Not in compliance with the inventory.
Japan ISHL Listing:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

16. Other information, including date of preparation or last revision

NFPA Hazard ID



	Flammability
	Health
	Reactivity
	Special hazard.

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

Issue date: 08-20-2014

Revision date: No data available.

Version #: 2.1

Further information: No data available.

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