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Kraton® MD9200 Polymer

Data Document

Description

Kraton MD9200 is a sulfonated styrenic block copolymer available in a solvent solution.

Typical uses include thin film formation and coatings for membranes in a variety of electrochemical and separation applications.

Note: This Kraton polymer product is a development product. Thus, its properties and chemical composition may change based on market feedback. Kraton Polymers reserves the right to change specifications and/or discontinue production of this product. This polymer is only acceptable for use in **Research & Development** and not in commercial applications.

Properties of Polymer in Solvent

Property	Units	Typical Range
Polymer content	% wt	10 - 12
VOC content	% wt	89 + 2
Flash point		-4°F (PMCC)
Viscosity, at 20°C and 1-10sec ⁻¹ shear rate	cP	500 – 3,000
Specific gravity		0.78 – 0.8
Ion Exchange capacity	meq/g	1.9 – 2.1

Typical Film Properties

Mechanical properties as measured on 1mil solution cast films

Property	Units	Typical Value
Dry film:		
Tensile strength @ yield	MPa (psi)	13 (1900)
Strain @ yield	%	4
Tensile strength	MPa	9
Young's modulus	MPa (psi)	500 (72000)
Elongation @ break	%	83
Immersed in water:		
Tensile strength	MPa (psi)	3 (435)
Modulus	MPa (psi)	28 (4100)
Elongation	%	70

Water transport and uptake as measured on flat sheet solution cast films

Property	Units	Typical Value
WVTR	g/day/m ²	20,000
Specify test condition		Inverted cup method @ 50% RH, 23°C, 1 mil film
Water uptake, weight gain in water	%	85
Film casting procedure		Commercial continuous solution casting process

Handling and Storage

EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED. AFFECTS CENTRAL NERVOUS SYSTEM. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AVOID INHALATION OF VAPORS.

Review MSDS for all health, safety, and regulatory information.

Handling

Solutions contain flammable solvents. Adequately ground containers before dispensing solutions. Composite drums may not be adequately grounded by attaching a grounding strap to the drum. It is preferable to ground the contents of the drum, for example, by placing a stainless steel rod in the drum contents and attaching a grounding strap to the rod. Consult your safety specialist. Ventilation should be provided.

Recommended storage conditions

Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be increased. Outside or detached storage is preferred. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment, including explosion-proof ventilation.

Expected shelf life

A shelf life of one year from production date is expected to be a reasonable estimate of shelf life under normal storage conditions.

Packaging

Kraton MD9200 is available in the following containers (4 liter minimum order):

- 4 liter container
- 208 liter drum

End Use Requirements

If the finished article is intended for use in food contact and packaging applications, toys, or human contact areas, manufacturers of the final product should observe all relevant regulations. Some of these regulations require tests to be carried out on the final product, e.g. migration. These are the responsibility of the final product manufacturer.

Information on the food packaging clearances of individual products is available from Kraton Polymers.

Medical, Healthcare and Cosmetic Applications and Trademark Usage

Kraton Polymers products should not be used in any devices or materials intended for implantation in the human body as defined by the U.S. Food and Drug Administration under 21 CFR 812.3(d) and 21 CFR 860.3(d).

Kraton Polymers products may, in certain circumstances, be used in the following products or applications with prior written approval for each specific product or application:

- a. Cosmetics (exclusive of packaging or delivery applications).
- b. Drugs and other Pharmaceuticals (exclusive of packaging or delivery applications).

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Kraton Polymers has no specific expertise in these markets and applications, and does not intend to perform testing, clinical studies or other investigations of the suitability of its products for specific applications.

Each customer or user of Kraton Polymers products is solely responsible for determining the suitability of the materials it selects for the intended purpose and acknowledges that it has not relied on any representations of Kraton Polymers regarding suitability for use in its intended cosmetics, drugs, pharmaceutical products or materials.

Please contact your Kraton Polymers Sales Representative for more details before using our products in these specific applications.

Safety and Handling Precautions

Read the Safety Data Sheet carefully and thoroughly before beginning any work. Additional information relating to the health, safety, storage, handling and processing of Kraton Polymers products can be found in "Health and Safety Aspects of Kraton D and Kraton G Polymers" (Document K0155), available from your local Sales Representative or the company website. Kraton Polymers also recommends that customers or users consult other sources of safety information, for example, the current edition of the "Code of Practice on the Toxicity and Safe Handling of Rubber Chemicals," British Rubber Manufacturers Association Limited. Kraton Polymers' products and compounds can accumulate electrostatic charges when rubbed, chafed or abraded. Processing and storage equipment for use with Kraton Polymers products should provide a means of dissipating any charges that may develop.

Warranty

The information contained in this publication is, to the best of Kraton Polymers' knowledge, true and accurate, but any recommendations or suggestions that may be made are without guarantee, since the conditions of use and storage are beyond Kraton Polymers' control. The customer understands that it shall make its own assessment to determine the suitability of a Kraton Polymers' product for a particular purpose. Further, nothing contained herein shall be construed as a recommendation to use any Kraton Polymers product in conflict with existing patents. All products purchased from or supplied by Kraton Polymers are subject to the terms and conditions set out in the applicable contact, order acknowledgement and/or bill of lading. Kraton Polymers warrants only that its products will meet those specifications designated therein.

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