



# Ranhill SAJ

## SPECIFICATION FOR SODIUM ALUMINATE USED FOR POTABLE WATER SUPPLY

**SPECIFICATION SAJ CH/SA/001  
(Rev.3.0 / 09.2018)**

QUALITY ASSURANCE DEPARTMENT  
RANHILL SAJ SDN. BHD.

Ranhill

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## Specification for Sodium Aluminate Used For Potable Water Supply

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## Specification for Sodium Aluminate Used For Potable Water Supply

### 1.0 GENERAL

- 1.1) This specification is applicable to Sodium Aluminate Used For Potable Water Supply accordingly to Malaysian Standard, MS 1572:2003 Specification For Sodium Aluminate Used For Potable Water Supply.
- 1.2) Features required for this specification are as follows or otherwise the above specification will be applied.

### 2.0 FEATURES REQUIRED

- 2.1) Sodium Aluminate Used for Potable Water Supply shall comply with requirement as specified in Table 1 – Product Specification.

**Table 1 – Product Specification**

Parameter	Requirement	Test Method
<b>A. Chemical Requirement</b>		
<b>Limit</b>		
Available Sodium Aluminate, as NaAlO <sub>2</sub> , % (w/w)	60 min (19.8% w/w A1)	<u>Appendix B</u>
<u>Excess Sodium Oxide, % (w/w)</u>	<u>3 to 5</u>	<u>Appendix C</u>
<b>B. Impurities</b>		
<b>Limit</b>		
<b>Test Method</b>		
Insoluble matter, % (w/w)	1.0 max	<u>Appendix A</u>
Iron, mg/kg of Al	0.8 max	BS EN 1302: 1999
<b>C. Toxic Substances</b>		
<b>Limit mg/kg of A1</b>		
<b>Test Method</b>		
Arsenic (As)	40 max	BS EN 1302: 1999
Cadmium (Cd)	50 max	BS EN 1302: 1999
Chromium (Cr)	700 max	BS EN 1302: 1999
Mercury (Hg)	10 max	BS EN 1302: 1999
Nickel (Ni)	700 max	BS EN 1302: 1999
Lead (Pb)	200 max	BS EN 1302: 1999
Selenium (Se)	40 max	BS EN 1302: 1999
Antimony (Sb)	40 max	BS EN 1302: 1999

2.2) Physical Properties of Sodium Aluminate are as follows:

No.	Physical Properties	Descriptions
1.	Appearance	i. Dry and clean ii. White or brown hygroscopic granular iii. No large lumps
2.	Solubility	i. <u>&gt;400g/L at 20°C</u>

2.3) Sodium Aluminate shall contain not less than 60 percent, by weight Sodium Aluminate (NaAlO<sub>2</sub>)

2.4) Sodium Aluminate supplied shall not contain any impurities and additives.

**3.0 TEST AND INSPECTION**

3.1 All Sodium Aluminate shall comply with test in accordance with the requirement of specification.

**4.0 PACKING AND STORAGE**

4.1 Sodium Aluminate shall be delivered in a bag form.

4.2 For storage purposes, Sodium Aluminate shall be store in cool-dry and well ventilated area and separated from acids

4.3 Under proper storage condition, Sodium Aluminate shall be stable up to 12 months.

**5.0 MANDATORY MARKING**

Each bag of Sodium Aluminate shall have mark legibly on it including: -

5.1 “Sodium Aluminate”, trade name and grade/type;

5.2 Net weight;

5.3 Name, address and telephone number or supplier and/or manufacturer;

5.4 Batch number;

5.5 Date of manufacturing / packaging and shall bear such other marking as required by applicable laws;

## 6.0 TRANSPORTATION AND LABELLING

The product shall be categorized under the following transportation guideline and labeling ;

- 6.1 RID : class 8
- 6.2 ADR : class 8
- 6.3 IMO-IMDG : class 8, UN 1759; and
- 6.4 IATA : class 8, UN 2812

## 7.0 CERTIFICATE OF ANALYSIS

7.1 The contents of certificate of analysis shall include the following:

- a) Sodium aluminate ( as  $\text{NaAlO}_2$ ), % w/w, and
- b) Insoluble matter, % w/w

7.2 The contents of comprehensive certificate of analysis shall include the following:

- a) Sodium aluminate (as  $\text{NaAlO}_2$ ), % w/w;
- b) Excess sodium oxide, % w/w;
- c) Iron, g/kg of Al;
- d) Insoluble matter, % w/w; and
- e) Toxic substances Cr, Cd, Hg, Pb, As, Ni, Se, Sb, in mg/kg of Al

## 8.0 PRE-DELIVERY INSPECTION AND EVALUATION

- 8.1 It is the responsibility of the tenderer to inform SAJ for inspection purposes during manufacturing and before delivery.
- 8.2 SAJ reserve the right to inspect and witness the testing of the product offered without any prior notice.
- 8.3 At any time, when requested, the supplier is to provide SAJ a sample of the product offered for evaluation purposes. All cost shall be borne by the supplier.
- 8.4 If at any time, the supplier fails to deliver the required sample, the product is deemed fail to meet the specification.

## 9.0 CERTIFICATION

- 9.1 Manufacturer and/or supplier of the product are required to provide the copy of the certificate and testing report from SIRIM, IKRAM and/or other certification bodies.
- 9.2 Tests report required should be those tests conducted within a year period.
- 9.3 SAJ has the right to refuse offer or reject supply if those documents required are not enclosed.