

# CALCIUM CHLORIDE

## WEIGHTING MATERIALS



### Description

CALCIUM CHLORIDE is a salt used to create solids free brine workover and completion fluids. It can be used to prepare weighted drilling fluids where formation pressures require densities ranging from 1.02 – 1.40 sg (8.5 – 11.7 lb / bbl). In combination with CALCIUM BROMIDE, CALCIUM CHLORIDE achieves densities up to 1.8 sg (15 lb / bbl).

### Application

Solid CALCIUM CHLORIDE rapidly achieves density increases with minimal additional volume. It also provides inhibition, preventing clays from hydrating, swelling and migrating and can be used in packer fluids.

Caution should be taken when adding to water as heat will be generated.

### Typical Physical Properties

Appearance:	White to off white crystals
Specific gravity:	1.8 – 2
Solubility:	Soluble in water

### Advantages

- Inexpensive and readily available
- Mixes readily with other calcium, bromide and zinc-based brines.

### Recommended Treatment

The following table indicates CALCIUM CHLORIDE concentrations to obtain a required fluid density.

CONCENTRATION (% WEIGHT)	DENSITY SPECIFIC GRAVITY	CHLORIDE (MG/L)
Fresh water	1.000	
1 %	1.009	6,454
5 %	1.043	33,360
10 %	1.085	69,440
15 %	1.132	108,624
20 %	1.180	151,040
25 %	1.231	196,880
30 %	1.284	246,528
35 %	1.340	300,048
40 % (saturated)	1.398	357,888

Note: % by weight is the equivalent of 1% = 10 kg / m<sup>3</sup>  
Properties based on 20°C and 100% purity.

For further details, please contact your nearest AMC representative.

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