



MINERA DE SANTA MARTA, S.A.

SPECIFICATION

Product:	NATURAL ANHYDROUS SODIUM SULPHATE
Type:	Na-F

Chemical Formula: Na₂SO₄	REV.: 8	Belorado Plant	October 2015
--	---------	----------------	--------------

Parameter		Standard Product	Limit	Test/Method
1	Appearance	Free flowing powder from foreign materials		Visual inspection
2	Na ₂ SO ₄	99.70 %	99.50 % minimum	IT01
3	Moisture content	0.02 %	0.05 % maximum	IT02
4	Chloride (Cl ⁻)	0.06 %	0.18 % maximum	IT03
5	Calcium (Ca ²⁺)	0.01 %	0.03 % maximum	IT04
6	Magnesium (Mg ²⁺)	0.01 %	0.03 % maximum	IT04
7	Acid insoluble	0.005 %	0.01 % maximum	IT05
8	pH (1%)	7.00	± 1.00	IT06
9	Bulk density	1300 kg/m ³	± 100	IT07
10	Colour (CIE)	L*	97	95 minimum
		a*	0	± 0,5
		b*	2,5	± 2,5
TRACE METALS				
11	Iron (Fe)	2 ppm	5 ppm maximum	IT09
	Chromium (Cr)	<1 ppm	2 ppm maximum	
PARTICLE SIZE DISTRIBUTION				
12	Above 250 µm		0 %	IT10
	Above 100 µm		25 % maximum	
	Between 20 and 100 µm		70 % minimum	
	Below 20 µm		10 % maximum	
	Mean size		70 ± 25 microns	

Issued by Quality Coordinator

Approved by Commercial Director