



SAFETY DATA SHEET CESIUM FORMATE/POTASSIUM FORMATE BRINE

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name CESIUM FORMATE/POTASSIUM FORMATE BRINE
Synonyms, Trade Names CAESIUM FORMATE/POTASSIUM FORMATE BRINE

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

Identified uses Oil well completion fluid additive. Oil well drilling fluid additive.

1.3. Details of the supplier of the safety data sheet

Supplier M-I SWACO
A Schlumberger Company
Endeavour Drive
Arnhall Business Park, Westhill
Aberdeen AB32 6UF
Scotland UK
T = +44 (0)1224-742200
F = +44 (0)1224-742288
E-mail = MBXMSDS-EH@miswaco.slb.com

1.4. Emergency telephone number

(24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, USA 001 281 561 1600.

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (1999/45/EEC) Xn;R48/22. Xi;R36.

2.2. Label elements

Labelling



Harmful

Risk Phrases

R36
R48/22

Irritating to eyes.
Harmful: danger of serious damage to health by prolonged exposure if swallowed.

Safety Phrases

S23
S24/25

Do not breathe vapour/spray.
Avoid contact with skin and eyes.

2.3. Other hazards

Not Classified as PBT/vPvB by current EU criteria.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

CESIUM FORMATE/POTASSIUM FORMATE BRINE

POTASSIUM FORMATE		1 - 75%
CAS-No.: 590-29-4	EC No.: 209-677-9	
Classification (EC 1272/2008) Not classified.	Classification (67/548/EEC) Not classified.	
CESIUM FORMATE		1 - 80%
CAS-No.: 3495-36-1	EC No.: 222-492-8	
Classification (EC 1272/2008) Eye Irrit. 2 - H319 STOT Rep. 2 - H373	Classification (67/548/EEC) Xn;R48/22. Xi;R36.	
WATER		10-30%
CAS-No.: 7732-18-5	EC No.: 231-791-2	
Classification (EC 1272/2008) Not classified.	Classification (67/548/EEC) Not classified.	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition Comments

The data shown is in accordance with the latest EC Directives.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation

Move the exposed person to fresh air at once. If respiratory problems, artificial respiration/oxygen. Get medical attention if any discomfort continues.

Ingestion

Do not induce vomiting. Immediately give a couple of glasses of water or milk, provided the victim is fully conscious. Get medical attention if any discomfort continues.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention promptly if symptoms occur after washing.

Eye contact

Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

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

Inhalation.

This is unlikely to occur but symptoms similar to those of ingestion may develop.

Ingestion

Harmful if swallowed.

Skin contact

Prolonged skin contact may cause redness and irritation.

Eye contact

May cause temporary eye irritation.

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

Get medical attention if any discomfort continues.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media

Use fire-extinguishing media appropriate for surrounding materials.

CESIUM FORMATE/POTASSIUM FORMATE BRINE

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

Fire or high temperatures create: Vapours/gases/fumes of: Carbon monoxide (CO). Carbon dioxide (CO₂). Hydrocarbons. Inorganic salts.

5.3. Advice for firefighters

Special Fire Fighting Procedures

Containers close to fire should be removed immediately or cooled with water.

Protective equipment for fire-fighters

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Do not allow to enter drains, sewers or watercourses.

6.3. Methods and material for containment and cleaning up

Stop leak if possible without risk. Dike far ahead of larger spills for later disposal. Absorb spillage with suitable absorbent material. Shovel into dry containers. Cover and move the containers. Flush the area with water.

6.4. Reference to other sections

Wear protective clothing as described in Section 8 of this safety data sheet.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid spilling, skin and eye contact. Avoid inhalation of vapours and spray mists.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed original container in a dry, cool and well-ventilated place.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Ingredient Comments

No exposure limits noted for ingredient(s).

8.2. Exposure controls

Protective equipment



Engineering measures

Provide adequate general and local exhaust ventilation.

Respiratory equipment

No specific recommendation made, but respiratory protection may still be required under exceptional circumstances when excessive air contamination exists.

Hand protection

For prolonged or repeated skin contact use suitable protective gloves. Neoprene. Nitrile. Rubber or plastic. PVC gloves are recommended.

Eye protection

Wear approved chemical safety goggles where eye exposure is reasonably probable.

Other Protection

Wear appropriate clothing to prevent any possibility of skin contact. Provide eyewash station.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

CESIUM FORMATE/POTASSIUM FORMATE BRINE**9.1. Information on basic physical and chemical properties**

Appearance	Liquid
Colour	Clear to Yellowish Brown.
Odour	Odourless.
Solubility	Completely soluble in water
Initial boiling point and boiling range	102 - 145°C
Relative density	1.44 - 2.40 S.G @ 20°C
Vapour pressure	400 - 2250 kPa
Viscosity	1 - 15 cps

9.2. Other information

Not relevant

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stable under normal temperature conditions and recommended use.

10.3. Possibility of hazardous reactions

Not known.

10.4. Conditions to avoid

Avoid contact with strong oxidisers.

10.5. Incompatible materials

Materials To Avoid

Avoid contact with strong oxidisers.

10.6. Hazardous decomposition products

Fire or high temperatures create: Vapours/gases/fumes of: Carbon monoxide (CO). Carbon dioxide (CO₂). Hydrogen. Inorganic salts.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute Toxicity (Oral LD₅₀) 1780 mg/kg Rat

Inhalation

Gas or vapour may irritate respiratory system.

Ingestion

Harmful if swallowed.

Skin contact

Irritating and may cause redness and pain.

Eye contact

Irritating to eyes. Spray and vapour in the eyes may cause irritation and smarting.

Route of entry

No route of entry noted.

Target Organs

No specific target organs noted

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Contact M-I SWACO's QHSE Department for ecological information at env@miswaco.com.

12.1. Toxicity

Acute Fish Toxicity

Not considered toxic to fish.

12.2. Persistence and degradability

Degradability

Readily biodegradable.

CESIUM FORMATE/POTASSIUM FORMATE BRINE**12.3. Bioaccumulative potential**

Bioaccumulative potential

No data available on bioaccumulation.

12.4. Mobility in soil

Mobility:

The product is soluble in water.

12.5. Results of PBT and vPvB assessment

Not Classified as PBT/vPvB by current EU criteria.

12.6. Other adverse effects

None known.

SECTION 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods**

Recover and reclaim or recycle, if practical. Dispose of waste and residues in accordance with local authority requirements.

SECTION 14: TRANSPORT INFORMATION

General	The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).
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14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant
No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

The product has been assessed and contained in Chapters 17 and 18 of the IBC Code and the latest MEPC.2/Circular and is permitted to be carried under Annex II of MARPOL and resolution A.673 (16) Offshore Supply Vessel Code. Ship Type:- 3. Pollution Category:- Z.

SECTION 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Uk Regulatory References

Chemicals (Hazard Information & Packaging) Regulations. Control of Substances Hazardous to Health Regulations 2002 (as amended) Workplace Exposure Limits EH40.

EU Legislation

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

15.2. Chemical Safety Assessment

International Chemical Inventories

Contact REACH@miswaco.com for REACH information. Complies with the following national/regional chemical inventory requirements: AICS, DSL / NDSL, EINECS / ELINCS, TSCA,

SECTION 16: OTHER INFORMATION

CESIUM FORMATE/POTASSIUM FORMATE BRINE

Information Sources

Product information provided by the commercial vendor(s). Material Safety Data Sheet, Misc. manufacturers. LOLI. European Chemicals Bureau - ESIS (European Chemical Substances Information). MARPOL 73/78. Marine Environment Protection Committee (MEPC) Circulars. MEPC.2 MEPC 54/10/4. IBC Code. IMO Resolution A.673 (16), Guidelines for the Transport and Handling of Limited Amounts of Hazardous and Noxious Liquid Substances in Bulk Offshore Support Vessels.

Revision Comments

General revision. Compiled or revised by Sandra McWilliam

Issued By Bill Cameron

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Revision 2

Supersedes date 13-03-08

SDS No. 10072

Risk Phrases In Full

R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.

R36 Irritating to eyes.

NC Not classified.

Hazard Statements In Full

H319 Causes serious eye irritation.

H373 May cause damage to organs <<Organs>> through prolonged or repeated exposure.

Disclaimer

MSDS furnished independent of product sale. While every effort has been made to accurately describe this product, some of the data are obtained from sources beyond our direct supervision. We cannot make any assertions as to its reliability or completeness; therefore, user may rely only at user's risk. We have made no effort to censor or conceal deleterious aspects of this product. Since we cannot anticipate or control the conditions under which this information and product may be used, we make no guarantee that the precautions we have suggested will be adequate for all individuals and/or situations. It is the obligation of each user of this product to comply with the requirements of all applicable laws regarding use and disposal of this product. Additional information will be furnished upon request to assist the user; however, no warranty, either expressed or implied, nor liability of any nature with respect to this product or to the data herein is made or incurred hereunder.