

TETRA Technologies, Inc.

MATERIAL SAFETY DATA SHEET



CALCIUM CHLORIDE SOLUTION

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1. PRODUCT AND COMPANY IDENTIFICATION					
TETRA Chemicals Europe AB P.O. Box 901 SE-251 09 Helsingborg Sweden	Emergency Response:	+46-8-33 70 43 (ERC)			
	Non-emergency Customer Service:	+46-42-453 27 00			
	Fax:	+46-42-453 27 80			
	E-mail:	msds@tetrachemicals.com			
Substance:	Calcium Chloride Solution				
Synonyms:	Liquid Calcium Chloride, Road Master™, Superset™, Food Grade Liquid Calcium Chloride				
Application:	Oil exploration and other areas of application. Food additive (E509)				
Chemical Family/Formula	CaCl ₂ (aq)				
MSDS Creation Date:	1994-11-24				
Last Revision Date:	2008-09-10: E-mail added in Section 1. Section 2 and 3 changed position.				
2. HAZARDS IDENTIFICATION					
Emergency Overview:	Odorless, clear liquid. May cause skin, respiratory tract, and eye irritation.				
Potential Health Effects:					
Inhalation:	Mist inhalation may cause minor irritation.				
Skin Contact:	Prolonged contact with skin may cause irritation.				
Eye Contact:	May irritate or burn eyes.				
Ingestion:	Ingestion may cause nausea and irritation to mouth, throat and digestive system.				
Carcinogen Status:	OSHA – No NTP – No IARC – No				
Environment:	This product increases the hardness of water.				
3. COMPOSITION, INFORMATION ON INGREDIENTS					
Component Name	Wt %	CAS Number	EC Number	Index Number	Classification
Calcium Chloride	16-45%	10043-52-4	233-140-8	017-013-00-2	Xi*
Water	55-84%				
Probable Contaminants: Calcium Carbonate, Calcium Hydroxide, Calcium Oxide, Alkali Metal Chlorides, Alkaline Earth Metal Chlorides					
* Classification Legend: T+=Very toxic, T=Toxic, C=Corrosive, Xn=Harmful, Xi=Irritant, E=Explosive, O=Oxidizing, F+=Extremely flammable, F=Highly flammable, N=Dangerous for the environment					
4. FIRST AID MEASURES					
Eye Contact:	Flush eyes thoroughly with large amounts of water. If irritation or adverse symptoms develop, seek medical attention.				
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with water and soap or mild detergent.				
Inhalation:	Remove from exposure area to fresh air.				
Ingestion:	Get medical attention.				
Notes to Physician:	Treat symptomatically and supportively.				
5. FIRE FIGHTING MEASURES					
Fire and Explosion Hazard:	Negligible fire hazard when exposed to heat or flame				
Extinguishing Media:	This product does not burn. Use extinguishing media appropriate for surrounding fire.				
Fire Fighting:	Negligible fire hazard.				

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Fire and Explosion Hazard:	Negligible fire hazard when exposed to heat or flame.
Protective Equipment for Fire Fighters:	Fire fighting tunic and face mask.
6. ACCIDENTAL RELEASE MEASURES	
Personal Precautions:	Wear appropriate protective gear for the situation. See personal protection information in Section 8.
Containment of Spill:	Prevent release to ground, air or to water or drain by use of a retaining dike or by covering the spillage with inorganic (inert) material, e.g., sand, gravel or equivalent. If possible, stop leakage. If the product contaminates sea, lakes or drains, inform appropriate authorities in accordance with local regulations.
Cleanup and Disposal:	Major spillage should be carefully collected mechanically and put in clean, dry container for later disposal. Minor spill and small residuals can be flushed down the drain with plenty of water.
Other Information:	Spillage of product creates slippery surfaces.
7. HANDLING AND STORAGE	
Handling:	Avoid skin and eye contact. Wash thoroughly after handling. Launder contaminated clothing before re-use.
Storage:	Store in properly sealed, original packaging away from moisture and incompatible materials.
Other Information:	This product is hygroscopic.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION	
Engineering Controls:	Provide local exhaust ventilation system. Where there is possibility of exposure, eye wash fountain and safety shower should be provided within the immediate work area for emergency use.
Eyes:	Wear safety glasses with splash shields or safety goggles/shield.
Body:	Wear appropriate protective clothing. Leather work boots and/or leather products will dehydrate with resultant shrinkage and possible destruction.
Respiratory:	A respirator is not normally required under normal operating conditions. For misty conditions, use an approved mist respirator.
Hands and Feet:	Use PVC or neoprene protective gloves. Penetration time 4-8 hours. Do not use leather or cotton gloves, or leather boots.
9. PHYSICAL AND CHEMICAL PROPERTIES	
Description:	Colorless liquid
Odor:	Odorless
Boiling Point:	Ca 100°C
Melting Point:	-40 - +20°C
Density:	Ca 1.34 g/cm ³
Water Solubility:	Miscible with water in all proportions
Solvent Solubility:	Miscible in alcohol, acetic acid and acetone
Vapor Pressure:	Ca 1.1 kPa
pH solution:	8-11
10. STABILITY AND REACTIVITY	
Stability and Reactivity:	This product is stable with normal handling.
Polymerization:	See below.
Conditions to Avoid:	Calcium chloride reacts violently with a mixture of boron oxide (B ₂ O ₃) and calcium oxide (CaO). A violent polymerization occurs if calcium chloride is mixed with methyl vinyl ether. Calcium chloride reacts violently with bromine trifluoride (BrF ₃).



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11. TOXICOLOGICAL INFORMATION	
Toxicity Data (anhydrous calcium chloride):	
Acute Oral Toxicity:	LD50 = 1000 mg/kg, rat
Acute Dermal Toxicity:	LD50 = 2630 mg/kg, rat
Other Toxicological Information/Local Effects: Acute oral toxicity is determined in accordance with OECD Guideline 401. Skin irritation rabbit: not irritating according to OECD Guideline 404. Eye irritation rabbit: irritating according to OECD Guideline 405. The information on oral acute toxicity and irritation refers to dry product.	
Mutagenic Data and Tumorigenic Data:	This product is not considered mutagenic. Ames's test on Salmonella typhimurium was negative.
Carcinogen Status:	None
Local Effects:	Eye, mucous membrane and skin irritant.
Health Effects:	Moderately toxic by ingestion, slightly toxic by dermal absorption.
12. ECOLOGICAL INFORMATION	
Mobility:	Soluble in water and mobile.
Degradability:	Product will not biodegrade (inorganic product).
Bioaccumulation:	The product does not bioaccumulate in the aquatic environment.
Ecotoxicity:	
LC50/96h	Fathead minnow: 4630 mg/l.
LC50/48h	Daphnia: 2770 mg/l.
LC50/120h	Nitzschia linearia: 3130 mg/l.
This product is not acutely toxic to water organisms. Information about ecotoxicity refers to dry product.	
Other Information:	This product increases the hardness of water.
13. DISPOSAL INFORMATION	
Directions for Disposal of Material/Container:	
This product does not constitute a hazardous waste. Contact the appropriate local authorities for information if spill or waste cannot be recycled. Properly emptied packaging can be recycled. See also Section 6 - Accidental Release Measures. Relevant EWC-code depends on the use of the product.	
14. TRANSPORTATION INFORMATION	
Shipping Name:	Not Regulated
ID Number:	Not classified as dangerous goods nor hazardous material.

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15. REGULATORY INFORMATION	
Classification:  Irritating, Xi	
EC Label:	Yes
R - Phrases	
R36	Irritating to eyes.
S - Phrases	
S24	Avoid contact with skin.
EINECS Status:	Yes
16. OTHER INFORMATION	
Individuals handling this product should be informed of the recommended safety precautions and should have access to this information.	
This information relates to the specific product designated and may not be valid for such product used in combination with any other materials or in any other processes. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability, or completeness. It is the users' responsibility to satisfy themselves as to the suitability and completeness of such information for their own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer warranty against patent infringement.	
TETRA Chemicals Europe AB reserves the right to refuse shipment of this product to any consumer who fails to demonstrate the ability to consistently handle and use it safely and in compliance with all applicable laws, rules and regulations. Such demonstration may require on-site inspection of any or all storage, processing, packaging and other handling systems that come in contact with it.	
Customers are responsible for compliance with local, state and federal regulations that may be pertinent in the storage, application and disposal of this product.	