

## **CORROSIVE EFFECTS OF PEROXYACETIC ACID**

Corrosion coupons of the various metals were suspended in the various concentrations of PAA for 30 days. A solution was prepared in the laboratory at 250 ppm hardness to which each indicated amount of PAA was added. The PAA solution was kept at 70° F throughout the test and changed every other day for 30 days. At the end of the test each coupon was rinsed and cleaned in accordance with ASTM procedures and reweighed. The Mils Per Year (mpy) corrosion coefficient was then calculated. General industry standards are: <5 mpy is very good; 5.1-10 mpy is acceptable/marginal; and > 10 mpy is corrosive in relative degrees.

### **Corrosion Rates in MPY (mils per year)**

<b>Metal Tested</b>	<b>Concentration Tested (active PAA)</b>		
	100 ppm	200 ppm	400 ppm
Aluminum 99.5%	0 mpy	0 mpy	0 mpy
Stainless Steel 304	0	0	0
Stainless Steel 316	0	0	0
Tinned Iron	0	0	0
Galvanized Iron	5.4	19.4	49.5
Mild Steel	34.1	53.8	78.1
Copper	1.9	23.1	54.0

Galvanized iron and copper are attacked but the effects are minimal at the lowest concentration. 150 ppm active PAA is the limit of the acceptable range for galvanized iron and copper. Shorter recirculation or sanitizing contact times would reduce the corrosion effects (less than 30 minutes). Increasing or decreasing the sanitizing solution temperature will have effects that increase or decrease corrosion rates respectively.