

K0283  
Global  
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## Kraton® IR-307 non-food polymer

Data Document

### Description

Kraton® IR-307 non-food polymer is a solution polymerised polyisoprene with a high cis-1,4 content. It has a high molecular weight as indicated by its limiting viscosity number of 7.75 dl/g. It contains up to 0.5% of a non-staining naphtenic oil covered by registry number CAS: 64741-96-4 and EINECS: 2650976. The oil is classed as non-hazardous, but is not approved for food contact applications.

A non-staining stabiliser is added at the typical value of 0.1%.

Kraton IR-307 non-food polymer is used as a replacement for natural rubber in a wide range of compounds, offering advantages of light colour and uniformity. Its good flow characteristics produce improvements in mixing and moulding behaviour, for compression as well as injection moulding. It is used for very light coloured, translucent or transparent industrial articles, such as shoe sole applications.

The following shows the compound recipe for the preparation of the vulcanised test pieces used for the measurement of the specified mechanical performances:

### Test formulations (ISO 2303)

	Parts by mass
Polymer	100.0
IRB7 industry reference oil furnace carbon black	35.0
Zinc Oxide	5.0
Sulphur	2.25
Stearic Acid	2.0
N-tert-butyl-2-benzothiazile sulphenamide (TBBS)	0.7

### Sales Specifications

Property	Test Method	Units	Sales Specification Range
<b>Raw polymer</b>			
Oil <sup>[a]</sup>	BAM 905	%mass	≤0.5
Cis-1,4 content	KM32	%	≥89.5
Volatile matter	ASTM D5668	%mass	≤0.7
Ash	ASTM D5667	%mass	≤0.15
Stabiliser	KM31	% mass	0.05 - 0.3
Limiting viscosity number	KM33	dl/g	6.3 - 9.2
Mooney viscosity <sup>[b]</sup>	ASTM D1646	MU	

<sup>[a]</sup> This grade is not suitable for food packaging or food contact applications

<sup>[b]</sup> Data not available for this grade which is specified by limiting viscosity number

### Typical Properties (These are typical values and may not routinely be measured on finished product)

Property	Test Method	Units	Typical Value
<b>Test compound</b>			
Tensile strength <sup>[c]</sup>	ISO 2393/ISO 37	MPa	≥19.6
Elongation at break <sup>[c]</sup>	ISO 2393/ISO 37	%	≥428
Modulus 300% <sup>[c]</sup>	ISO 2393/ISO 37	Mpa	8.0 - 13.5

<sup>[c]</sup> Cure:40mins at 135 °C

### Packaging

Kraton IR-307 non-food polymer is supplied in bales weighing ca. 34kg. Bales are wrapped in 80 micron polyethylene film. Thirty bales (nominal 1 MT) are packed in a wooden crate (Flotainer).

### Storage

Kraton IR-307 non-food polymer should be stored in an adequately ventilated area where it will not be subjected to sunlight, extreme temperatures or sources of ignition. Under correct conditions IR-307 non-food polymer should have a storage life of at least two years from the date of production.

## 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).

Kraton Polymers' trade names, trademarks, logos or other similar identifying characteristics should not be used in the manufacture, sale, or promotion of cosmetics, drugs, and pharmaceutical products or other medical/healthcare applications or materials.

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 Material Safety Data Sheet for Kraton Polymers' products carefully and thoroughly before beginning any work with such products. Additional information relating to the health, safety, storage, handling and processing of Kraton Polymers' products can be found in the Kraton Polymer HSE Fact Sheet (K0155), available from your local Kraton Polymers Sales Representative. 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 ([www.brma.co.uk](http://www.brma.co.uk)).

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.

When processing Kraton Polymers' products, maintain a fire watch if the material reaches 225°C (437°F) for Kraton IR and Kraton D (polymers and compounds), and 280°C (536°F) for Kraton G (polymers and compounds). The temperatures listed above are indicated only for safety reasons (risk of fire and product degradation) and are not necessarily recommended for processing. Degradation of the polymer (polymer breakdown) will start at lower temperatures depending on the specific processing conditions. Therefore, operating below these temperatures does not guarantee the absence of product degradation.

Kraton Polymers' products (the neat resin or the base product) are high molecular weight polymers which by all accounts are non-toxic and biologically inactive.

## 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 or warranty of any kind whatsoever, since the manufacturing conditions to which Kraton Polymers' products will be subject are beyond Kraton Polymers' control. Customers of Kraton Polymers must make their 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 of Kraton Polymers or any third party. All products purchased from or supplied by Kraton Polymers are subject to the terms and conditions of sale set out in the applicable contract, order acknowledgement and/or bill of lading. Kraton Polymers warrants only that its products will meet the specifications designated in any such contract, order acknowledgement or bill of lading.

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