

# Calcium Carbonate

## Description

Calcium Carbonate is a compound with formula  $\text{CaCO}_3$  that occurs naturally as limestone, marble or chalk. It is an additive used as weighting material and as bridging – sealing agent to minimize invasion of filtrate and whole fluid to the formation. It is 98 – 99.5% acid soluble.

## Applications

Calcium Carbonate is normally used as weighting agent. For bridging purposes it can be used alone or in combination with other LCM material. Acting as a bridge in the fractures and pores of the formation being drilled, it will minimize losses to the formation while circulating and in static conditions. It can be used in drilling, completion and workover fluids.

## Features and Benefits

- Used as bridging agent in sandstones and permeable formations
- Agent for wellbore strengthening when drilling depleted zones
- Combined with other sealing agents minimizes and/or controls seepage and severe losses
- Minimizes formation damage
- Preferable to barite as weighting material because it is acid soluble

## Typical Properties

Appearance	Solid
Color	White
Specific Gravity	2.7
Molecular Weight	100.87

## Recommended Treatment

Typical concentration for bridging purposes is 20 – 50 lb/bbl (85.5 – 142.5 kg/m<sup>3</sup>).

Calcium Carbonate is usually used as weighting agent for reservoir drilling fluids, the following is the formula for obtaining the amount of  $\text{CaCO}_3$  required in lb/bbl:

$$= 945 * \frac{\text{Final density, lb/gal} - \text{Initial density, lb/gal}}{22.5 - \text{Final density, lb/gal}}$$

## Safety and Handling

Prior to using this product, refer to the safety data sheet for information on use of personal protective equipment, safe handling, storage, transport, and disposal.

## Packaging

Calcium Carbonate is available in 50 lb (22.7 kg) 110 lb (50 kg) bags and in bulk.

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