

## Regenerant Chemical Specifications

### Hydrochloric Muriatic Acid

Grade	Muriatic, technical HCl
Color	White to yellow
	Concentration
	Min. 28% HCl, 18 <sup>o</sup> Bé
Sulfuric acid as SO <sub>4</sub>	= 0.4% maximum
Iron (Fe)	= 0.01% maximum
Freezing point	= - 40 <sup>o</sup> F (31 <sup>o</sup> C)
Organic contaminants	= 0.01% maximum
Pounds per gallon	= 9.5
Acid should be free of turbidity	

### Sulfuric Acid

Grade	Sulfuric acid, technical H <sub>2</sub> SO <sub>4</sub>
Color	Water white to light brown
Concentration	Minimum 93.2% H <sub>2</sub> SO <sub>4</sub> , 66 <sup>o</sup> Bé
(or equivalent 60 <sup>o</sup> Bé)	
Iron (Fe)	= 55 ppm maximum
Nitrogen compounds	= 20 ppm maximum
Arsenic	= 0.2 ppm maximum
Freezing point	= - 24 <sup>o</sup> F (- 31 <sup>o</sup> C)
Organic contaminants	= 100 ppm maximum
Pounds per gallon	= 15.3 (60 <sup>o</sup> F) (15 <sup>o</sup> C)

### Sodium Carbonate, Soda Ash

Grade	Soda ash, technical Na <sub>2</sub> CO <sub>3</sub>
Color	White Na <sub>2</sub> O
	58.26% Na <sub>2</sub> CO <sub>3</sub>
	99.6% NaHCO <sub>3</sub>
	Nil
NH <sub>3</sub>	Nil
H <sub>2</sub> O	0.15% maximum NaCl
	0.2% maximum Na <sub>2</sub> SO <sub>4</sub>
	0.02% maximum Fe <sub>2</sub> O <sub>3</sub>
	0.002% maximum Water
Insolubles	0.015% maximum

**Aqua Ammonia**

Ammonium hydroxide NH <sub>4</sub> OH	26 <sup>0</sup> Bé
Gravity at 60 <sup>0</sup> F (15 <sup>0</sup> C)	=26.0 Bé minimum
Total ammonia as NH <sub>3</sub>	= 29.4%
Freezing point	= - 40 <sup>0</sup> F (-40 <sup>0</sup> C)
Color	= water white
Ponds per gallon	= 7.5 (60 <sup>0</sup> F) (15 <sup>0</sup> C)

**Sodium Chloride**

	Common Salt NaCl
Purity	97%
Water content	0
Insoluble Matter	0.1%
Sulfate (SO <sub>4</sub> )	1%
Ca and Mg	0.5%
Soluble iron	Undetectable
Sand or clay	Nil
Soluble alkalinity as CaCO <sub>3</sub>	Nil

**Sodium Hydroxide, Liquid Caustic Soda**

(Diaphragm Cell Grade)

Analysis	Limits
NaOH	100% nominal
NaCl	1200 ppm
Na <sub>2</sub> CO <sub>3</sub>	3000 ppm
NaClO <sub>3</sub>	30 ppm
Fe	2000 ppm

**Sodium Hydroxide, Liquid Caustic Soda**  
(Rayon Grade)

Na <sub>2</sub> O	76.61%
NaOH	98.25%
Na <sub>2</sub> CO <sub>3</sub>	0.76%
NaCl	1200 ppm
NaClO <sub>3</sub>	Less than 2 ppm
Fe <sub>2</sub> O <sub>3</sub>	0.001%
SiO <sub>2</sub>	0.0039%
Al <sub>2</sub> O <sub>3</sub>	0.001%
CaO	0.0027%
MgO	0.0038%
Cu	0.00002%
Mn	0.00005%
Pb	0.00005%
Ni	0.00009%
Na <sub>2</sub> SO <sub>4</sub>	0.20%
As	0.01 ppm



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