

Creation Date 09-Dec-2010

Revision Date 25-Feb-2019

Revision Number 8

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identification

**Product Description:** Cadmium chloride, anhydrous  
**Cat No. :** 219140000; 219140100; 219141000; 219145000  
**CAS-No** 10108-64-2  
**EC-No.** 233-296-7  
**Molecular Formula** Cd Cl<sub>2</sub>

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

**Recommended Use** Laboratory chemicals.  
**Uses advised against** No Information available

### 1.3. Details of the supplier of the safety data sheet

**Company** **UK entity/business name**  
Fisher Scientific UK  
Bishop Meadow Road, Loughborough,  
Leicestershire LE11 5RG, United Kingdom

**EU entity/business name**  
Acros Organics BVBA  
Janssen Pharmaceuticaaan 3a  
2440 Geel, Belgium

**E-mail address** begel.sdsdesk@thermofisher.com

### 1.4. Emergency telephone number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

#### CLP Classification - Regulation (EC) No 1272/2008

##### Physical hazards

Based on available data, the classification criteria are not met

##### Health hazards

Acute oral toxicity	Category 3 (H301)
Acute Inhalation Toxicity - Dusts and Mists	Category 2 (H330)
Germ Cell Mutagenicity	Category 1B (H340)
Carcinogenicity	Category 1B (H350)

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Reproductive Toxicity  
Specific target organ toxicity - (repeated exposure)

Category 1B (H360FD)  
Category 1 (H372)

## Environmental hazards

Acute aquatic toxicity  
Chronic aquatic toxicity

Category 1 (H400)  
Category 1 (H410)

## 2.2. Label elements



Signal Word

Danger

## **Hazard Statements**

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 Statements**

P201 - Obtain special instructions before use  
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection  
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell  
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing  
P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
P273 - Avoid release to the environment

## **Additional EU labelling**

Restricted to professional users

## 2.3. Other hazards

No information available

## **SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

### 3.1. Substances

Component	CAS-No	EC-No.	Weight %	CLP Classification - Regulation (EC) No 1272/2008
Cadmium chloride	10108-64-2	EEC No. 233-296-7	>95	Acute Tox. 3 (H301) Acute Tox. 2 (H330) Muta. 1B (H340) Carc. 1B (H350)

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				Repr. 1B (H360FD) STOT RE 1 (H372) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
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Full text of Hazard Statements: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

<b>General Advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.
<b>Ingestion</b>	Do not induce vomiting. Call a physician or Poison Control Center immediately.
<b>Inhalation</b>	Move to fresh air. If breathing is difficult, give oxygen. Immediate medical attention is required. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
<b>Self-Protection of the First Aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

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

No information available.

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

**Notes to Physician** Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

#### **Suitable Extinguishing Media**

Dry chemical, CO<sub>2</sub>, water spray or alcohol-resistant foam.

#### **Extinguishing media which must not be used for safety reasons**

No information available.

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

Non-combustible. Do not allow run-off from fire fighting to enter drains or water courses.

#### **Hazardous Combustion Products**

Fumes, Highly toxic fumes.

### 5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full

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protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

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

Ensure adequate ventilation. Use personal protective equipment. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Avoid dust formation.

### 6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. See Section 12 for additional ecological information. Avoid release to the environment. Collect spillage.

### 6.3. Methods and material for containment and cleaning up

Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal.

### 6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Use only under a chemical fume hood. Do not get in eyes, on skin, or on clothing. Do not ingest. Wear personal protective equipment. Do not breathe vapors/dust. Avoid dust formation.

#### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

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

Keep containers tightly closed in a dry, cool and well-ventilated place. Store under an inert atmosphere.

### 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### **Exposure limits**

List source(s): UK - EH40/2005 Containing the workplace exposure limits (WELs) for use with the Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended). Updated by September 2006 official press release and October 2007 Supplement.

Component	The United Kingdom	European Union	Ireland
Cadmium chloride	STEL: 0.075 mg/m <sup>3</sup> 15 min TWA: 0.025 mg/m <sup>3</sup> 8 hr Carc.		

#### **Biological limit values**

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List source(s):

## Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

**Derived No Effect Level (DNEL)** No information available

<u>Route of exposure</u>	<b>Acute effects (local)</b>	<b>Acute effects (systemic)</b>	<b>Chronic effects (local)</b>	<b>Chronic effects (systemic)</b>
Oral Dermal Inhalation				

**Predicted No Effect Concentration (PNEC)** No information available.

## 8.2. Exposure controls

### Engineering Measures

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Personal protective equipment

**Eye Protection** Goggles (European standard - EN 166)

**Hand Protection** Protective gloves

<b>Glove material</b>	<b>Breakthrough time</b>	<b>Glove thickness</b>	<b>EU standard</b>	<b>Glove comments</b>
Natural rubber Nitrile rubber Neoprene PVC	See manufacturers recommendations	-	EN 374	(minimum requirement)

**Skin and body protection** Long sleeved clothing

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

**Respiratory Protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

**Large scale/emergency use** Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced  
**Recommended Filter type:** Particulates filter conforming to EN 143

**Small scale/Laboratory use** Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.  
**Recommended half mask:-** Particle filtering: EN149:2001

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When RPE is used a face piece Fit Test should be conducted

**Environmental exposure controls** Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

<b>Appearance</b>	White	
<b>Physical State</b>	Powder Solid	
<b>Odor</b>	No information available	
<b>Odor Threshold</b>	No data available	
<b>pH</b>	No information available	
<b>Melting Point/Range</b>	568 °C / 1054.4 °F	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	960 °C / 1760 °F	
<b>Flash Point</b>	No information available	<b>Method -</b> No information available
<b>Evaporation Rate</b>	Not applicable	Solid
<b>Flammability (solid,gas)</b>	No information available	
<b>Explosion Limits</b>	No data available	
<b>Vapor Pressure</b>	13 mbar @ 656 °C	
<b>Vapor Density</b>	Not applicable	Solid
<b>Specific Gravity / Density</b>	No data available	
<b>Bulk Density</b>	No data available	
<b>Water Solubility</b>	1400 g/L (20°C)	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Component</b>	<b>log Pow</b>	
Cadmium chloride	5	
<b>Autoignition Temperature</b>		
<b>Decomposition Temperature</b>	No data available	
<b>Viscosity</b>	Not applicable	Solid
<b>Explosive Properties</b>	No information available	
<b>Oxidizing Properties</b>	No information available	

### 9.2. Other information

<b>Molecular Formula</b>	Cd Cl <sub>2</sub>
<b>Molecular Weight</b>	183.31

## SECTION 10: STABILITY AND REACTIVITY

**10.1. Reactivity** None known, based on information available

**10.2. Chemical stability** Hygroscopic.

### 10.3. Possibility of hazardous reactions

**Hazardous Polymerization** No information available.  
**Hazardous Reactions** None under normal processing.

### 10.4. Conditions to avoid

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Incompatible products. Excess heat. Exposure to moist air or water. Avoid dust formation.

## 10.5. Incompatible materials

Metals. Powdered metals.

## 10.6. Hazardous decomposition products

Fumes. Highly toxic fumes.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### Product Information

#### (a) acute toxicity;

Oral Category 3  
Dermal No data available  
Inhalation Category 2

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Cadmium chloride	LD50 = 88 mg/kg ( Rat )		

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

#### (d) respiratory or skin sensitization;

Respiratory No data available  
Skin No data available

(e) germ cell mutagenicity; Category 1B

Substances which cause concern for man owing to possible mutagenic effects but for which the available information is not adequate for making a satisfactory assessment

(f) carcinogenicity; Category 1B

Possible cancer hazard. May cause cancer based on animal data The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC
Cadmium chloride	Carc Cat. 1B			Group 1

#### (g) reproductive toxicity;

Reproductive Effects Category 1B  
Teratogenicity Experiments have shown reproductive toxicity effects on laboratory animals. Teratogenic effects have occurred in experimental animals.

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; Category 1

Target Organs Blood, Respiratory system, Kidney, Prostate.

(j) aspiration hazard; Not applicable

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Solid

**Other Adverse Effects** See actual entry in RTECS for complete information

**Symptoms / effects, both acute and delayed** No information available

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

#### Ecotoxicity effects

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Cadmium chloride	0.0409 mg/L LC50 96 h	0.012 - 0.054 mg/L EC50 48 h	3.7 mg/L EC50 = 96 h	= 17 mg/L EC50 Photobacterium phosphoreum 15 min as Cd++ = 5.4 mg/L EC50 Photobacterium phosphoreum 30 min as Cd++ = 98 mg/L EC50 Photobacterium phosphoreum 5 min as Cd++

### 12.2. Persistence and degradability

#### Persistence

May persist, based on information available.

#### Degradability

Not relevant for inorganic substances.

#### Degradation in sewage treatment plant

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

### 12.3. Bioaccumulative potential

May have some potential to bioaccumulate

Component	log Pow	Bioconcentration factor (BCF)
Cadmium chloride	5	38

### 12.4. Mobility in soil

The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

### 12.5. Results of PBT and vPvB assessment

No data available for assessment.

### 12.6. Other adverse effects

#### Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

#### Persistent Organic Pollutant

This product does not contain any known or suspected substance

#### Ozone Depletion Potential

This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

#### Waste from Residues / Unused Products

Should not be released into the environment. Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.



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**Contaminated Packaging** Dispose of this container to hazardous or special waste collection point.

**European Waste Catalogue (EWC)** According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

**Other Information** Do not dispose of waste into sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not let this chemical enter the environment.

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

**14.1. UN number** UN2570  
**14.2. UN proper shipping name** CADMIUM COMPOUND  
**14.3. Transport hazard class(es)** 6.1  
**14.4. Packing group** III

### ADR

**14.1. UN number** UN2570  
**14.2. UN proper shipping name** CADMIUM COMPOUND  
**14.3. Transport hazard class(es)** 6.1  
**14.4. Packing group** III

### IATA

**14.1. UN number** UN2570  
**14.2. UN proper shipping name** CADMIUM COMPOUND  
**14.3. Transport hazard class(es)** 6.1  
**14.4. Packing group** III

**14.5. Environmental hazards** Dangerous for the environment  
 Product is a marine pollutant according to the criteria set by IMDG/IMO

**14.6. Special precautions for user** No special precautions required

**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

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

**International Inventories** X = listed.

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	IECSC	AICS	KECL
Cadmium chloride	233-296-7	-		X	X	-	X	X	X	X	KE-0440 1

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Cadmium chloride		Use restricted. See item 28. (see <a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT</a> for restriction details)	Carcinogenic (Article 57a); Mutagenic (Article 57b); Toxic for reproduction (Article 57c); Equivalent level of concern having probable serious effects to human

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		Use restricted. See item 29. (see <a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT</a> for restriction details) Use restricted. See item 30. (see <a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT</a> for restriction details)	health (Article 57 f)
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## National Regulations

Component	Germany - Water Classification (VwVwS)	Germany - TA-Luft Class
Cadmium chloride	WGK 3	

Component	France - INRS (Tables of occupational diseases)
Cadmium chloride	Tableaux des maladies professionnelles (TMP) - RG 61

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment.  
 Take note of Dir 94/33/EC on the protection of young people at work  
 Take note of Dir 92/85/EC on the protection of pregnant and breastfeeding women at work  
 Take note of Dir 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations

## 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

## 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

### Legend

- |   |  |
|---|--|
| <p><b>CAS</b> - Chemical Abstracts Service</p> <p><b>EINECS/ELINCS</b> - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances</p> <p><b>PICCS</b> - Philippines Inventory of Chemicals and Chemical Substances</p> <p><b>IECSC</b> - Chinese Inventory of Existing Chemical Substances</p> <p><b>KECL</b> - Korean Existing and Evaluated Chemical Substances</p><br><p><b>WEL</b> - Workplace Exposure Limit</p> <p><b>ACGIH</b> - American Conference of Governmental Industrial Hygienists</p> <p><b>DNEL</b> - Derived No Effect Level</p> <p><b>RPE</b> - Respiratory Protective Equipment</p> <p><b>LC50</b> - Lethal Concentration 50%</p> <p><b>NOEC</b> - No Observed Effect Concentration</p> <p><b>PBT</b> - Persistent, Bioaccumulative, Toxic</p> | <p><b>TSCA</b> - United States Toxic Substances Control Act Section 8(b) Inventory</p> <p><b>DSL/NDL</b> - Canadian Domestic Substances List/Non-Domestic Substances List</p> <p><b>ENCS</b> - Japanese Existing and New Chemical Substances</p> <p><b>AICS</b> - Australian Inventory of Chemical Substances</p> <p><b>NZIoC</b> - New Zealand Inventory of Chemicals</p><br><p><b>TWA</b> - Time Weighted Average</p> <p><b>IARC</b> - International Agency for Research on Cancer</p> <p><b>PNEC</b> - Predicted No Effect Concentration</p> <p><b>LD50</b> - Lethal Dose 50%</p> <p><b>EC50</b> - Effective Concentration 50%</p> <p><b>POW</b> - Partition coefficient Octanol:Water</p> <p><b>vPvB</b> - very Persistent, very Bioaccumulative</p> |
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**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - Volatile Organic Compounds

## Key literature references and sources for data

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

## Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

First aid for chemical exposure, including the use of eye wash and safety showers.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

Chemical incident response training.

<b>Creation Date</b>	09-Dec-2010
<b>Revision Date</b>	25-Feb-2019
<b>Revision Summary</b>	Not applicable.

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

## Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**