

**Safety data sheet**  
according to 1907/2006/EC, Article 31

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Printing date 16.08.2021

Revision: 16.08.2021

Version number 5.00 (replaces version 4.01)

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

- **1.1 Product identifier**
- **Trade name:** Caesium chloride
- **Article number:** A1098
- **CAS Number:**  
7647-17-8
- **EC number:**  
231-600-2
- **Registration number** 01-2119977124-35-XXXX
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Life cycle stages** PW Widespread use by professional workers
- **Sector of Use** SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- **Process category**  
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition  
PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities  
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)  
PROC15 Use as laboratory reagent
- **Environmental release category** ERC2 Formulation into mixture
- **Technical function** No technical function
- **Application of the substance / the mixture** Laboratory chemicals
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
AppliChem GmbH  
Ottoweg 4  
D-64291 Darmstadt  
Tel.: +49 (0)6151 93570  
Fax.: +49 (0)6151 935711  
msds@applichem.com
- **Further information obtainable from:** Dept. Compliance
- **1.4 Emergency telephone number:** +49(0)6151 93570 (Inside normal business hours)

**SECTION 2: Hazards identification**

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**  
Repr. 2 H361 Suspected of damaging fertility or the unborn child.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The substance is classified and labelled according to the CLP regulation.

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· **Hazard pictograms**



GHS08

· **Signal word** Warning

· **Hazard statements**

H361 Suspected of damaging fertility or the unborn child.

· **Precautionary statements**

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### SECTION 3: Composition/information on ingredients

· **3.1 Substances**

· **CAS No. Description**

7647-17-8 Caesium chloride

· **Identification number(s)**

· **EC number:** 231-600-2

### SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.

Personal protection for the First Aider.

· **After inhalation:** Supply fresh air or oxygen; call for doctor.

· **After skin contact:**

Immediately rinse with water.

Immediately remove any clothing soiled by the product.

If skin irritation continues, consult a doctor.

· **After eye contact:**

Rinse opened eye for several minutes under running water.

Call a doctor immediately.

· **After swallowing:**

Rinse out mouth.

Do not induce vomiting; call for medical help immediately.

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

No further relevant information available.

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

No further relevant information available.

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**SECTION 5: Firefighting measures**

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture**  
In case of fire, the following can be released:  
Metal oxides  
Hydrogen chloride (HCl)  
Phosgene gas  
Non-combustible.
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

**SECTION 6: Accidental release measures**

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Avoid formation of dust.  
Avoid substance contact.  
Ensure adequate ventilation
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Pick up mechanically.  
Avoid formation of dust.  
Clean up affected area.
- **6.4 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.

**SECTION 7: Handling and storage**

- **7.1 Precautions for safe handling** Any unavoidable deposit of dust must be regularly removed.
- **Information about fire - and explosion protection:** The product is not flammable.
- **7.2 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:** Store away from oxidising agents.
- **Further information about storage conditions:**  
This product is hygroscopic.  
Keep container sealed.
- **Recommended storage temperature:** Room Temperature
- **Storage class:** 13
- **7.3 Specific end use(s)** No further relevant information available.

**SECTION 8: Exposure controls/personal protection**

- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.

· **DNELs**

Dermal	Long-term - systemic effects, worker	4.18 mg/kg
Inhalative	Long-term - systemic effects, worker	1.47 mg/m3

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· **PNECs**

Aquatic compartment - freshwater	1.25 mg/L
Aquatic compartment - marine water	0.13 mg/L
Aquatic compartment - sediment in freshwater	4.9 mg/kg
Aquatic compartment - sediment in marine water	0.49 mg/kg
Terrestrial compartment - soil	0.25 mg/kg
Sewage treatment plant	100.3 mg/L

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

· **8.2 Exposure controls**

· **Appropriate engineering controls** No further data; see item 7.

· **Individual protection measures, such as 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.

Vacuum clean contaminated clothing. Do not blow or brush off contamination.

Immediately remove all soiled and contaminated clothing

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Filter P3

· **Hand protection**

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

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.

· **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.

· **For the permanent contact gloves made of the following materials are suitable:**

Nitrile rubber, NBR

Recommended thickness of the material:  $\geq 0.11$  mm

Value for the permeation: Level  $\geq 480$  min

· **As protection from splashes gloves made of the following materials are suitable:**

Nitrile rubber, NBR

Recommended thickness of the material:  $\geq 0.11$  mm

Value for the permeation: Level  $\geq 480$  min

· **Eye/face protection**



Tightly sealed goggles

· **Body protection:**

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

**SECTION 9: Physical and chemical properties**

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

· **General Information**

· **Physical state**

Solid

· **Colour:**

White

· **Odour:**

Odourless

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· Odour threshold:	Not determined.
· Melting point/freezing point:	642 °C
· Boiling point or initial boiling point and boiling range	1,297 °C
· Flammability	Product is not flammable.
· Lower and upper explosion limit	
· Lower:	Not determined.
· Upper:	Not determined.
· Flash point:	Not applicable.
· Auto-ignition temperature:	Not determined.
· Decomposition temperature:	Not determined.
· pH	5-9
· Viscosity:	
· Kinematic viscosity	Not applicable.
· Dynamic:	Not applicable.
· Solubility	
· water at 20 °C:	>1000 g/l
· Partition coefficient n-octanol/water (log value)	0.54
· Vapour pressure:	Not applicable.
· Density and/or relative density	
· Density at 20 °C:	3.97 g/cm <sup>3</sup>
· Relative density	Not determined.
· Bulk density:	2,000 kg/m <sup>3</sup>
· Vapour density	Not applicable.
· Particle characteristics	See item 3.

**9.2 Other information**

· Appearance:	
· Form:	Crystalline
· Important information on protection of health and environment, and on safety.	
· Explosive properties:	Product does not present an explosion hazard.
· Change in condition	
· Evaporation rate	Not applicable.

**Information with regard to physical hazard classes**

· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	Void
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

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## SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** Reacts with oxidising agents.
- **10.4 Conditions to avoid** Moisture
- **10.5 Incompatible materials:** strong oxidants
- **10.6 Hazardous decomposition products:** In the event of fire: See chapter 5
- **Additional information:** hygroscopic

## SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **LD/LC50 values relevant for classification:**

Components	Type	Value	Species
Oral	LD50	2,600 mg/kg	(rat)

- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **After inhalation:** No irritant effect.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity**  
Suspected of damaging fertility or the unborn child.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.

## SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**

Type of test	Effective concentration	Method	Assessment
EC50/72 h (static)	134.3 mg/l	(Algae, Growth inhibition test)	
EC50/48 h	37.4 mg/l	(daphnia magna)	
LC50/96 h (static)	>100 mg/l	(fish)	
NOEC/72 h	12.5 mg/l	(Algae)	
NOEC/48 h	23.4 mg/l	(daphnia magna) (OECD 202)	
NOEC (21 d)	15.8 mg/l	(daphnia magna)	

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** 0.54 log Pow
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties**  
The product does not contain substances with endocrine disrupting properties.

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- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:**  
Do not allow product to reach ground water, water course or sewage system.  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**  
Chemicals must be disposed of in compliance with the respective national regulations.  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:**  
Disposal must be made according to official regulations.  
Packagings that may not be cleansed are to be disposed of in the same manner as the product.

### SECTION 14: Transport information

- |   |  |
|---|--|
| · <b>14.1 UN number or ID number</b><br>· <b>ADR, ADN, IMDG, IATA</b>                       | Void   |
| · <b>14.2 UN proper shipping name</b><br>· <b>ADR, ADN, IMDG, IATA</b>                      | Void   |
| · <b>14.3 Transport hazard class(es)</b><br>· <b>ADR, ADN, IMDG, IATA</b><br>· <b>Class</b> | Void   |
| · <b>14.4 Packing group</b><br>· <b>ADR, IMDG, IATA</b>                                     | Void   |
| · <b>14.5 Environmental hazards:</b>  | Not applicable.                                      |
| · <b>14.6 Special precautions for user</b>  | Not applicable.                                      |
| · <b>14.7 Maritime transport in bulk according to IMO instruments</b>                       | Not applicable.                                      |
| · <b>Transport/Additional information:</b>  | Not dangerous according to the above specifications. |
| · <b>UN "Model Regulation":</b>   | Void   |

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**  
Substance is not listed.
- **REGULATION (EU) 2019/1148**
- **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**  
Substance is not listed.

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- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS** Substance is not listed.
- **National regulations:**
- **Other regulations, limitations and prohibitive regulations**
- **Substances of very high concern (SVHC) according to REACH, Article 57** Substance is not listed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

## SECTION 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:** Dept. Compliance
- **Date of previous version:** 16.08.2021
- **Version number of previous version:** 4.01
- **Abbreviations and acronyms:**  
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
DNEL: Derived No-Effect Level (REACH)  
PNEC: Predicted No-Effect Concentration (REACH)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
SVHC: Substances of Very High Concern  
vPvB: very Persistent and very Bioaccumulative  
Repr. 2: Reproductive toxicity – Category 2
- **\* Data compared to the previous version altered.**

## Annex: Exposure scenario

- **Short title of the exposure scenario** Use in laboratories
- **Sector of Use** SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- **Process category**  
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition  
PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities  
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)  
PROC15 Use as laboratory reagent
- **Environmental release category** ERC2 Formulation into mixture
- **Technical function** No technical function
- **Description of the activities / processes covered in the Exposure Scenario**  
See section 1 of the annex to the Safety Data Sheet.
- **Conditions of use**
- **Duration and frequency** 5 workdays/week.
- **Physical parameters**
- **Physical state** Solid
- **Concentration of the substance in the mixture** Raw material.
- **Used amount per time or activity** ≤ 1 tons per day
- **Other operational conditions**
- **Other operational conditions affecting environmental exposure** No special measures required.
- **Other operational conditions affecting consumer exposure** No special measures required.
- **Other operational conditions affecting consumer exposure during the use of the product**  
Not applicable.

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- **Risk management measures**
- **Worker protection**
- **Organisational protective measures** No special measures required.
- **Technical protective measures**  
Ensure that suitable extractors are available on processing machines
- **Personal protective measures**  
Do not inhale dust / smoke / mist.  
Pregnant women should strictly avoid inhalation or skin contact.
- **Measures for consumer protection** Ensure adequate labelling.
- **Environmental protection measures**
- **Water** No special measures required.
- **Disposal measures** Ensure that waste is collected and contained.
- **Disposal procedures**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Waste type** Partially emptied and uncleaned packaging
- **Exposure estimation**
- **Worker (dermal)**  
The exposure estimation was carried out in accordance with ECETOC TRA.  
The calculated value is smaller than the DNEL.
- **Worker (inhalation)**  
The exposure estimation was carried out in accordance with ECETOC TRA.  
The calculated value is smaller than the DNEL.
- **Consumer** Not relevant for this Exposure Scenario.
- **Guidance for downstream users** No further relevant information available.

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