

WATER GUARD, INC

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TECHNICAL BULLETIN ~ SODIUM HYDROXIDE

SODIUM HYDROXIDE is a colorless liquid which is relatively viscous or "syrup-like" in high concentrations. Also known as Caustic Soda, this thick solution is most commonly available in concentrations of 50% and 25%. The most significant difference between these concentrations is 25% freezes at 32°F while 50% begins freezing at 52°F.

Caustic Soda is corrosive and can burn and damage eyes, skin, mucous membranes and any other exposed tissue. If inhaled, irritation of the respiratory system may occur with coughing and breathing difficulty. Though unlikely to occur during occupational use, ingestion of large quantities may be fatal.

Sodium Hydroxide is the principal strong base used in the chemical industry. Sodium Hydroxide is also available as a white solid, available in pellets, flakes, or granules. In bulk it is most often handled as an aqueous solution, as solutions are less expensive and easier to handle. It is used to drive for chemical reactions and also for the neutralization of acidic materials.

REGISTRATIONS

National Sanitation Foundation:

Water Guard's Sodium Hydroxide is NSF/ANSI 60 certified for use in drinking water systems for pH adjustment purposes. Its maximum use level should not exceed 100mg/L.

ANALYSIS

SPECIFICATION

Concentration	50%	25%
Sodium Hydroxide (NaOH)	49.0-51.0%	24.5-25.5%
Sodium Oxide (Na ₂ O)	38.0-39.5%	19.0-19.75%
Sodium Carbonate (Na ₂ CO ₃)	0.4% max.	0.22% max.
Sodium Chloride (NaCl)	100 ppm max.	50 ppm max.
Sodium Chlorate (NaClO ₃)	65 ppm max.	32.5 ppm max.
Sodium Sulfate (Na ₂ SO ₄)	40 ppm max.	20 ppm max.
Iron (Fe)	5 ppm max.	2.5 ppm max.

PHYSICAL AND CHEMICAL PROPERTIES

Concentration	50%	25%
Freezing Point	12°C (54°F)	0° C (32° F)
Specific Gravity	1.53	1.28
Density (lb./gal. at 15.6°C)	12.76	10.69
Solubility in H ₂ O	Complete	Complete