Section 1 - Product and Company Information

Product Name: CESIUM CHLORIDE, 99.999+%  
Product Number: 203025  
Brand: ALDRICH  
Company: Sigma-Aldrich  
Address: 3050 Spruce Street  
SAINT LOUIS MO 63103 US  
Technical Phone: 800-325-5832  
Fax: 800-325-5052  
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name: CESIUM CHLORIDE  
CAS #: 7647-17-8  
SARA 313: No

Formula: CsCl  
Synonyms: Cesium monochloride * Dicesium dichloride * Tricesium trichloride  
RTECS Number: FK9625000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW  
Caution: Avoid contact and inhalation. Target organ(s): Nerves. Heart.

HMIS RATING  
HEALTH: 1*  
FLAMMABILITY: 0  
REACTIVITY: 1

NFPA RATING  
HEALTH: 1  
FLAMMABILITY: 0  
REACTIVITY: 1

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE  
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE  
If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.
DERMAL EXPOSURE
In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT
N/A

AUTOIGNITION TEMP
N/A

FLAMMABILITY
N/A

EXTINGUISHING MEDIA
Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of dust.

METHODS FOR CLEANING UP
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING
User Exposure: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE
Suitable: Keep tightly closed.

SPECIAL REQUIREMENTS
Hygroscopic.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
Safety shower and eye bath. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or
type P1 (EN 143) dust masks.
Hand: Protective gloves.
Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>At Temperature or Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State: Solid</td>
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<td></td>
</tr>
<tr>
<td>Color: Colorless</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Form: Crystalline Powder</td>
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<tr>
<td>Molecular Weight</td>
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<td>MP/MP Range</td>
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<td>Vapor Pressure</td>
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<td>Explosion Limits</td>
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<td>Solubility</td>
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<tr>
<td>Other Solvents: WILLDISSOLVE IN ACOHOL</td>
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N/A = not available

Section 10 - Stability and Reactivity

STABILITY
Stable: Stable.
Conditions to Avoid: Moisture.
Materials to Avoid: Strong oxidizing agents, Strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Hydrogen chloride gas.

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information
ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: May cause eye irritation.
Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.
Ingestion: May be harmful if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

Nerves. Heart.

SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

TOXICITY DATA

Oral
Rat
2600 mg/kg
LD50

Intraperitoneal
Rat
1500 MG/KG
LD50

Subcutaneous
Rat
2590 MG/KG
LD50

Intravenous
Rat
1075 MG/KG
LD50

Oral
Mouse
2306 mg/kg
LD50

Intraperitoneal
Mouse
1460 MG/KG
LD50

Subcutaneous
Mouse
2750 MG/KG
LD50

Intravenous
Mouse
910 MG/KG
LD50

CHRONIC EXPOSURE - MUTAGEN

Species: Mouse
Route: Oral
Dose: 500 MG/KG
Mutation test: Other mutation test systems

Species: Mouse
Route: Oral
Dose: 125 MG/KG
Mutation test: Cytogenetic analysis

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat
Dose: 706 MG/KG
Route of Application: Oral
Exposure Time: (1-21D PRE/21D POST)
Result: Effects on Newborn: Growth statistics (e.g., reduced weight gain). Effects on Newborn: Biochemical and metabolic. Effects on Newborn: Physical.

Species: Mouse
Dose: 262 GM/KG
Route of Application: Oral
Exposure Time: (1-21D PREG/21D POST)
Result: Effects on Newborn: Biochemical and metabolic. Effects on Newborn: Physical.

Section 12 - Ecological Information

ACUTE ECOTOXICITY TESTS

Test Type: LC50 Fish
Species: Onchorhynchus mykiss (Rainbow trout)
Time: 28 h
Value: 181,000 mg/l

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION
Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA
Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information
US CLASSIFICATION AND LABEL TEXT

UNITED STATES REGULATORY INFORMATION
SARA LISTED: No
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION
WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

DISCLAIMER
For R&D use only. Not for drug, household or other uses.

WARRANTY
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.
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