

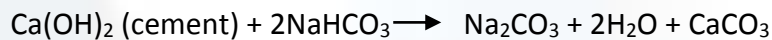
SODIUM BICARB

DESCRIPTION

Sodium bicarbonate or sodium hydrogen carbonate is the chemical compound with the formula NaHCO_3 . It is used primarily to correct the adverse effects of cement contamination from water based mud systems. Molecular weight is 84.0

APPLICATION

Sodium bicarbonate is used for treating cement contamination (pH of fluid should be 8.5 or higher) and is often added as a precaution before drilling out cement. The reaction can be written as



ADVANTAGES

- Cost effective additive for treating cement contamination in WBM
- Quickly reduces soluble calcium levels and fluid's pH

TREATMENT

The first priority when treating cement contamination is to reduce the pH (from pH 12-13 to a natural pH). The reaction above produces sodium carbonate, which is an alkali. Thus, pH reduction will only be achieved if the mud contains a significant concentration of dissolved calcium ions. If not, simultaneous additions of gypsum or calcium chloride will be needed.

From the reaction above, the sodium bicarbonate treatment can be calculated as

$$\text{Sodium bicarbonate} = P_{df} \times 1.68 \text{ (kg/m}^3\text{)}$$

or

$$\text{Sodium bicarbonate} = P_{df} \times 0.59 \text{ (lb/bbl)}$$

Where;

P_{df} is the phenolphthalein alkalinity of the drilling fluid.

$$\text{Sodium bicarbonate} = 0.80 \times \text{excess lime (lb/bbl)}$$

0.00074 lbm of sodium bicarb treats 1.0 mg/L Ca^{++}

TYPICAL PROPERTIES

Appearance:	White granular powder
pH (1 gr/350 cc solution):	8-8.5
Specific Gravity:	2.2
Solubility:	soluble in water
Purity:	Min.95

PACKAGING

SODIUM BICARB is available in 25 kg PE sacks.

