

Sodium Metabisulfite Requirements for Neutralization of PERASAN & PERASAN 'A'
(amounts are based on 100% active materials)

PERASAN®

- 1) Perasan is 15% PAA, 22% H₂O₂.
- 2) Weight Ratio H₂O₂: PAA is 1.47:1
Each ppm PAA is accompanied by 1.47 ppm H₂O₂.
- 3) 1 ppm PAA requires 1.25 ppm sodium metabisulfite.
- 4) 1 ppm H₂O₂ requires 2.79 ppm sodium metabisulfite. Therefore the amount of sodium metabisulfite due to H₂O₂ is $2.79 \times 1.47 = 4.1$ ppm per ppm PAA
- 5) Total amount of sodium metabisulfite due to both PAA and H₂O₂ is $1.25 + 4.1 = 5.35$ ppm sodium metabisulfite per ppm PAA

PERASAN® 'A'

- 1) Perasan 'A' is 5.6% PAA, 26.5% H₂O₂.
- 2) Weight Ratio H₂O₂: PAA is 4.73:1
Each ppm PAA is accompanied by 4.73 ppm H₂O₂.
- 3) 1 ppm PAA requires 1.25 ppm sodium metabisulfite.
- 4) 1 ppm H₂O₂ requires 2.79 ppm sodium metabisulfite. Therefore the amount of sodium metabisulfite due to H₂O₂ is $2.79 \times 4.73 = 13.2$ ppm per ppm PAA
- 5) Total amount of sodium metabisulfite due to both PAA and H₂O₂ is $1.25 + 13.2 = 14.45$ ppm sodium metabisulfite per ppm PAA

Conclusion:

1 ppm PAA (from PERASAN®) requires 5.35 ppm (44.6 lbs per 1 million gallons of water) sodium metabisulfite for complete neutralization of both PAA and H₂O₂ components.

1 ppm PAA (from PERASAN® 'A') requires 14.45 ppm (120.4 lbs per 1 million gallons of water) sodium metabisulfite for complete neutralization of both PAA and H₂O₂ components.

	PERASAN	PERASAN 'A'
Weight ratio PAA:H ₂ O ₂	1.47:1	4.73:1
Each ppm PAA =	1.47 ppm H ₂ O ₂	4.73 ppm H ₂ O ₂
Each ppm PAA requires ? metabisulfite	1.25 ppm	1.25 ppm
Each ppm H ₂ O ₂ requires ? metabisulfite	2.79 ppm	2.79 ppm
Total metabisulfite for H ₂ O ₂ fraction	4.1 ppm	13.2 ppm
Total metabisulfite required to Neutralize 1 ppm as PAA + (H ₂ O ₂)	5.35 ppm	14.45 ppm
100% metabisulfite required for neutralizing 1 ppm active PAA per million gallons H ₂ O	44.6 lbs	120.4 lbs