

MATERIAL SAFETY DATA SHEET

Product Trade Name: CESIUM FORMATE

Revision Date: 29-Apr-2013

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Statement of Hazardous Nature Hazardous according to the criteria of NOHSC, Non-Dangerous Goods according to the criteria of ADG.

Manufacturer/Supplier Halliburton/Baroid Australia Pty. Ltd.
15 Marriott Road
Jandakot
WA 6164
Australia

ACN Number: 009 000 775
Telephone Number: 61 (08) 9455 8300
Fax Number: 61 (08) 9455 5300

Product Emergency Telephone

Australia: 08-64244950
Papua New Guinea: 05 1 281 575 5000
New Zealand: 06-7559274

Fire, Police & Ambulance - Emergency Telephone

Australia: 000
Papua New Guinea: 000
New Zealand: 111

Identification of Substances or Preparation

Product Trade Name: CESIUM FORMATE
Synonyms: None
Chemical Family: Formate
UN Number: None
Dangerous Goods Class: None
Subsidiary Risk: None
Hazchem Code: None Allocated
Poisons Schedule: None Allocated
Application: Additive Brine

Prepared By Chemical Compliance
Telephone: 1-580-251-4335
e-mail: fdunexchem@halliburton.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT	Australia NOHSC	New Zealand WES	ACGIH TLV-TWA
Cesium formate	3495-36-1	60 - 100%	Not applicable	Not applicable	Not applicable

Non-Hazardous Substance to Total of 100%

3. HAZARDS IDENTIFICATION

Hazard Overview	May cause eye, skin, and respiratory irritation. May be harmful if swallowed.
Risk Phrases	R36 Irritating to eyes. R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.
HSNO Classification	Not Determined

4. FIRST AID MEASURES

Inhalation	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
Skin	Wash with soap and water. Get medical attention if irritation persists.
Eyes	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
Ingestion	Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.
Notes to Physician	Not Applicable

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media	All standard fire fighting media
Extinguishing media which must not be used for safety reasons	None known.
Special Exposure Hazards	Decomposition in fire may produce toxic gases.
Special Protective Equipment for Fire-Fighters	Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures	Use appropriate protective equipment.
Environmental Precautionary Measures	Prevent from entering sewers, waterways, or low areas.
Procedure for Cleaning / Absorption	Scoop up and remove.

7. HANDLING AND STORAGE

Handling Precautions	Avoid contact with eyes, skin, or clothing.
Storage Information	Store in a cool well ventilated area. Keep container closed when not in use. Store in a dry location.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls	None known.
Respiratory Protection	Not normally needed. But if significant exposures are possible then the following respirator is recommended: Dust/mist respirator. (N95, P2/P3)
Hand Protection	Impervious rubber gloves.
Skin Protection	Normal work coveralls.
Eye Protection	Wear safety glasses or goggles to protect against exposure.
Other Precautions	Eyewash fountains and safety showers must be easily accessible.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Powder
Color:	Off white
Odor:	Odorless
pH:	10-11 (10%)
Specific Gravity @ 20 C (Water=1):	3.1
Density @ 20 C (kg/l):	Not Determined
Bulk Density @ 20 C (kg/m³):	3190
Boiling Point/Range (C):	141
Freezing Point/Range (C):	Not Determined
Pour Point/Range (C):	Not Determined
Flash Point/Range (C):	Not Determined
Flash Point Method:	Not Determined
Autoignition Temperature (C):	Not Determined
Flammability Limits in Air - Lower (g/m³):	Not Determined
Flammability Limits in Air - Lower (%):	Not Determined
Flammability Limits in Air - Upper (g/m³):	Not Determined
Flammability Limits in Air - Upper (%):	Not Determined
Vapor Pressure @ 20 C (mmHg):	3.5
Vapor Density (Air=1):	Not Determined
Percent Volatiles:	Not Determined
Evaporation Rate (Butyl Acetate=1):	Not Determined
Solubility in Water (g/100ml):	83
Solubility in Solvents (g/100ml):	Not Determined
VOCs (g/l):	Not Determined
Viscosity, Dynamic @ 20 C (centipoise):	4.8
Viscosity, Kinematic @ 20 C (centistokes):	Not Determined
Partition Coefficient/n-Octanol/Water:	< -2.20
Molecular Weight (g/mole):	Not Determined
Decomposition Temperature (C):	Not Determined

10. STABILITY AND REACTIVITY

Stability Data:	Stable
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid	None known.
Incompatibility (Materials to Avoid)	Strong oxidizers.

Hazardous Decomposition Products	Formic acid. Flammable hydrogen gas. Carbon monoxide and carbon dioxide.
Additional Guidelines	Not Applicable

11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure	Eye and skin contact.
Symptoms related to exposure	
Inhalation	May cause respiratory irritation.
Skin Contact	May cause skin irritation. May cause an allergic skin reaction.
Eye Contact	Causes moderate eye irritation.
Ingestion	Harmful if swallowed. Irritation of the mouth, throat, and stomach.
Aggravated Medical Conditions	Skin disorders.
Chronic Effects/Carcinogenicity	No data available to indicate product or components present at greater than 1% are chronic health hazards.
Other Information	None known.
Toxicity Tests	
Oral Toxicity:	LD50: 1780 mg/kg (Rat)
Dermal Toxicity:	LD50: > 2000 mg/kg (Rabbit)
Inhalation Toxicity:	Not determined
Primary Irritation Effect:	Not determined
Carcinogenicity	Not determined
Genotoxicity:	Not determined
Reproductive / Developmental Toxicity:	Not determined

12. ECOLOGICAL INFORMATION

Mobility (Water/Soil/Air)	Not determined
Persistence/Degradability	Readily biodegradable
Bio-accumulation	Not determined

Ecotoxicological Information

Acute Fish Toxicity:	LC50(96hr): 260 mg/l (Scophthalmus maximus, Juvenile turbot) TLM96: > 1000 mg/l (Oncorhynchus mykiss) LC50(10day): 6653 mg/kg (Corophium volutator)
Acute Crustaceans Toxicity:	EC50(48hr): 340 mg/l (Acartia tonsa) TLM96: 91 mg/l (Crangon crangon) EC50(48hr): 35 mg/l (Daphnia magna)

Acute Algae Toxicity: EC50(72hr): 710 mg/l (Skeletonema costatum)
EC50(72hr): 1.8 mg/l (Scenedesmus subspicatus)
EC50(72hr): 3.8 mg/l (Selenastrum capricornutum)

Chemical Fate Information Not determined

Other Information EC50(24hr): 1200 mg/l Crassostrea gigas

13. DISPOSAL CONSIDERATIONS

Disposal Method Disposal should be made in accordance with federal, state, and local regulations.

Contaminated Packaging Follow all applicable national or local regulations.

14. TRANSPORT INFORMATION

Land Transportation

ADR
Not restricted

Air Transportation

ICAO/IATA
Not restricted

Sea Transportation

IMDG
Not restricted

Other Transportation Information

Labels: None

15. REGULATORY INFORMATION

Chemical Inventories

Australian AICS Inventory All components listed on inventory or are exempt.
New Zealand Inventory of This product does not comply with NZIOC
Chemicals

US TSCA Inventory All components listed on inventory or are exempt.
EINECS Inventory This product, and all its components, complies with EINECS

Classification Xn - Harmful.

Risk Phrases R36 Irritating to eyes.
R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.

Safety Phrases S22 Do not breathe dust.
S24/25 Avoid contact with skin and eyes.

16. OTHER INFORMATION

The following sections have been revised since the last issue of this SDS

Not applicable

Contact

Australian Poisons Information Centre

24 Hour Service: - 13 11 26

Police or Fire Brigade: - 000 (exchange): - 1100

New Zealand National Poisons Centre

0800 764 766

Additional Information

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Compliance at 1-580-251-4335.

Disclaimer Statement

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*****END OF MSDS*****