



MINERA DE SANTA MARTA, S.A.

## SPECIFICATION

**Product :** NATURAL ANHYDROUS SODIUM SULPHATE

**Type :** Na – N Standard

Chemical Formula: **Na<sub>2</sub>SO<sub>4</sub>**      REV. : 2      MSM      March 2017

Parameter	Typical value	Limit	Test/Method
1 Appearance	Flowing powder free from foreign materials		Visual inspection
2 Na <sub>2</sub> SO <sub>4</sub>	99.50-99.80 %	99.00 % minimum	IT01
3 Moisture content	0.02 %	0.05 % maximum	IT02
4 Chloride (Cl <sup>-</sup> )	0.01-0.06 %	0.18 % maximum	IT03
5 Calcium (Ca <sup>2+</sup> )	0.01-0.10 %	0.03 % maximum	IT04
6 Magnesium (Mg <sup>2+</sup> )	0.00-0.01 %	0.03 % maximum	IT04
7 Acid insoluble	0.005-0.010 %	0.030 % maximum	IT05
8 pH (1%)	7.00	± 1.00	IT06
9 Bulk density	1435-1525 kg/m <sup>3</sup>	± 75	IT07
10 Color (CIE)	L*	95-97	92 minimum
	a*	0.0	± 0.5
	b*	2.5	± 2.5
<b>TRACE METALS</b>			
11 Iron (Fe)	<2 ppm	5 ppm maximum	IT09
Chromium (Cr)	<1 ppm	2 ppm maximum	
<b>PARTICLE SIZE DISTRIBUTION</b>			
12	Above 1000 µm	0 %	IT10
	Above 315 µm	40 % maximum	
	Between 100 and 315 µm	45 % minimum	
	Below 100 µm	35 % maximum	
	Mean size	240 ± 60 microns	

Issued by Quality Coordinator

Approved by Commercial Director