

SECTION 1: Identification

1.1. Product identifier

Trade name	: CESIUM CHLORIDE
Type of product	: Hygroscopic substance. Preventive measures apply to the substance in dry state only
EC-No.	: 231-600-2
CAS-No.	: 7647-17-8
Product code	: 103065xxx
Formula	: CsCl

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

Recommended uses and restrictions	: For laboratory use only
-----------------------------------	---------------------------

1.3. Supplier's details

Labchem (Pty)Ltd
 6 Wakefield Road
 Founders Hill
 1609 Johannesburg - South Africa
 T +27 11 452 1116 - F +27 86 588 0293
techlab@labchem.co.za - www.labchem.co.za

1.4. Emergency telephone number

Emergency number	: +27 11 452 1116
------------------	-------------------

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Acute toxicity (oral), Category 5	H303
Reproductive toxicity, Category 2	H361
Hazardous to the aquatic environment — Acute Hazard, Category 3	H402
Full text of H statements : see section 16	

2.2. Label elements

Labelling according to the United Nations GHS

Hazard pictograms (GHS-ZA) :



GHS08

Signal word (GHS-ZA)	: Warning
Hazard statements (GHS-ZA)	: H303 - May be harmful if swallowed H361 - Suspected of damaging fertility or the unborn child. H402 - Harmful to aquatic life
Precautionary statements (GHS-ZA)	: P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P308+P313 - IF exposed or concerned: Get medical advice/attention. P312 - Call a POISON CENTER or doctor if you feel unwell. P405 - Store locked up. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Adverse physicochemical, human health and environmental effects	: Suspected of damaging fertility or the unborn child,Harmful if swallowed,Harmful to aquatic life
---	--

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance identification codes: See section 1.1

CESIUM CHLORIDE

Safety Data Sheet

According to SANS 10234:2019 and SANS 11014:2010

Name	Product identifier	%	Classification according to the United Nations GHS
cesium chloride (Main constituent)	(CAS-No.) 7647-17-8	≥ 99.9	Acute Tox. 5 (Oral), H303 Repr. 2, H361 Aquatic Acute 3, H402

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. IF exposed or concerned: Get medical advice/attention. Call a poison center or a doctor if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
First-aid measures after skin contact	: Rinse with water. Soap may be used. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists. Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists. Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Rinse mouth with water. Do not induce vomiting. Call Poison Information Centre (www.big.be/antigif.html). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Rinse mouth. Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after inhalation	: No effects known.
Symptoms/effects after skin contact	: Not irritating.
Symptoms/effects after eye contact	: ON CONTINUOUS EXPOSURE/CONTACT: Irritation of the eye tissue.
Symptoms/effects after ingestion	: No effects known.
Chronic symptoms	: male fertility impairment: testes, epididymides, spermatogenesis.
Potential adverse human health effects and symptoms	: Practically non-toxic if swallowed (LD50 oral 2000/5000 mg/kg). Slightly harmful in contact with skin. Not irritant to skin. Not irritant to eyes.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Adapt extinguishing media to the environment for surrounding fires. Water spray. Dry powder. Foam.
------------------------------	--

5.2. Special hazards arising from the substance or mixture

Fire hazard	: DIRECT FIRE HAZARD: Non combustible.
Hazardous decomposition products in case of fire	: On heating/burning: release of toxic and corrosive gases/vapours (chlorine, hydrogen chloride).

5.3. Advice for firefighters

Precautionary measures fire	: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions	: Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water.
Protection during firefighting	: Heat/fire exposure: compressed air/oxygen apparatus. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.1.1. For non-emergency personnel

Protective equipment	: Gloves. Protective clothing. Dust cloud production: compressed air/oxygen apparatus.
Emergency procedures	: Ventilate spillage area. Mark the danger area. Prevent dust cloud formation. No naked flames. Wash contaminated clothes.

CESIUM CHLORIDE

Safety Data Sheet

According to SANS 10234:2019 and SANS 11014:2010

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment : Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Dam up the solid spill. Knock down/dilute dust cloud with water spray. Collect spillage.

Methods for cleaning up : Mechanically recover the product. Prevent dust cloud formation. Scoop solid spill into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid raising dust. Keep away from naked flames/heat. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Keep container tightly closed. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment.

Hygiene measures : Observe strict hygiene. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

Storage area : Store in a cool area. Store in a dry area. Keep container in a well-ventilated place. Meet the legal requirements.

Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: heat sources.

Information on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. water/moisture.

Special rules on packaging : SPECIAL REQUIREMENTS: closing. watertight. dry. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials : SUITABLE MATERIAL: glass. synthetic material.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Materials for protective clothing : GIVE GOOD RESISTANCE: neoprene

Hand protection : Gloves

Eye protection : Safety glasses. In case of dust production: protective goggles. Safety glasses

Skin and body protection : Protective clothing

Respiratory protection : Dust production: dust mask with filter type P2. [In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s):



8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Crystalline solid. Crystalline powder.

CESIUM CHLORIDE

Safety Data Sheet

According to SANS 10234:2019 and SANS 11014:2010

Molecular mass	: 168.36 g/mol
Colour	: Colourless or white.
Odour	: Odourless.
Odour threshold	: No data available
pH	: 6 – 7.5 (50 %)
pH solution	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: 642 °C (1013.25 hPa, OECD 102: Melting Point/Melting Range)
Freezing point	: Not applicable
Boiling point	: 1290 °C
Flash point	: Not applicable
Auto-ignition temperature	: > 400 °C (EU Method A.16: Relative Self-Ignition Temperature for Solids)
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Vapour pressure at 50 °C	: No data available
Relative vapour density at 20 °C	: Not applicable
Relative density	: 3.97 (20 °C, EU Method A.3: Relative Density)
Relative density of saturated gas/air mixture	: No data available
Density	: 3970 kg/m ³
Relative gas density	: No data available
Solubility	: Soluble in water. Soluble in ethanol. Soluble in methanol. Water: > 100 g/100ml (20 °C, OECD 105: Water Solubility)
Partition coefficient n-octanol/water (Log Pow)	: 0.54 (Calculated, KOWWIN)
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive.
Oxidising properties	: Not oxidising.
Explosive limits	: Not applicable
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

9.2. Other information

VOC content	: 0 %
Other properties	: Hygroscopic.

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Hygroscopic.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: May be harmful if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

CESIUM CHLORIDE

Safety Data Sheet

According to SANS 10234:2019 and SANS 11014:2010

CESIUM CHLORIDE (7647-17-8)	
LD50 oral rat	2600 mg/kg (Rat, Experimental value, Oral)
LD50 dermal rat	> 1727.5 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Read-across, Dermal, 14 day(s))

Skin corrosion/irritation	: Not classified pH: 6 – 7.5 (50 %)
Serious eye damage/irritation	: Not classified pH: 6 – 7.5 (50 %)
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Suspected of damaging fertility or the unborn child.
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: Practically non-toxic if swallowed (LD50 oral 2000/5000 mg/kg). Slightly harmful in contact with skin. Not irritant to skin. Not irritant to eyes.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008. Harmful to aquatic life.
Ecology - air	: Not included in the list of substances which may contribute to the greenhouse effect (IPCC). Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	: Harmful to crustacea. Slightly harmful to fishes. In appropriate low concentrations inhibition of the degradation of activated sludge is not anticipated. Slightly harmful to algae.
Hazardous to the aquatic environment, short-term (acute)	: Harmful to aquatic life.
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

CESIUM CHLORIDE (7647-17-8)	
LC50 fish 1	> 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Static system, Fresh water, Read-across, GLP)
EC50 Daphnia 1	37.4 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
EC50 72h algae (1)	134.3 mg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Read-across, GLP)
Partition coefficient n-octanol/water (Log Pow)	0.54 (Calculated, KOWWIN)

12.2. Persistence and degradability

CESIUM CHLORIDE (7647-17-8)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

CESIUM CHLORIDE (7647-17-8)	
Partition coefficient n-octanol/water (Log Pow)	0.54 (Calculated, KOWWIN)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

CESIUM CHLORIDE (7647-17-8)	
Mobility in soil	No additional information available
Surface tension	72.8 mN/m (20 °C, 1 g/l, OECD 115: Surface Tension of Aqueous Solutions)
Partition coefficient n-octanol/water (Log Pow)	0.54 (Calculated, KOWWIN)
Ecology - soil	No (test)data on mobility of the substance available.

12.5. Other adverse effects

Ozone	: Not classified
Other adverse effects	: No additional information available

CESIUM CHLORIDE

Safety Data Sheet

According to SANS 10234:2019 and SANS 11014:2010

SECTION 13: Disposal considerations

13.1. Disposal methods

- Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
- Product/Packaging disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle/reuse.
- Additional information : Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
Not regulated for transport		
14.2. Proper Shipping Name		
Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)		
Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable
14.4. Packing group		
Not applicable	Not applicable	Not applicable
14.5. Environmental hazards		
Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
: No supplementary information available		

14.6. Special precautions for user

- SANS

Transport regulations (UN) : Not subject

- IMDG

Transport regulations (IMDG) : Not subject

- IATA

Transport regulations (IATA) : Not subject

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

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health, and environmental national regulations specific for the product

Regulatory reference : SANS 10234:2008; SANS 11014:2010; SANS 10228:2012; SANS 10229:2010; SANS 10232(1,2,4), SANS 10231:2018; Occupational Health and Safety Act 85 of 1993; National Road Traffic Act 93 of 1996.

SECTION 16: Other information

Issue date : 03/07/2020

Revision date : 03/07/2025

Full text of H-statements:

H303	May be harmful if swallowed
H361	Suspected of damaging fertility or the unborn child.
H402	Harmful to aquatic life

SDS South Africa

The data provided in this Safety Data Sheet (SDS) is correct to the best of our knowledge. The data relates to the specific product as named and is intended as a guide to the safe handling of the product in all its facets. The data may no longer be valid if the product is used in any process or in combination with other products. This SDS is not a quality specification nor any form of guarantee.