



# MATERIAL SAFETY DATA SHEET

Prepared in accordance with ISO 11014-1/ ANSI standard  
Z400.1-2004

Revision Date: 11/May/2011  
Product Code: CESACESOL

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Cesium Acetate Solution

**Synonyms:** Cesium Acetate Brine, CsCH<sub>3</sub>CO<sub>2</sub>

**Use of the Substance/Preparation:** Drilling & completion fluids, Industrial Products

**Supplier:**

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Canada: CANUTEC 1-613-996-6666

## 2. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW - CAUTION:** Colorless Liquid. Harmful if swallowed. May be irritating to eyes, skin and respiratory tract. Avoid breathing aerosols, vapor/spray or dusts.

**Principle Routes of Exposure:** Inhalation, Eye contact, Skin contact

**POTENTIAL HEALTH EFFECTS**

**Eye Contact:** May cause irritation. Avoid eye contact.

**Skin Contact:** May be harmful if absorbed through the skin. May cause irritation. Avoid skin contact.

**Inhalation:** May cause irritation of respiratory tract. Although central nervous system effects were observed in a few animals following oral exposure to high doses of cesium acetate, these effects would not be expected under normal handling conditions. Avoid breathing mists.

**Ingestion:** Harmful if swallowed. Although central nervous system effects were observed in a few animals following oral exposure to high doses of cesium acetate, these effects would not be expected under normal handling conditions.

- Carcinogenic Effects:** Does not contain any substances listed by IARC (International Agency for Research on Cancer), NTP (National Toxicology Program), OSHA (Occupational Safety and Health Administration), ACGIH (American Conference for Governmental Industrial Hygienists) or EU (European Union). See also Section 11.
- Target Organ Effects:** Respiratory system, Eyes, Skin, Central Nervous System
- Medical Conditions Aggravated by Exposure:** Asthma, Respiratory disorder, Skin disorders
- Potential Environmental Effects:** Avoid release into the environment. Contain and collect any spilled material. See also Section 12.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	EINECS/ELINCS Number	Weight %	EU Classification
Cesium Acetate	3396-11-0	222-248-0	40-91	Xn;R22
Water	7732-18-5	231-791-2	9-60	None
Carbonate and bicarbonate salts of sodium and/or potassium	Various	Various	0-5	None

### 4. FIRST AID MEASURES

- Skin Contact:** Wash thoroughly with soap and water. Remove contaminated clothing and shoes. Seek medical attention if redness, swelling, itching, or burning occurs.
- Eye Contact:** Flush eyes immediately with large amounts of water for 15 minutes. Seek medical attention if redness, swelling, itching, burning or visual disturbances occur.
- Inhalation:** If cough, shortness of breath or other breathing problems occur, move to fresh air. Seek medical attention if symptoms persist. If necessary, restore normal breathing through standard first aid measures.
- Ingestion:** Do not induce vomiting. If conscious, give several glasses of water. Never give anything by mouth to an unconscious person. Seek medical attention.
- Notes to Physician:** Treat symptomatically.

### 5. FIRE AND IGNITION INFORMATION

- Flash Point:** Not applicable
- Autoignition Temperature:** Not determined
- Extinguishing Media:** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Special Protective Equipment for Firefighters:** Wear suitable protective equipment. In the event of fire, wear self-contained breathing apparatus.
- Specific Hazards:** None known.
- Hazardous Decomposition and/or Combustion Products:** Carbon monoxide, Carbon dioxide, Oxides of Cesium.
- Risk of Dust Explosion:** Not applicable.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions:</b>	Avoid formation of aerosols. Ensure adequate ventilation. Use personal protective equipment. See also Section 8.
<b>Methods for Cleaning Up:</b>	Soak up with inert absorbent material. Pick up and transfer to properly labelled containers. See Section 13.
<b>Environmental Precautions:</b>	Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained. See also Section 13.

## 7. HANDLING AND STORAGE

<b>Handling:</b>	Avoid contact with skin and eyes. Avoid formation of aerosols. Do not breathe spray mist. Provide appropriate exhaust ventilation at machinery and at places where aerosol or mist can be generated.
<b>Storage:</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Do not store together with strong oxidizing agents.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE LIMITS

There are no exposure limits identified for this product.

**ENGINEERING CONTROLS**      Ensure adequate ventilation to minimize exposures.

### PERSONAL PROTECTIVE EQUIPMENT

<b>Respiratory Protection:</b>	Approved respirator may be necessary if local exhaust ventilation is not adequate.
<b>Hand Protection:</b>	Wear suitable gloves.
<b>Eye Protection:</b>	Wear eye/face protection. Safety glasses with side-shields. Goggles.
<b>Skin and Body Protection:</b>	Wear chemical impervious protective clothing if skin contact may occur.
<b>Other:</b>	Handle in accordance with good industrial hygiene and safety practice. Emergency eyewash and safety shower should be located nearby.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Colorless Liquid
<b>Odor:</b>	None
<b>Odor Threshold:</b>	None
<b>pH:</b>	9 - 11 (measured in 1:10 dilution with water)
<b>Vapor Pressure:</b>	100-2800 Pa @ 25°C
<b>Vapor Density:</b>	Not determined
<b>Boiling Point/Range:</b>	106 to 183°C
<b>Melting Point/Range:</b>	Not applicable

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<b>Water Solubility:</b>	89.95% soluble at 20°C
<b>Relative Density:</b>	1.36 - 2.40 g/cm <sup>3</sup>
<b>% Volatile (by Volume):</b>	Not determined
<b>Evaporation Rate:</b>	Not determined
<b>Viscosity:</b>	1.8-140 cP @ 20°C
<b>Partition Coefficient (n-octanol/water):</b>	<-2.29 (no potential to bioconcentrate)
<b>Surface Tension:</b>	Not determined

## 10. STABILITY AND REACTIVITY

<b>Stability:</b>	Stable
<b>Hazardous Polymerization:</b>	Hazardous polymerization does not occur.
<b>Mechanical Sensitivity (shock):</b>	Not sensitive to mechanical impact.
<b>Conditions to Avoid:</b>	Not determined.
<b>Hazardous Decomposition and/or Combustion Products:</b>	Carbon monoxide, Carbon dioxide, Oxides of cesium.
<b>Static Discharge Effects:</b>	Not applicable.

## 11. TOXICOLOGICAL INFORMATION

*Information given is based on data obtained from this substance or from similar substances.*

### ACUTE TOXICITY

**Oral LD50:** LD50/oral/rat = 1500 mg/kg. See STOT - Single Exposure below.

**Inhalation LC50:**  
Not determined.

**Dermal LD50:** LD50/dermal/rabbit = >5000 mg/kg.

**STOT - Single Exposure:** Effects on the central nervous system were observed in rats following a single oral exposure to 1580 mg/kg and higher. These effects would not be expected under normal handling conditions.

**Eye Irritation:** May cause irritation.

**Skin Irritation:** This material was not corrosive or irritating when tested in an in vitro reconstructed human epidermis model

### SUBCHRONIC TOXICITY

Not determined.

**STOT - Repeated Exposure:** No data available

### CHRONIC TOXICITY

**Mutagenic Effects:**  
Not mutagenic in AMES Test.

**Reproductive Toxicity:** Not determined.

**Sensitization:** Contains no known sensitizers.

**Synergistic Materials:** None reasonably foreseeable.

**Carcinogenic Effects:** Does not contain any substances listed by IARC (International Agency for Research on Cancer), NTP (National Toxicology Program), OSHA (Occupational Safety and Health Administration), ACGIH (American Conference for Governmental Industrial Hygienists) or EU (European Union).

**Aspiration Hazard:** Not determined

## 12. ECOLOGICAL INFORMATION

*Information given is based on data from similar substances.*

**Aquatic Toxicity:** Acute crustacean (*Acartia tonsa*) 48 hr LC50 = 296 mg/l  
Algal inhibition (*Skeletonema costatum*) 72 hr EbC50 = 760 mg/l; ErC50 (0-72 hr) > 1000 mg/l  
Acute invertebrate (*Mysidopsis bahia*) 96 hr LC50 = <30,000 ppm  
Acute crustacean (*Corophium volutator*) 10 day LC50 = 6,799 mg/kg

### ENVIRONMENTAL FATE

**Mobility:** Not determined.

**Bioaccumulation:** Log Pow = <-2.29 (no potential to bioconcentrate).

**Persistence / Degradability:** Ready Biodegradability in Sea Water - Closed Bottle Test (OECD Method 306) = 67% degradation after 28 days

**Distribution to Environmental Compartments:** Not determined.

## 13. DISPOSAL CONSIDERATIONS

**Disclaimer:** Information in this section pertains to the product as shipped in its intended composition as described in Section 3 of this MSDS. Contamination or processing may change waste characteristics and requirements. Regulations may also apply to empty containers, liners or rinsate. State/provincial and local regulations may be different from federal regulations.

**RCRA Classification (40 CFR 261):** Not a hazardous waste.

**Unused and Uncontaminated Product:** Product, as supplied, should be disposed of in accordance with the regulations issued by the appropriate federal, state and local authorities. Same consideration should be given to containers and packaging.

## 14. TRANSPORT INFORMATION

**US Department of Transportation (US DOT) Hazardous Materials Regulations Status:** Use UN Classification listed.

**UN Number:** Not regulated

**UN Proper Shipping Name:** Not regulated

**UN Shipping Class:** Not regulated

**UN Packing Group:** Not regulated

**IMDG (International Maritime Organization's Dangerous Goods Code):**

Use UN classification listed above.

**IATA**

Use UN classification listed above.

**15. REGULATORY INFORMATION****Hazard Classification**

**United States - OSHA (29 CFR 1910.1200):** Hazardous.

**Mexico - NOM-018-STPS-2000:** Refer to HMIS Rating in Section 16.

**Canada - WHMIS Classification (CPR, SOR/88-66):** Class E - Corrosive Material.

**International Inventories**

**All components of this product are listed on or exempt from the following inventories:**

YES - Australian Inventory of Chemical Substances (AICS)

YES - Canadian Domestic Substances List (DSL)

NO - Chinese Inventory

YES - European Inventory of Existing Commercial Chemical Substances (EINECS)

NO - Japanese Inventory of Existing and New Chemical Substances (ENCS)

YES - Korean Existing Chemicals List (KECL)

NO - New Zealand Hazardous Substances and New Organisms Act (HSNO)

NO - Philippines Inventory of Chemicals and Chemical Substances (PICCS)

YES - United States Toxic Substances Control Act (TSCA) Inventory

**U.S. Federal Regulations**

**TSCA 12(b) Export Notification:** This product does not contain any components that are subject to TSCA 12(b) Export Notification.

**Clean Air Act Amendments of 1990 (CAA, Section 112, 40 CFR 82):** This product does not contain any components listed as a Hazardous Air Pollutant, Flammable Substance, Toxic Substance, or Class 1 or 2 Ozone Depletor.

**Clean Water Act (CWA, 40 CFR 116) Priority Pollutants:** This product does not contain any listed Priority Pollutants.

**Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, 40 CFR 302):** This product does not contain any listed Hazardous Substances.

**Superfund Amendments and Reauthorization Act, Title III (SARA):**

**SARA Section 302 (40 CFR 355) Extremely Hazardous Substances:** No components are listed as extremely hazardous substances under SARA Section 302.

**SARA Sections 311/312 (40 CFR 370) Hazard Category:** ACUTE/IMMEDIATE HEALTH HAZARD.

**SARA Section 313 (40 CFR 372) Toxics Release Inventory:** Does not contain any of the substances identified under Section 313 as toxic chemicals in excess of the de minimis concentrations necessary to be subject to the supplier notification requirements.

**Food and Drug Administration (FDA):**

Not permitted

**Pharmaceutical Information:** Not permitted

**U.S. State Regulations**

**California Proposition 65:** This product does not contain any components listed on California Proposition 65.

**US Coalition of NorthEastern Governors (CONEG) Metals List:** This product meets the CONEG Source Reduction Council limits for the sum of the levels of lead, cadmium, mercury and hexavalent chromium of less than 100 parts per million by weight.

## 16. OTHER INFORMATION

### HMIS Rating

HMIS Index: \* - chronic, 0 - minimal, 1 - slight, 2 - moderate, 3 - serious, 4 - severe

Health: 3

Flammability: 0

Physical Hazard: 0

**Prepared by:** Cabot Corporation - Safety, Health and Environmental Affairs  
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