

## Sodium Hypochlorite Production Accuracy

Sodium hypochlorite is produced and used in a state of the art Powell Continuous Flow Sodium Hypochlorite Manufacturing Process. Aside from the clarity and purity of our product, most customers are interested in the percent Available Chlorine and percent Excess Alkalinity of the sodium hypochlorite.

The measurement of these qualities requires a detailed chemical titration. There is not practical way of directly monitoring qualities during manufacturer. Instead, our machinery monitors a related voltage called the "Oxidation Reduction Potential" or "ORP". The operator makes chemical titration and instructs the microprocessor to adjust its chemical reaction by adjusting this voltage until the product titrates to the correct values.

Although a direct monitor is not practical, having such a device wouldn't help the customer understand the qualities of his received product anyway, since the specifications of interest are for the chemical after filtration and typically 24 hours of storage. Sodium hypochlorite samples were taken, as shipment is ready for delivery and runs titration tests on them. Thirteen of the most recent samples at a producer's site tested as follows:

Sample #	Date	Reference	Trade % Available Chlorine (xc)	% Excess Alkalinity (xa)
1	4/10	57689	15.42	0.27
2	4/10	57374	15.30	0.26
3	4/10	57337	15.41	0.25
4	4/11	55735-01	15.46	0.24
5	4/12	57629	15.42	0.24
6	4/15	57806	15.42	0.24
7	4/15	57754	15.36	0.24
8	4/16	57951	15.36	0.24
9	4/17	58027	15.45	0.24
10	4/17	57968	15.45	0.24
11	4/18	58079	15.44	0.24
12	4/18	55735-02	15.44	0.25
13	4/18	58042	15.42	0.25
Totals			200.35	3.2

N=13

$\bar{X}C=15.412$

$\bar{X}A=0.246$