



**Ranhill
SAJ**

**SPECIFICATION FOR POLY
(DIALYLDIMETHYLAMMONIUM CHLORIDE) OR
POLYDADMAC USED FOR POTABLE WATER SUPPLY
MATERIAL REQUIREMENTS**

**SPECIFICATION SAJ CH/ PD/ 001
(REV 3.0/09.2018)**

QUALITY ASSURANCE DEPARTMENT
RANHILL SAJ SDN BHD

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SAJ SPECIFICATION FOR POLY (DIALLYLDIMETHYLAMMONIUM CHLORIDE) OR POLYDADM AC USED FOR POTABLE WATER SUPPLY

1.0 General

- 1.1 This specification is applicable to Poly (Diallyldimethylammonium Chloride) or Polydadmac used for Potable Water Supply accordingly to Malaysian Standard, MS 1930:2007, Specification for Poly (Diallyldimethylammonium Chloride) or Polydadmac For Use In 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 Poly (Diallyldimethylammonium Chloride) or Polydadmac $(C_8H_{16}NCl)_n$ Used for Potable Water Supply shall comply with requirement as specified in **Table 1-Product Specification**.

Table 1 – Product Specification

Parameter	Requirement	Test Method
A. Specific Requirement Active content, % w/w	20-40	<u>Annex A</u>
B. Impurities DADMAC monomer, mg/kg of active product as derived from a reference dose of <u>10mg active product per liter</u>	5,000,max	<u>Annex B</u>
C. Physical Requirement Product pH Bulk Brookfield viscosity, mPa.s	4-7 30-10,000	<u>Annex C</u> <u>Annex D</u>

- 2.2 Physical properties of Poly (Diallyldimethylammonium Chloride) or Polydadmac are as follows in **Table 2 – Physical Properties**

Table 2 – Physical Properties

No.	Physical Properties	Descriptions
1.	Appearance	I. Clear II. Colourless to amber-coloured liquid
2.	Solubility	I. Miscible with water at all concentration
3.	<u>Specific Gravity (S.G)</u>	I. 1.09 for 40% w/w polyDADMAC at 20°C
4.	<u>Boiling Point at 100kPa (1 bar)</u>	I. Approximately 100°C
5.	Vapour Pressure	I. 3.2 kPa for 40% w/w polyDADMAC at 20°C
6.	Viscosity	I. 30 mPa.s to 10,000 mPa.s
7.	Freezing Point	I. 20% w/w = -1°C II. 40% w/w = -15°C
8.	Specific Heat	I. 20% w/w = 3.78 kJ/ kg.K II. 40% w/w = 3.36 kJ/ kg/K

- 2.3 Poly (Diallyldimethylammonium Chloride) or Polydadmac ($C_{8}H_{16}NCl$)_n supplied shall not contain any impurities and additives.

3.0 Test and Inspection

- 3.1 All Poly (Diallyldimethylammonium Chloride) or Polydadmac ($C_{8}H_{16}NCl$)_n shall comply with test in accordance with the requirement of specification.

4.0 Packing and Storage

- 4.1 Poly (Diallyldimethylammonium Chloride) or Polydadmac ($C_{8}H_{16}NCl$)_n shall be delivered in suitable container; bulk containers, drums or tanks.
- 4.2 For storage purposes, in Poly (Diallyldimethylammonium Chloride) or Polydadmac ($C_{8}H_{16}NCl$)_n shall be store in cool-dry place and well ventilated area and separated from strong acids or oxidizing agents.
- 4.3 Under proper storage conditions, Poly (Diallyldimethylammonium Chloride) or Polydadmac ($C_{8}H_{16}NCl$)_n shall be stable for at least 12 months.

5.0 Mandatory Marking

Each container of Poly (Diallyldimethylammonium Chloride) or Polydadmac (C₈H₁₆NCl)_n shall have mark legibly on it including:-

- a) "Poly (Diallyldimethylammonium Chloride) or Polydadmac", trade name and grade/type
- b) Net weight
- c) Name, address and telephone number or supplier and/ or manufacturer
- d) Batch number
- e) Date of manufacturing/packaging and any other markings as required by applicable laws.

6.0 Certificate of analysis

6.1 A certificate of analysis, with the indication of country of origin should accompany all deliveries for the chemical and be given to SAJ's.

6.2 The contents of the certificate of analysis shall include the following;

- a) Product active content, % (w/w); and
- b) DADMAC monomer content, % (w/w); and
- c) pH

6.3 A comprehensive certificate of analysis shall include the following;

- a) Viscosity, mPa .s;
- b) Molecor mass; and
- c) Specific gravity.

7.0 Delivery Inspection and Evaluation

- a) It is the responsibility of the tenderer to inform SAJ for inspection purposes during manufacturing and before delivery.
- b) SAJ reserve the right to inspect and witness the testing of product offered without notice.
- c) At anytime, w hen requested, the supplier is to provide SAJ a sample of the product offered for evaluation purposes. All costs shall be borne by the supplier.
- d) If at any time the supplier fails to deliver the required sample, the products is deemed fail to meet the specification.

8.0 Certification

- 8.1 Manufacturer and/or supplier of the product are required to provide the copy of the certificate and testing report from SIRIM, IKRAM and SPAN or other recognize 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 or results provided are not complied to SAJ requirement.

