

SAFETY DATA SHEET

1. Identification

Product identifier CADMIUM CHLORIDE, HYDRATED, REAGENT (ACS)

Other means of identification

Product code 869

Synonyms CADMIUM CHLORIDE, HEMIPENTAHYDRATE

Recommended use professional, scientific and technical activities: other professional, scientific and technical activities

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company nameGFS Chemicals, Inc.AddressP.O. Box 245Powell, OH 43065

United States

Telephone Phone 740-881-5501

Toll Free 800-858-9682 Fax 740-881-5989

Website www.gfschemicals.com
E-mail service@gfschemicals.com

Emergency phone Emergency Assistance

number

2. Hazard(s) identification

Physical hazards Not classified.

Health hazardsAcute toxicity, oralCategory 3Acute toxicity, dermalCategory 4Acute toxicity, inhalationCategory 2CarcinogenicityCategory 1Reproductive toxicityCategory 1

Specific target organ toxicity, repeated

exposure

Environmental hazards Hazardous to the aquatic environment, acute

hazard

Hazardous to the aquatic environment,

long-term hazard

OSHA defined hazardsNot classified.

Label elements



Signal word Danger

Hazard statement Toxic if swallowed. Harmful in contact with skin. Fatal if inhaled. May cause cancer. May damage

fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.

Category 1

Category 1

Category 1

Chemtrec 800-424-9300

Very toxic to aquatic life. 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. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear respiratory protection. Wear protective gloves/protective clothing/eye

protection/face protection.

Response IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF ON SKIN: Wash with

plenty of soap and water. If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. Take off contaminated clothing

and wash before reuse. Collect spillage. Rinse mouth.

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Store in a well-ventilated place. Keep container tightly closed. Store locked up. **Storage**

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.

Hazard(s) not otherwise

None known. classified (HNOC)

Supplemental information None.

3. Composition/information on ingredients

Substances

Chemical name		Common name and synonyms	CAS number	%
CADMIUM (CHLORIDE, HYDRATED	CADMIUM CHLORIDE, HEMIPENTAHYDRATE	7790-78-5	100

^{*}Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or

> artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other

proper respiratory medical device. Call a physician or poison control center immediately. Skin contact

Wash off with soap and water. Get medical attention if irritation develops or persists. Get medical advice/attention if you feel unwell. Get medical attention if irritation develops and persists. Wash

contaminated clothing before reuse.

Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove Eye contact

contact lenses, if present and easy to do. Get medical attention if irritation develops or persists.

Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion Call a physician or poison control center immediately. Rinse mouth. Drink plenty of water. 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. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a

one-way valve or other proper respiratory medical device.

Most important

symptoms/effects, acute and

delayed

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

Prolonged exposure may cause chronic effects.

General information IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s)

involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in

attendance.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2). Use any media suitable for the

surrounding fires.

Unsuitable extinguishing

media

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from

the chemical

In the event of fire fumes of cadmium may be formed.

Special protective equipment

and precautions for firefighters

Firefighters should wear full protective clothing including self contained breathing apparatus.

Fire fighting

equipment/instructions

Move containers from fire area if you can do it without risk. Use water spray to cool unopened

containers.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not breathe dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages

cannot be contained. For personal protection, see section 8 of the SDS.

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Methods and materials for containment and cleaning up

Refer to attached safety data sheets and/or instructions for use. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). This material is a water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water. Should not be released into the environment. Prevent entry into waterways, sewers, basements or confined areas. Stop leak if you can do so without risk.

Large Spills: Wet down with water and dike for later disposal. Sweep up or gather material and place in appropriate container for disposal. Avoid dust formation. Prevent entry into waterways, sewer, basements or confined areas. Clean up in accordance with all applicable regulations. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. After removal flush contaminated area thoroughly with water. Small Dry Spills: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. This material and its container must be disposed of as hazardous waste.

Environmental precautions

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities Store locked up. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Store in a cool dry place.

8. Exposure controls/personal protection

Occupational exposure limits

Bio

CADMIUM CHLORIDE,

HYDRATED (CAS 7790-78-5)

U.S OSHA Material		Value	Form
CADMIUM CHLORIDE, HYDRATED (CAS	Type TWA	0.005 mg/m3	as Cd
7790-78-5)			
,	Regulated Substances (29 CFR 1910.10	01-1050)	
Material	Туре	Value	
CADMIUM CHLORIDE, HYDRATED (CAS 7790-78-5)	TWA	0.005 mg/m3	
ACGIH			
Material	Туре	Value	Form
CADMIUM CHLORIDE, HYDRATED (CAS 7790-78-5)	TWA	0.01 mg/m3	total dust as Cd
,		0.002 mg/m3	respirable fraction as Cd
US. ACGIH Threshold	Limit Values		
Material	Туре	Value	Form
CADMIUM CHLORIDE, HYDRATED (CAS 7790-78-5)	TWA	0.01 mg/m3	
		0.002 mg/m3	Respirable fraction.
ogical limit values			
US. ACGIH. BEIs. Biolo	ogical Exposure Indices		
Material	Value Determinant	Specimen Sampling 1	Гime

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5 µg/g

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Cadmium

Creatinine in

urine

US. ACGIH. BEIs. Biological Exposure Indices

Material	Value	Determinant	Specimen	Sampling Time	
	5 μg/l	Cadmium	Blood	*	

^{* -} For sampling details, please see the source document.

Appropriate engineering controls

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.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels

exceeding the exposure limits. Wear respirator if there is dust formation.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance Crystals Solid. **Physical state** Solid. **Form** Color White. Odor Odorless. **Odor threshold** Not available. pН Not available. Not available. Melting point/freezing point

Initial boiling point and boiling range

Not available.

Flash point Not available. **Evaporation rate** Not available. Flammability (solid, gas) Not available. Upper/lower flammability or explosive limits

Flammability limit - lower

(%)

Not available.

Flammability limit -

Not available.

upper (%)

Explosive limit - lower

Not available.

Explosive limit - upper

(%) (%)

Not available.

Not available. Vapor pressure Vapor density Not available. **Relative density** Not available.

Solubility(ies)

Solubility (water) 1680 q/l **Partition coefficient** Not available.

(n-octanol/water)

Not available. **Auto-ignition temperature Decomposition temperature** Not available. **Viscosity** Not available.

Other information

Density 3.327 g/cm3

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Molecular formula CdCl2.2.5H2O Molecular weight 228.35 g/mol

Specific gravity 3.33

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport

Chemical stability Material is stable under normal conditions. Possibility of hazardous Hazardous polymerization does not occur.

reactions

Conditions to avoid Avoid high temperatures. Contact with incompatible materials.

Incompatible materials Strong oxidizing agents.

Hazardous decomposition

products

Chlorine. Decomposition of this product may yield metallic oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation Fatal if inhaled.

Skin contact Harmful in contact with skin.

Eve contact Direct contact with eyes may cause temporary irritation.

Toxic if swallowed. **Ingestion**

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Fatal if inhaled. Toxic if swallowed. Harmful in contact with skin. **Acute toxicity**

Test Results Product Species

CADMIUM CHLORIDE, HYDRATED (CAS 7790-78-5)

Acute Oral

LD50 Mouse

60 mg/kg

Rat 88 mg/kg

Other

LD50 Mouse 3.5 mg/kg

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation. Serious eye damage/eye Direct contact with eyes may cause temporary irritation.

irritation

Respiratory or skin sensitization

Respiratory sensitization Not available.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are

mutagenic or genotoxic.

Carcinogenicity May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

CADMIUM CHLORIDE, HYDRATED (CAS 7790-78-5) 1 Carcinogenic to humans.

US OSHA Hazard Categories (1)

CADMIUM CHLORIDE, HYDRATED (CAS 7790-78-5) Cancer **US. National Toxicology Program (NTP) Report on Carcinogens**

CADMIUM CHLORIDE, HYDRATED (CAS 7790-78-5) Known To Be Human Carcinogen.

Reproductive toxicity May damage fertility or the unborn child.

Specific target organ toxicity

Not classified.

- single exposure

Specific target organ toxicity

Causes damage to organs through prolonged or repeated exposure.

- repeated exposure

Not available. **Aspiration hazard**

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^{*} Estimates for product may be based on additional component data not shown.

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Product		Species	Test Results
CADMIUM CHLORIDE	, HYDRATED (CAS	7790-78-5)	
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	0.0093 - 0.0102 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	0.006 mg/l, 96 hours

^{*} Estimates for product may be based on additional component data not shown.

No data is available on the degradability of this product. Persistence and degradability

Bioaccumulative potential No data available. Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation

potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this

material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with

chemical or used container. Dispose of contents/container in accordance with

local/regional/national/international regulations. Dispose of waste material according to Local,

State, Federal, and Provincial Environmental Regulations.

Dispose in accordance with all applicable regulations. Local disposal regulations

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste

disposal company.

Waste from residues /

unused products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal

instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

Since emptied containers may retain product residue, follow label warnings even after container is

emptied.

14. Transport information

DOT

UN number LIN2570

UN proper shipping name Cadmium compounds (CADMIUM CHLORIDE)

Transport hazard class(es)

Class 6.1(PGIII)

Subsidiary risk Label(s) 6.1 **Packing group**

Special precautions for

user

Read safety instructions, SDS and emergency procedures before handling.

IB8, IP3, T1, TP33 **Special provisions**

Packaging exceptions 153 Packaging non bulk 213 **Packaging bulk** 240

IATA

UN number LIN2570

UN proper shipping name Cadmium compound (CADMIUM CHLORIDE)

Transport hazard class(es)

Class 6.1(PGIII)

Subsidiary risk Packing group III**Environmental hazards** No. **ERG Code**

Special precautions for

user

Read safety instructions, SDS and emergency procedures before handling.

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Other information

Passenger and cargo Allowed.

aircraft

Cargo aircraft only Allowed.

IMDG

UN number UN2570

UN proper shipping name CADMIUM COMPOUND (CADMIUM CHLORIDE)

Transport hazard class(es)

Class 6.1(PGIII)

Subsidiary risk Packing group III
Environmental hazards

Marine pollutant No. mS F-A, S-A

Special precautions for Read safety instructions, SDS and emergency procedures before handling.

user

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78

and the IBC Code

DOT



IATA; IMDG



15. Regulatory information

US federal regulationsThis product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard,

29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory List.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

CADMIUM CHLORIDE, HYDRATED (CAS 7790-78-5) Listed.

SARA 304 Emergency release notification

Not regulated.

US OSHA Hazard Categories (1)

CADMIUM CHLORIDE, HYDRATED (CAS 7790-78-5) Cancer

US OSHA Hazard Categories (2)

CADMIUM CHLORIDE, HYDRATED (CAS 7790-78-5) Lung

US OSHA Hazard Categories (3)

CADMIUM CHLORIDE, HYDRATED (CAS 7790-78-5) Kidney

US OSHA Hazard Categories (4)

CADMIUM CHLORIDE, HYDRATED (CAS 7790-78-5)

Acute toxicity

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Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes

Delayed Hazard - Yes Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Yes

Hazardous chemical

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.	% by wt.	
CADMIUM CHLORIDE, HYDRATED	7790-78-5	100		

Other federal regulations

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

CADMIUM CHLORIDE, HYDRATED (CAS 7790-78-5)

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

Not regulated.

Clean Water Act (CWA)
Section 112(r) (40 CFR
68.130)

Safe Drinking Water Act
(SDWA)

Hazardous substance
Priority pollutant
Toxic pollutant

0.005 mg/l
0.005 mg/l

US state regulations WARNING: This product contains a chemical known to the State of California to cause cancer.

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

CADMIUM CHLORIDE, HYDRATED (CAS 7790-78-5)

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

CADMIUM CHLORIDE, HYDRATED (CAS 7790-78-5)

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

CADMIUM CHLORIDE, HYDRATED (CAS 7790-78-5)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

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

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

CADMIUM CHLORIDE, HYDRATED (CAS 7790-78-5) Listed: October 1, 1987

US - California Proposition 65 - CRT: Listed date/Developmental toxin

CADMIUM CHLORIDE, HYDRATED (CAS 7790-78-5) Listed: May 1, 1997

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

CADMIUM CHLORIDE, HYDRATED (CAS 7790-78-5) Listed: May 1, 1997

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

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Country(s) or region Inventory name On inventory (yes/no)*

United States & Puerto Rico Toxic Substances Control Act (TSCA) Inventory

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

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

Issue date August-24-2015

Version # 01

Disclaimer GFS Chemicals cannot anticipate all conditions under which this information and its product, or the

products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the

sheet was written based on the best knowledge and experience currently available.

Revision Information Product and Company Identification: Synonyms

Hazards Identification: US Hazardous

Composition / Information on Ingredients: Disclosure Overrides

Exposure Controls / Personal Protection: OELs Physical & Chemical Properties: Multiple Properties Toxicological Information: Toxicological Data

Transport Information: Proper Shipping Name/Packing Group

Regulatory Information: Risk Phrases - Class.

HazReg Data: North America

GHS: Classification

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