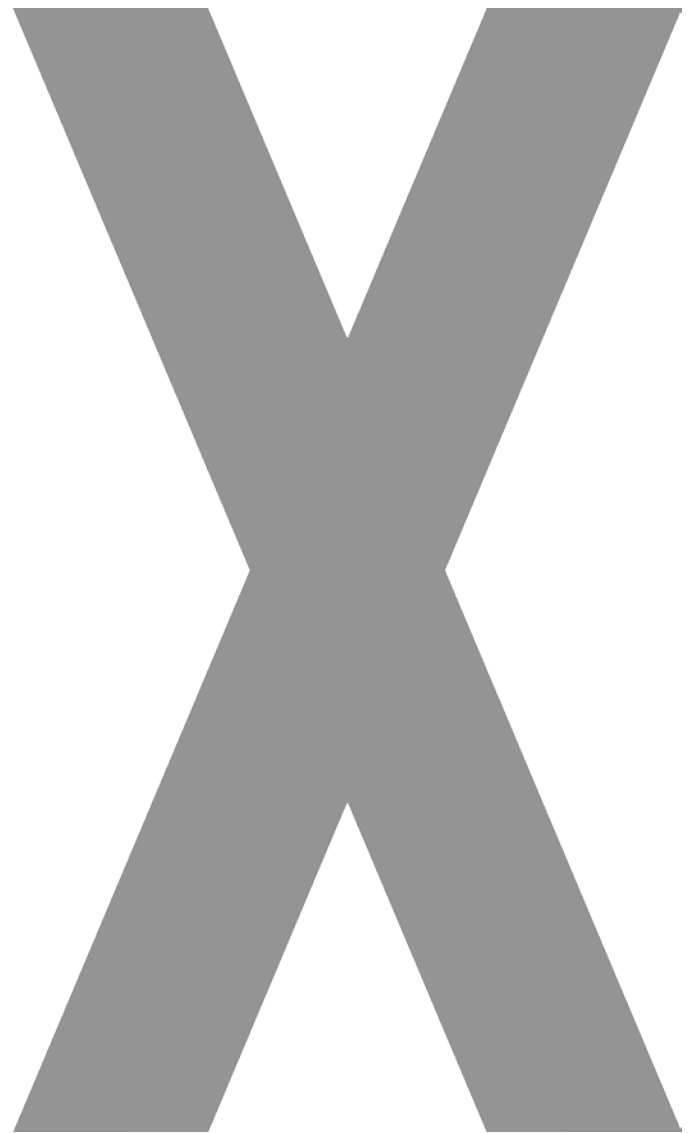


**Prepared Solution Stability of Percarbonate  
Rely+On™ PeraSafe™ over 24 hour period**

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**Date: May 2018**



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## Background

The aim of this trial is to determine the stability of percarbonate Rely+On™ PeraSafe™ as a 16.2g/litre prepared solution, by assessing the stability of peracetic acid (PAA, %) over the 24 hour solution shelf life given.

## Method

The following batch of percarbonate Rely+On™ PeraSafe™ was assessed :-

Batch Number : BN 1703BH0020

16.2g of the product was weighed and added to 1 litre of tap water in a beaker at approximately 35°C.

The solution was stirred continuously for 2 minutes, and then regularly within the 15 minute activation time period. The solution was assayed at regular intervals to determine peracetic acid content and pH, with the solution being stirred for 10 seconds prior to testing each time.

The solution was held in strictly controlled conditions within an incubator, at 20°C, for the duration of the trial.

## Analytical Method

The following titration method was used:-

20 ml of the prepared solution was pipetted into a 250 ml conical flask. 50 ml of deionised water, 3 ml of 20% Sulphuric acid and 2 drops of Ferroin indicator solution were added to the solution. 0.1M Cerium (IV) Sulphate solution was used to titrate to the first blue end point.

To this solution, 1g of Potassium Iodide was then added and swirled to dissolve. This was then titrated again, this time with a 0.1M Sodium Thiosulphate solution back to the original orange colour (titre recorded as T2).

$$\text{Peracetic acid, \%w/v} = \frac{T2 \times 0.1}{1000} \times \frac{R}{2} \times \frac{100}{20} = \frac{T2 \times 3.8}{200}$$

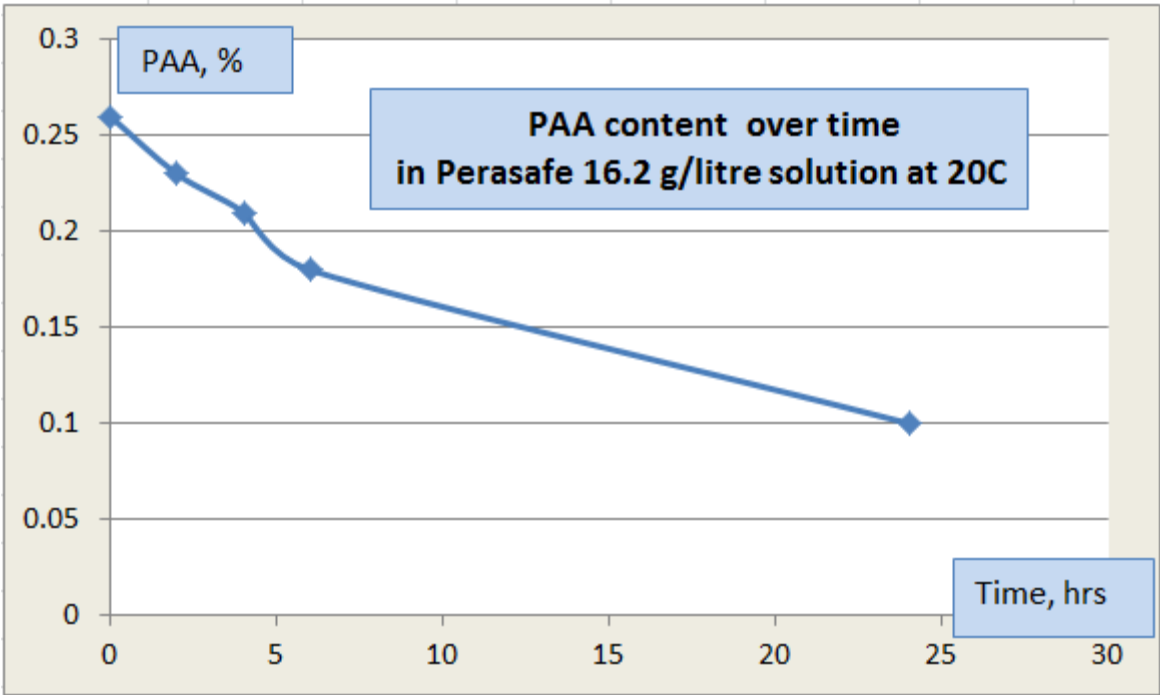
Where R = Relative molecular mass of peracetic acid = 76

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## Results

Time (Hours)	PAA , %	pH
0	0.26	7.89
2	0.23	7.68
4	0.21	7.66
6	0.18	7.71
24	0.10	7.48

PAA content over time in Rely+On™ PeraSafe™ 16.2g/litre solution at 20°C



## Conclusion

The stability of the prepared Rely+On™ PeraSafe™ 16.2g/litre solution over a period of 24 hours shows a gradual loss of Peracetic acid ( PAA ), %, however a minimum level of 0.1% PAA, % is maintained at the end of the 24 hour test period.

Thus, the prepared Rely+On™ PeraSafe™ 16.2g/litre solution is given a 24 hour shelf life.

24 hour Solution Stability of Rely+On™ PeraSafe™