

# SODIUM CHLORIDE

## WEIGHTING MATERIALS



### Description

SODIUM CHLORIDE (NaCl) is a widely available commercial chemical that can be used as a weighting agent to increase fluid density up to 1.2 sg (10 lb / gal). It is predominately used for formulating clear, solid free work-over and completion fluids. Sodium chloride can also provide inhibition to formations containing water sensitive clays and shales.

### Application

The principle function of SODIUM CHLORIDE is to increase the density of fluid. It is extensively used in low density, clear workover and completion fluids not requiring highly inhibitive calcium or potassium chloride. It can also be used to increase the density of other brines fluids such as seawater, or unsaturated potassium chloride brines.

SODIUM CHLORIDE is also used for shale inhibition through water activity reduction as well as to reduce the freezing point of water based drilling fluids.

### Typical Physical Properties

Appearance:	White crystalline powder
Solubility in water:	36 g / 100 mL @ 20°C
Specific gravity:	2.0 – 2.15

### Advantages

- Widely and readily available
- Economical
- Easily mixed.

### Recommended Treatment

SODIUM CHLORIDE is added to a fluid as required and dissolves rapidly in water. To saturate fresh water, add 316 kg / m<sup>3</sup> (110.5 lb / bbl). In a mixed salt system, the solubility is depressed by the presence of other salts.

The following table indicates the SODIUM CHLORIDE concentrations in fresh water required to obtain a specific fluid density.

CONCENTRATION (% BY WEIGHT)	DENSITY (SG)	CHLORIDES (MG / L)
1%	1.005	6,100
3%	1.020	18,600
6%	1.041	37,900
9%	1.063	58,100
12%	1.086	79,000
15%	1.109	100,900
18%	1.132	123,600
21%	1.156	147,200
24%	1.180	171,900
26%	1.197	188,800
26 % (saturated)	1.199	189,143

Please Note: Several factors will dictate the most appropriate concentration rate. Please contact your nearest AMC representative for optimum results.

#### ASIA PACIFIC

Perth, Australia (Head Office)

T +61 8 9445 4000  
E amc@imdexlimited.com

Indonesia

T +62 (0) 21 759 11244

#### AFRICA

South Africa

T +27 (11) 908 5595

#### EUROPE

Germany

T +49 4402 6950-0

United Kingdom

T +44 (0) 1273 405 975

#### SOUTH AMERICA

Argentina

T +54 (9) 261 426 1116

Brazil

T +55 (47) 3404 5920

Chile

T +56 (2) 2589 9300

Peru

T +51 (1) 322 8850

#### NORTH AMERICA

USA / Canada

T +801-364-0233

Mexico

T +52 (871) 169 2095