

# Safety Data Sheet

acc. to OSHA HCS

Printing date 10/04/2017

Reviewed on 10/04/2017

## 1 Identification

- **Product identifier**
- **Trade name:** Cadmium Chloride  
2% w/v Solution
- **Article number:** AM135S3
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Aqua Solutions, Inc.  
6913 Highway 225  
DEER PARK, TX 77536  
USA  
800-256-2586
- **Information department:**  
Technical Coordinator  
Sherman Nelson sherman@aquasolutions.org
- **Emergency telephone number:**  
Chemtrec: 800-424-9300  
Canutec: 613-996-6666



## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Muta. 1B H340 May cause genetic defects.  
 Carc. 1A H350 May cause cancer.  
 Repr. 1 H360 May damage fertility or the unborn child.  
 STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
Cadmium Chloride
- **Hazard statements**  
May cause genetic defects.  
May cause cancer.  
May damage fertility or the unborn child.  
May cause damage to organs through prolonged or repeated exposure.
- **Precautionary statements**  
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.  
Wear protective gloves/protective clothing/eye protection/face protection.

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*IF exposed or concerned: Get medical advice/attention.*

*Get medical advice/attention if you feel unwell.*

*Store locked up.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 3

Fire = 0

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

## 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

|                 |                  |       |
|-----------------|------------------|-------|
| CAS: 10108-64-2 | Cadmium Chloride | 1.97% |
|-----------------|------------------|-------|

· **Table of Nonhazardous Ingredients**

|                |       |        |
|----------------|-------|--------|
| CAS: 7732-18-5 | Water | 98.03% |
|----------------|-------|--------|

## 4 First-aid measures

· **Description of first aid measures**

· **General information:**

*Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.*

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:** Generally the product does not irritate the skin.

· **After eye contact:** Rinse opened eye for several minutes under running water.

· **After swallowing:** If symptoms persist consult doctor.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

*No further relevant information available.*

## 5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

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- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

|                 |                  |                        |
|-----------------|------------------|------------------------|
| CAS: 10108-64-2 | Cadmium Chloride | 0.16 mg/m <sup>3</sup> |
|-----------------|------------------|------------------------|

- **PAC-2:**

|                 |                  |                       |
|-----------------|------------------|-----------------------|
| CAS: 10108-64-2 | Cadmium Chloride | 1.2 mg/m <sup>3</sup> |
|-----------------|------------------|-----------------------|

- **PAC-3:**

|                 |                  |                       |
|-----------------|------------------|-----------------------|
| CAS: 10108-64-2 | Cadmium Chloride | 7.6 mg/m <sup>3</sup> |
|-----------------|------------------|-----------------------|

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

|                 |                  |
|-----------------|------------------|
| CAS: 10108-64-2 | Cadmium Chloride |
|-----------------|------------------|

|     |                                                                         |
|-----|-------------------------------------------------------------------------|
| PEL | Long-term value: 0.005 mg/m <sup>3</sup><br>as Cd; see 29 CFR 1910.1027 |
|-----|-------------------------------------------------------------------------|

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REL See Pocket Guide App. A  
TLV Long-term value: 0.01 0.002\* mg/m<sup>3</sup>  
as Cd; \*respirable fraction; BEI

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Liquid

Color: Clear

· **Odor:** Chloride

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: Undetermined.

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|                                                   |                                               |
|---------------------------------------------------|-----------------------------------------------|
| <b>Boiling point/Boiling range:</b>               | 100 °C (212 °F)                               |
| · <b>Flash point:</b>                             | Not applicable.                               |
| · <b>Flammability (solid, gaseous):</b>           | Not applicable.                               |
| · <b>Ignition temperature:</b>                    |                                               |
| <b>Decomposition temperature:</b>                 | Not determined.                               |
| · <b>Auto igniting:</b>                           | Product is not selfigniting.                  |
| · <b>Danger of explosion:</b>                     | Product does not present an explosion hazard. |
| · <b>Explosion limits:</b>                        |                                               |
| <b>Lower:</b>                                     | Not determined.                               |
| <b>Upper:</b>                                     | Not determined.                               |
| · <b>Vapor pressure at 20 °C (68 °F):</b>         | 23 hPa (17 mm Hg)                             |
| · <b>Density at 20 °C (68 °F):</b>                | 1.01506 g/cm <sup>3</sup> (8.471 lbs/gal)     |
| · <b>Relative density</b>                         | Not determined.                               |
| · <b>Vapor density</b>                            | Not determined.                               |
| · <b>Evaporation rate</b>                         | Not determined.                               |
| · <b>Solubility in / Miscibility with Water:</b>  | Fully miscible.                               |
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined.                               |
| · <b>Viscosity:</b>                               |                                               |
| <b>Dynamic:</b>                                   | Not determined.                               |
| <b>Kinematic:</b>                                 | Not determined.                               |
| · <b>Solvent content:</b>                         |                                               |
| <b>Organic solvents:</b>                          | 0.0 %                                         |
| <b>Water:</b>                                     | 98.0 %                                        |
| <b>VOC content:</b>                               | 0.0 g/l / 0.00 lb/gl                          |
| <b>Solids content:</b>                            | 2.0 %                                         |
| · <b>Other information</b>                        | No further relevant information available.    |

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

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### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

#### ATE (Acute Toxicity Estimate)

|            |          |                  |
|------------|----------|------------------|
| Oral       | LD50     | 5431 mg/kg (rat) |
| Inhalative | LC50/4 h | 228 mg/l (rat)   |

#### CAS: 10108-64-2 Cadmium Chloride

|            |          |                 |
|------------|----------|-----------------|
| Oral       | LD50     | 107 mg/kg (rat) |
| Inhalative | LC50/4 h | 4.5 mg/l (rat)  |

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
The product can cause inheritable damage.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

|                 |                  |   |
|-----------------|------------------|---|
| CAS: 10108-64-2 | Cadmium Chloride | I |
|-----------------|------------------|---|

- **NTP (National Toxicology Program)**

|                 |                  |   |
|-----------------|------------------|---|
| CAS: 10108-64-2 | Cadmium Chloride | K |
|-----------------|------------------|---|

- **OSHA-Ca (Occupational Safety & Health Administration)**

|                 |                  |
|-----------------|------------------|
| CAS: 10108-64-2 | Cadmium Chloride |
|-----------------|------------------|

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 3 (Self-assessment): extremely hazardous for water  
Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
Danger to drinking water if even extremely small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

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### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

- |                                                                                                                                                                       |                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| · <b>UN-Number</b>                                                                                                                                                    | UN3287                                             |
| · <b>DOT, IMDG, IATA</b>                                                                                                                                              |                                                    |
| · <b>UN proper shipping name</b>                                                                                                                                      | Toxic liquid, inorganic, n.o.s. (Cadmium Chloride) |
| · <b>DOT</b>                                                                                                                                                          | TOXIC LIQUID, INORGANIC, N.O.S. (Cadmium Chloride) |
| · <b>IMDG, IATA</b>                                                                                                                                                   |                                                    |
| · <b>Transport hazard class(es)</b>                                                                                                                                   |                                                    |
| · <b>DOT</b>                                                                                                                                                          |                                                    |
|   |                                                    |
| · <b>Class</b>                                                                                                                                                        | 6.1 Toxic substances                               |
| · <b>Label</b>                                                                                                                                                        | 6.1                                                |
|                                                                                                                                                                       |                                                    |
| · <b>IMDG, IATA</b>                                                                                                                                                   |                                                    |
|                                                                                    |                                                    |
| · <b>Class</b>                                                                                                                                                        | 6.1 Toxic substances                               |
| · <b>Label</b>                                                                                                                                                        | 6.1                                                |
| · <b>Packing group</b>                                                                                                                                                | III                                                |
| · <b>DOT, IMDG, IATA</b>                                                                                                                                              |                                                    |
| · <b>Environmental hazards:</b>                                                                                                                                       | Not applicable.                                    |
| · <b>Marine pollutant:</b>                                                                                                                                            | Yes (DOT)                                          |
| · <b>Special precautions for user</b>                                                                                                                                 | Warning: Toxic substances                          |
| · <b>Danger code (Kemler):</b>                                                                                                                                        | 61                                                 |
| · <b>EMS Number:</b>                                                                                                                                                  | F-A,S-A                                            |
| · <b>Stowage Category</b>                                                                                                                                             | A                                                  |
| · <b>Stowage Code</b>                                                                                                                                                 | SW2 Clear of living quarters.                      |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>                                                                                      | Not applicable.                                    |

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· **Transport/Additional information:**

· **DOT**

· **Quantity limitations**

On passenger aircraft/rail: 60 L

On cargo aircraft only: 220 L

· **Remarks:**

Special marking with the symbol (fish and tree).

· **UN "Model Regulation":**

UN 3287 TOXIC LIQUID, INORGANIC, N.O.S. (CADMIUM CHLORIDE), 6.1, III

## 15 Regulatory information

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

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

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· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

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· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

CAS: 10108-64-2 Cadmium Chloride

B1

· **TLV (Threshold Limit Value established by ACGIH)**

CAS: 10108-64-2 Cadmium Chloride

A2

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

CAS: 10108-64-2 Cadmium Chloride

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS08

· **Signal word** Danger

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- **Hazard-determining components of labeling:**  
*Cadmium Chloride*
- **Hazard statements**  
*May cause genetic defects.*  
*May cause cancer.*  
*May damage fertility or the unborn child.*  
*May cause damage to organs through prolonged or repeated exposure.*
- **Precautionary statements**  
*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.*  
*Wear protective gloves/protective clothing/eye protection/face protection.*  
*IF exposed or concerned: Get medical advice/attention.*  
*Get medical advice/attention if you feel unwell.*  
*Store locked up.*  
*Dispose of contents/container in accordance with local/regional/national/international regulations.*
- **National regulations:**
- **Additional classification according to Decree on Hazardous Materials:**  
*Carcinogenic hazardous material group III (dangerous).*
- **Information about limitation of use:**  
*Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.*  
*Exceptions can be made by the authorities in certain cases.*
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

- **Department issuing SDS:** Environment protection department.
- **Contact:**
- **Date of preparation / last revision**  
*10-04-2017: review SDS for accuracy. STN*  
*Revision 0.0, 09-07-2015: Creation Date for SDS. STN*  
*10/04/2017 / -*
- **Abbreviations and acronyms:**  
*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*  
*IMDG: International Maritime Code for Dangerous Goods*  
*DOT: US Department of Transportation*  
*IATA: International Air Transport Association*  
*ACGIH: American Conference of Governmental Industrial Hygienists*  
*EINECS: European Inventory of Existing Commercial Chemical Substances*  
*ELINCS: European List of Notified Chemical Substances*  
*CAS: Chemical Abstracts Service (division of the American Chemical Society)*  
*NFPA: National Fire Protection Association (USA)*  
*HMIS: Hazardous Materials Identification System (USA)*  
*VOC: Volatile Organic Compounds (USA, EU)*  
*LC50: Lethal concentration, 50 percent*  
*LD50: Lethal dose, 50 percent*  
*PBT: Persistent, Bioaccumulative and Toxic*  
*vPvB: very Persistent and very Bioaccumulative*  
*NIOSH: National Institute for Occupational Safety*  
*OSHA: Occupational Safety & Health*  
*TLV: Threshold Limit Value*  
*PEL: Permissible Exposure Limit*

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*REL: Recommended Exposure Limit**Muta. 1B: Germ cell mutagenicity – Category 1B**Carc. 1A: Carcinogenicity – Category 1A**Repr. 1: Reproductive toxicity – Category 1**STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*

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