

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Catalogue No. 102027
Product name Cadmium sulfate hydrate for analysis EMSURE® ACS

Mut.Cat.2	Mutagenic Category 2	R46
Repr.Cat.2	Toxic to Reproduction Category 2	R60 - 61
T+	Very toxic	R26
T	Toxic	R25
T	Toxic	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 (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word

Danger

Hazard statements

H340 May cause genetic defects.

H350 May cause cancer.

H360FD May damage fertility. May damage the unborn child.

H301 Toxic if swallowed.

H330 Fatal if inhaled.

H372 Causes damage to organs through prolonged or repeated exposure.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P201 Obtain special instructions before use.

P273 Avoid release to the environment.

Response

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P309 + P310 IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

Restricted to professional users.

Reduced labelling (≤ 125 ml)

Hazard pictograms



Signal word

Danger

Hazard statements

H340 May cause genetic defects.

H350 May cause cancer.

H360FD May damage fertility. May damage the unborn child.

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Precautionary statements

P201 Obtain special instructions before use.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P309 + P310 IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

Restricted to professional users.

CAS-No. 7790-84-3

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

3.1 Substance

Formula	3 CdSO ₄ * 8 H ₂ O	Cd ₃ O ₁₂ S ₃ * 8 H ₂ O Cd ₃ O ₁₂ S ₃ * 8 H ₂ O (Hill)
CAS-No.	7790-84-3	
EC-No.	233-331-6	
Molar mass	769,51 g/mol	

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical Name (Concentration)

CAS-No.	Registration number	Classification
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cadmium sulphate octahydrate (<= 100 %)

The concentration stated or, in the absence of such concentrations, the general concentrations of Directive 1999/45/EC are the percentages by weight of the metallic element calculated with reference to the total weight of the mixture.

7790-84-3 *)

Acute toxicity, Category 3, H301
Acute toxicity, Category 2, H330
Germ cell mutagenicity, Category 1B, H340
Carcinogenicity, Category 1B, H350
Reproductive toxicity, Category 1B, H360FD
Specific target organ toxicity - repeated exposure, Category 1, H372
Acute aquatic toxicity, Category 1, H400
Chronic aquatic toxicity, Category 1, H410

*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Hazardous components (1999/45/EC)

Chemical Name (Concentration)

CAS-No.	Classification
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cadmium sulphate octahydrate (<= 100 %)

The concentration stated or, in the absence of such concentrations, the general concentrations of Directive 1999/45/EC are the percentages by weight of the metallic element calculated with reference to the total weight of the mixture.

7790-84-3 Carc.Cat.2; R45
Mut.Cat.2; R46
Repr.Cat.2; R60-61
T+, Very toxic; R26
T, Toxic; R25-48/23/25
Xn, Harmful; R20/21/22
N, Dangerous for the environment; R50/53

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N, Dangerous for the environment; R50/53

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

3.2 Preparation
not applicable

SECTION 4. First aid measures

4.1 Description of first aid measures

General advice

First aider needs to protect himself.

After inhalation: fresh air. Immediately apply artificial respiration. If necessary oxygen.
Immediately call in physician.

After skin contact: wash off with plenty of water. Remove contaminated clothing. Get medical attention.

After eye contact: rinse out with plenty of water. Call in ophthalmologist.

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

4.2 Most important symptoms and effects, both acute and delayed

irritant effects, Cough, Shortness of breath, gastric pain, Diarrhoea, Nausea, Vomiting, Headache, Convulsions, muscular weakness, death

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapours.

Fire may cause evolution of:

Sulphur oxides

5.3 Advice for firefighters

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

6.2 Environmental precautions

Do not empty into drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture.

Observe label precautions.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

Store at +15°C to +25°C.

7.3 Specific end use(s)

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

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

cadmium sulphate octahydrate (7790-84-3)

AU OEL Time Weighted Average 0,01 mg/m³ Expressed as: as Cd
(TWA):

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

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Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection

Safety glasses

Hand protection

full contact:

Glove material: Nitrile rubber
Glove thickness: 0,11 mm
Break through time: > 480 min

splash contact:

Glove material: Nitrile rubber
Glove thickness: 0,11 mm
Break through time: > 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment

protective clothing

Respiratory protection

required when dusts are generated.

Recommended Filter type: Filter P 3 (acc. to DIN 3181) for solid and liquid particles of toxic and very toxic substances

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls

Do not empty into drains.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	solid
Colour	off-white
Odour	odourless
Odour Threshold	No information available.
pH	3,0 - 6,0 at 50 g/l 20 °C

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Melting point	41,5 °C
Boiling point/boiling range	(decomposition)
Flash point	does not flash
Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Vapour pressure	No information available.
Relative vapour density	No information available.
Relative density	3,10 g/cm ³ at 20 °C
Water solubility	1.130 g/l at 20 °C
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	> 80 °C
Viscosity, dynamic	No information available.
Explosive properties	No information available.
Oxidizing properties	No information available.

9.2 Other data

Ignition temperature	not combustible
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SECTION 10. Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

releases water of crystallisation when heated.

10.3 Possibility of hazardous reactions

Violent reactions possible with:

Metals, Oxidizing agents

10.4 Conditions to avoid

Strong heating (decomposition).

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10.5 Incompatible materials

no information available

10.6 Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

LD50 rat: 280 mg/kg (anhydrous substance) (RTECS)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract., gastric pain, Nausea, Vomiting

absorption

Acute inhalation toxicity

Symptoms: Cough, Shortness of breath, After a latency period:, Lung oedema
absorption

Acute dermal toxicity

absorption

Skin irritation

This information is not available.

Eye irritation

This information is not available.

Sensitisation

This information is not available.

Germ cell mutagenicity

Genotoxicity in vitro

Mutagenicity (mammal cell test): chromosome aberration.

Result: positive

(Lit.)

Mutagenicity (mammal cell test):

Result: positive

(Lit.)

Carcinogenicity

This information is not available.

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

CMR effects

Carcinogenicity:

May cause cancer.

Mutagenicity:

May cause genetic defects.

Teratogenicity:

May cause harm to the unborn child.

Reproductive toxicity:

May damage fertility.

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Specific target organ toxicity - single exposure

This information is not available.

Specific target organ toxicity - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard

This information is not available.

11.2 Further information

After absorption:

Systemic effects:

Headache, Diarrhoea, muscular weakness, Changes in the blood count, Convulsions, death pain in:

gastrointestinal tract

Damage to:

Lungs, Bone, Liver, Kidney

Further data:

This substance should be handled with particular care.

SECTION 12. Ecological information

12.1 Toxicity

Toxicity to fish

LC50 *Oncorhynchus mykiss* (rainbow trout): 0,0011 mg/l; 96 h (anhydrous substance) (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates

EC50 *Daphnia magna* (Water flea): 0,0016 mg/l; 48 h (anhydrous substance) (ECOTOX Database)

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information 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

Additional ecological information

Biological effects:

Hazard for drinking water supplies.

Further information on ecology

Discharge into the environment must be avoided.

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SECTION 13. Disposal considerations

Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information

Land transport (ADR/RID)

14.1 UN number UN 2570
14.2 Proper shipping name CADMIUM COMPOUND (CADMIUMSULFATE)
14.3 Class 6.1
14.4 Packing group III
14.5 Environmentally hazardous yes
14.6 Special precautions for user yes
Tunnel restriction code E

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 UN number UN 2570
14.2 Proper shipping name CADMIUM COMPOUND (CADMIUMSULFATE)
14.3 Class 6.1
14.4 Packing group III
14.5 Environmentally hazardous yes
14.6 Special precautions for user no

Sea transport (IMDG)

14.1 UN number UN 2570
14.2 Proper shipping name CADMIUM COMPOUND (CADMIUMSULFATE)
14.3 Class 6.1
14.4 Packing group III
14.5 Environmentally hazardous yes
14.6 Special precautions for user yes
EmS F-A S-A

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

Other regulations

Hazchem Code 2X

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SECTION 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

National legislation

Storage class 6.1B

Standard for the Uniform S6
Scheduling of Medicines and
Poisons - Poisons Schedule
Number:

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

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

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

R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
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.

Training advice

Provide adequate information, instruction and training for operators.

Labelling (67/548/EEC or 1999/45/EC)

<i>Symbol(s)</i>	 T+  N	Very toxic Dangerous for the environment
<i>R-phrases(s)</i>	45-46-60-61-25-26- 48/23/25-50/53	May cause cancer. May cause heritable genetic damage. May impair fertility. May cause harm to the unborn child. Also toxic if swallowed. Also very toxic by inhalation. Also toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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S-phrase(s) 53-45-60-61 Avoid exposure - obtain special instructions before use. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/ Safety data sheets.

Further information
Restricted to professional users.

EC-No. 233-331-6

Reduced labelling (≤125 ml)

Symbol(s)   T+
N

R-phrase(s) 45-46-60-61-25-26-48/23/25 May cause cancer. May cause heritable genetic damage. May impair fertility. May cause harm to the unborn child. Also toxic if swallowed.

Also very toxic by inhalation. Also toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

S-phrase(s) 53-45 Avoid exposure - obtain special instructions before use. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.