



Sodium Chlorite Solutions from Dry Product (Metric Units)

Introduction

Solutions of varying strengths may easily be prepared from Technical Sodium Chlorite Dry product. This Technical Data Sheet includes instructions and an example of how to calculate the proper quantities of components needed to prepare a 25% active sodium chlorite solution. Data necessary to prepare solutions of other strengths is presented in Table 1.

Consult the product label and the appropriate Safety Data Sheets (SDS) before handling Technical Sodium Chlorite Dry or the solutions prepared from it.

Preparing 25% Solutions from Dry Product

The following conversions will enable you to blend a 25% sodium chlorite solution from Technical Sodium Chlorite Dry product.

To determine the amount of Technical Sodium Chlorite Dry and water needed to prepare a specified number of liters of 25% sodium chlorite solution:

1. Multiply the desired number of liters of 25% sodium chlorite solution to be prepared by the density (kg/L) of a 25% sodium chlorite solution. Nominally, 25% solutions made from dry material is 126.9 kg/100 Liters. This gives you the total weight of the desired volume of sodium chlorite solution.
2. Multiply the total weight of the sodium chlorite solution to be prepared by 25% to determine the weight of dry sodium chlorite required to prepare the solution, and then divide the dry sodium chlorite weight by the purity of the Technical Sodium Chlorite Dry product to determine the amount of dry product required. Nominally Technical

Sodium Chlorite Dry has a purity of 80%.

3. Now that the weight of dry product need to produce the desired volume of 25% sodium chlorite solution, subtract that weight from the total solution weight to determine the weight of the water required to prepare the 25% solution. At 25°C (77°F), the weight of the water can be converted to liters by dividing by water density of 1.0 kg/L.

Example: To prepare 50 liters of 25% sodium chlorite solution:

$$50 \text{ L} \times 1.269 \text{ Kg/L} = 63.45 \text{ Kg}$$

63.45 Kg X 0.25 = 15.86 Kg of dry sodium chlorite required to prepare 50 liters of 25% active sodium chlorite solution.

15.86 Kg NaClO₂ ÷ 0.80 = 19.83 Kg of OxyChem Technical Sodium Chlorite Dry product required to prepare the desired volume of 25% sodium chlorite solution.

63.45 Kg – 19.83 Kg = 43.62 Kg (liters) of water required to prepare 50 liters of 25% sodium chlorite solution.

Sodium Chlorite Solutioning Instructions:
Water needs to be between 35 and 50°C.

Mix well as the 80% Technical Sodium Chlorite Dry product is blended into water.

Add sodium chlorite in free-flowing flake form.

Mix for 30 minutes and sample to verify proper strength.



Basic Chemicals



Allow solution to cool, then transfer to a proper storage container.

Table 1 gives the quantities of components required to prepare 100 liters of the indicated solutions from Technical Sodium Chlorite Dry. All solution strengths are expressed as the percentage of active sodium chlorite present in the final solution.

Table 1 is based on the calculations presented in the previous example, and on the measured densities of sodium chlorite solutions prepared from dry product. All liquid temperatures are assumed to be 25°C (77°F).

Further Information:

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Table 1 Components Required to Produce 100 Liters of Sodium Chlorite Solution from Dry Product					
Solution Strength, Wt%	Solution Specific Gravity 25/25°C	Kilograms Per 100 Liters	Kilograms Technical Dry NaClO ₂	Kilograms Water (Liters)	
2	1.01	101.4	2.54	98.90	
3	1.02	102.4	3.84	98.61	
4	1.03	103.5	5.17	98.30	
5	1.04	104.5	6.53	97.97	
6	1.06	105.5	7.92	97.62	
7	1.07	106.6	9.33	97.26	
8	1.08	107.6	10.76	96.88	
9	1.09	108.7	12.23	96.47	
10	1.10	109.8	13.72	96.05	
11	1.11	110.9	15.24	95.62	
12	1.12	111.9	16.79	95.16	
13	1.13	113.0	18.37	94.68	
14	1.14	114.2	19.98	94.18	
15	1.15	115.3	21.61	93.66	
16	1.16	116.4	23.28	93.12	
17	1.18	117.5	24.98	92.56	
18	1.19	118.7	26.70	91.97	
19	1.20	119.8	28.46	91.37	
20	1.21	121.0	30.25	90.74	
21	1.22	122.2	32.07	90.09	
22	1.23	123.3	33.92	89.42	
23	1.25	124.5	35.80	88.72	
24	1.26	125.7	37.72	88.00	
25	1.27	126.9	39.66	87.26	
26	1.28	128.1	41.64	86.49	
27	1.29	129.4	43.66	85.70	
28	1.31	130.6	45.71	84.88	
29	1.32	131.8	47.79	84.04	
30	1.33	133.1	49.90	83.17	
31	1.34	134.3	52.05	82.28	
32	1.36	135.6	54.24	81.36	

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