



**Ranhill
SAJ**

**SPECIFICATION FOR
POTASSIUM PERMANGANATE USED FOR
POTABLE WATER SUPPLY**

**SPECIFICATION SAJ CH/PP/001
(Rev.3.0 / 12.2018)**

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Ref. No. : CH/PP/001
Date : 24/12/2018
Total Pages : 5/5

Approve by:
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SAJ Specification for Potassium Permanganate Used For Potable Water Supply

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SAJ Specification For Potassium Permanganate Used For Potable Water Supply

1.0 GENERAL DESCRIPTION

- 1.1) Potassium Permanganate Used For Potable Water Supply shall be provided in accordance with Spesifikasi JKR 20200-0104-01, JKR Standard Specification For Potassium Permanganate Used For Potable Water Supply.
- 1.2) Features required are as follows or otherwise the above specification will be used.

2.0 FEATURES REQUIRED

- 2.1) Potassium Permanganate Used for Potable Water Supply shall comply with requirements as specified in Table 1 – Product Specification.

Table 1 – Product Specification

Parameter	Requirements	Test Method
A. Chemical requirements		
Available Potassium Permanganate (KMnO ₄), % (w/w)	98 min	AWWA B603-93; EN 12672: 2000
B. Impurities		
Insoluble matter, % (w/w)	1.0 max	AWWA B603-93; EN 12672: 2000
Moisture, % (w/w)	0.5 max	EN 12672: 2000
C. Physical Requirements		
Pass through 75um sieve, % (w/w)	7.0 max	EN 12672: 2000
D. Toxic Substances		
	Limit mg/kg of Product	Test Method
Arsenic, As	20	EN 12672: 2000; ISO 6595
Cadmium, Cd	50	EN 12672: 2000; ISO 8288-A
Chromium, Cr	50	EN 12672: 2000; ISO 9174
Mercury, Hg	10	EN 12672: 2000; EN 1483
Nickel, Ni	50	EN 12672: 2000; ISO 8288-A
Lead, Pb	50	EN 12672: 2000; ISO 8288-A
Selenium, Se	50	EN 12672: 2000; ISO 9965
Antimony, Sb	50	EN 12672: 2000; ISO 3856-2

2.2) Physical Properties of Potassium Permanganate used for potable water supply as follow:

No.	Physical Properties	Description
1.	Appearance	i. Shall be dry and clean ii. Odourless iii. Dark purple/bronze-like rhombic crystal with blue metallic sheen
2.	Density	i. 2.70g/cm ³ at 20°C ii. bulk density between 1.45g/cm ³ to 1.60g/cm ³ .
3.	Solubility	i. 65g/L (25°C)

2.3) Chemical content shall contain not less than 98 percent, by weight of potassium permanganate (KMnO₄)

2.4) The Potassium Permanganate shall not contain any impurities and additives.

3.0 TEST AND INSPECTION

3.1 All Potassium Permanganate shall comply with test in accordance with the requirement of specification.

4.0 PACKING AND STORAGE

4.1 Potassium Permanganate shall be delivered in drums form, certified goods RID/ADR class 5.1

4.2 For storage purpose, drums shall be store in cool-dry, well-ventilated area and protect against physical damage and moisture.

4.3 Avoid storage in wood floors, heat, flames and ignition sources.

5.0 MANDATORY MARKING

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

- 5.1 "Potassium Permanganate", trade name and grade;
- 5.2 Net Weight;
- 5.3 Name, address and telephone number of supplier and/or manufacturer;
- 5.4 Batch number
- 5.5 Date of manufacturing or packaging; and shall bear such other markings as requires by applicable laws;

6.0 TRANSPORTATION AND LABELING

The product shall be categorised under the following transportation guideline and labelling:

- 6.1 RID : class 5.1; 17b (packing group II)
- 6.2 ADR : class 5.1; 17b (packing group II)
- 6.3 IMO-IMDG : class 5.1, UN 1490; (packing group II)
- 6.4 IATA : class 5.1, UN 1490; (packing group II)

7.0 PRE-DELIVERY INSPECTION AND EVALUATION

- 7.1 It is the responsibility of the tenderer to inform SAJ for inspection purposes during manufacturing and before delivery.
- 7.2 SAJ reserve the right to inspect and witness the testing of the product offered without any prior notice.
- 7.3 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.
- 7.4 If at any time the supplier fails to deliver the required sample, the product is deemed fail to meet the specification.

8.0 CERTIFICATION

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

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