

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product Name : 1.0 M Cadmium sulfate hydrate  
Product Number : HR2-721  
REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.  
CAS Number : 7631-99-4

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Laboratory chemicals, Manufacture of substances.

**1.3 Details of the supplier of the Safety Data Sheet**

Company : Hampton Research  
34 Journey  
Aliso Viejo, CA 92656-3317  
United States  
Telephone : 949 425 1321  
Telephone technical support is available 8:00 a.m. to 4:30 p.m. USA Pacific Standard Time.  
Fax : 949 425 1611  
Fax Technical Support is available 24 hours a day.  
e-mail : tech@hrmail.com  
e-mail Technical Support is available 24 hours a day.

**1.4 Emergency telephone number**

Emergency phone : 949 425 1321  
For **CHEMTREC** Assistance : 800 424 9300  
For **CHEMTREC** Assistance : 703 527 3887 (International)

**SECTION 2: Hazards Identification****2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Acute toxicity, Oral (Category 3), H301  
Acute toxicity, Inhalation (Category 2), H330  
Germ cell mutagenicity (Category 1B), H340  
Carcinogenicity (Category 1B), H350  
Reproductive toxicity (Category 1B), H360  
Specific target organ toxicity - repeated exposure (Category 1), H372  
Acute aquatic toxicity (Category 1), H400

## (CONTINUED) - SECTION 2: Hazards Identification

Chronic aquatic toxicity (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

### Classification according to EU Directives 67/548/EEC or 1999/45/EC

		R45
		R60, R61
		R46
T+	Very toxic	R26
T	Toxic	R25, R48/23/25
N	Dangerous for the environment	R50/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

### 2.2 Label elements

#### Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram



Signal word

: Danger

Hazard statement(s)

H301	: Toxic if swallowed.
H330	: Fatal if inhaled.
H340	: May cause genetic defects.
H350	: May cause cancer.
H360FD	: May damage fertility. May damage the unborn child.
H372	: Causes damage to organs through prolonged or repeated exposure.
H410	: Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P201	: Obtain special instructions before use.
P260	: Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	: Wash skin thoroughly after handling.
P273	: Avoid release to the environment.
P284	: Wear respiratory protection.

Supplemental Hazard Statements

: none

### 2.3 Other hazards - none

## SECTION 3: Composition/Information on Ingredients

### 3.1 Substances

<b>Synonym</b>	: Cadmium sulfate octahydrate
<b>Formula</b>	: $3\text{CdO}_4\text{S}\cdot 8\text{H}_2\text{O}$
<b>Molecular Weight</b>	: 769.52
<b>CAS Number</b>	: 15244-35-6
<b>EC Number</b>	: 233-331-6

RTECS	Merck	Beilstein	SARA	MDL #	PubChem Substance ID
EV2850000	14,1627	N/A	No	MFCD00151655	N/A

#### Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
<b>Cadmium sulfate hydrate</b>		
CAS-No. 7790-84-3 EC-No. 233-331-6 Index-No. 048-009-00-9 Registration number 01-2119487964-18-XXXX	Acute Tox. 3; Acute Tox. 2; Muta. 1B; Carc. 1B; Repr. 1B; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1; H301, H330, H340, H350, H360FD, H372, H410	<= 100 %

#### Hazardous ingredients according to Directive 1999/45/EC

Component	Classification	Concentration
<b>Cadmium sulfate hydrate</b>		
CAS-No. 7790-84-3 EC-No. 233-331-6 Index-No. 048-009-00-9 Registration number 01-2119487964-18-XXXX	T+, N, Carc.Cat.2, Repr.Cat.2, Mut.Cat.2, R45 - R46 - R60 - R61 - R25 - R26 - R48/23/25 - R50/53	<= 100 %

## SECTION 4: First Aid Measures

### 4.1 Description of first aid measures

#### General Advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

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

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes as a precaution and consult a physician.

#### If swallowed

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

## **(CONTINUED) - SECTION 4: First Aid Measures**

### **4.2 Most important symptoms and effects, both acute and delayed**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. The most important known symptoms and effects are described in the labeling (see Section 2.2) and/or in Section 11.

### **4.3 Indication of any immediate medical attention and special treatment needed**

No data available

## **SECTION 5: Fire Fighting Measures**

### **5.1 Extinguishing media**

#### **Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### **5.2 Special hazards arising from the substance or mixture**

Sulphur oxides, Cadmium/cadmium oxides

### **5.3 Advice for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

### **5.4 Further Information**

The product itself does not burn.

## **SECTION 6: Accidental Release Measures**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Ensure adequate ventilation. Avoid breathing dust. For personal protection see section 8.

### **6.2 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.

### **6.3 Methods and materials for containment and cleaning up**

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### **6.4 Reference to other sections**

For disposal see section 13.

## **SECTION 7: Handling and Storage**

### **7.1 Personal Precautions**

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.  
Provide appropriate exhaust ventilation at places where dust is formed.  
Normal measures for preventive fire protection.

## (CONTINUED) - SECTION 7: Handling and Storage

For precautions see section 2.2. Normal measures for preventive fire protection.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## (CONTINUED) - SECTION 8: Exposure Controls/Personal Protection

### 8.1 Control parameters

#### Components with workplace control parameters

### 8.2 Exposure controls

#### Appropriate engineering controls

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

#### Personal protective equipment

##### Eye/face 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.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

##### Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

##### Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

## (CONTINUED) - SECTION 8: Exposure Controls/Personal Protection

### Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) 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).

### Control of environmental exposure

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

## SECTION 9: Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

a) Appearance	Form: solid	Color: no data available
b) Odor	no data available	
c) Odor Threshold	no data available	
d) pH	no data available	
e) Melting point/freezing point	no data available	
f) Initial boiling point and boiling range	no data available	
g) Flash point	no data available	
h) Evaporation rate	no data available	
i) Flammability (solid, gas)	no data available	
j) Upper/lower flammability or explosive limits	no data available	
k) Vapor pressure	no data available	
l) Vapor density	no data available	
m) Relative density	no data available	
n) Water solubility	no data available	
o) Partition coefficient: noctanol/water	no data available	
p) Autoignition temperature	no data available	
q) Decomposition temperature	no data available	
r) Viscosity	no data available	
s) Explosive properties	no data available	
t) Oxidizing properties	no data available	

## (CONTINUED) - SECTION 9: Physical and Chemical Properties

### 9.2 Other safety information

Surface tension	no data available
Relative vapour density	no data available

## SECTION 10: Stability and Reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

no data available

### 10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

## SECTION 11: Toxicological Information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - rat - male - 107 mg/kg

LD50 Oral - rat - male - 3 h - > 0.0046 mg/l

#### Skin irritation / corrosion

no data available

#### Serious eye damage/eye irritation

no data available

#### Respiratory or skin sensitization

no data available

#### Germ cell mutagenicity

In vivo tests showed mutagenic effects

Human

## (CONTINUED) - SECTION 11: Toxicological Information

### Chronic exposure

This is or contains a component that has been reported to be carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

Possible human carcinogen

IARC: 1 - Group 1: Carcinogenic to humans (Cadmium sulfate hydrate)

### Reproductive toxicity

Presumed human reproductive toxicant

Experiments have shown reproductive toxicity effects on laboratory animals.

### Specific target organ toxicity - single exposure

no data available

### Specific target organ toxicity - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

### Aspiration hazard

no data available

### Signs and Symptoms of 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, Diarrhoea, muscle weakness, Seizures, Liver injury may occur, Kidney injury may occur.

### Additional information

RTECS: EV2850000

## SECTION 12: Ecological Information

### 12.1 Toxicity

Toxicity to fish LC50 - *Ictalurus punctatus* - 4.48 mg/l - 96 h  
Remarks: anhydrous

Toxicity to daphnia and other aquatic invertebrates LC50 - *Daphnia pulex* (Water flea) - 0.042 mg/l - 48 h  
Remarks: anhydrous

### 12.2 Persistence and degradability

no data available

### 12.3 Bioaccumulative potential

Biodegradability Result: - According to the results of tests of biodegradability this product is not readily biodegradable.  
Remarks: no data available



## (CONTINUED) - SECTION 12: Ecological Information

### 12.4 Mobility in soil

no data available

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

### 12.6 Other adverse effects

Very toxic to aquatic life with long lasting effects.

## SECTION 13: Disposal Considerations

### 13.1 Waste treatment methods

#### 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: Transportation Information

### 14.1 UN number

ADR/RID: 2570

IMDG: 2570

IATA: 2570

### 14.2 UN proper shipping name

ADR/RID: CADMIUM COMPOUND (Cadmium sulfate hydrate)

IMDG: CADMIUM COMPOUND (Cadmium sulfate hydrate)

IATA: Cadmium compound (Cadmium sulfate hydrate)

### 14.3 Transport hazard class(es)

ADR/RID: 6.1

IMDG: 6.1

IATA: 6.1

### 14.4 Packaging group

ADR/RID: III

IMDG: III

IATA: III

### 14.5 Environmental hazards

ADR/RID: yes

IMDG Marine pollutant: yes

IATA: no

### 14.6 Special precautions for user

no data available

## SECTION 15: Regulatory Information

This safety datasheet complies with the requirements of Regulation (EC) No 1907/2006.

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**  
no data available

**15.2 Chemical Safety Assessment**  
no data available

## SECTION 16: Other Information

### Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
Carc.	Carcinogenicity
H301	Toxic if swallowed.
H330	Fatal if inhaled.
H340	May cause genetic defects.
H350	May cause cancer.
H360FD	May damage fertility. May damage the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

### Full text of R-phrases referred to under sections 2 and 3

N	Dangerous for the environment
T+	Very toxic
R25	Toxic if swallowed.
R26	Very toxic by inhalation.
R45	May cause cancer.
R46	May cause heritable genetic damage.
R48/23/25	Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R60	May impair fertility.
R61	May cause harm to the unborn child.
Repr.Cat.2	Toxic to Reproduction Category 2

### DISCLAIMER

For research use only. Not for drug, household, or other use.

## **(CONTINUED) - SECTION 16: Other Information**

### **WARRANTY**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of this product. Hampton Research Corp., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

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