TECHNICAL DATA SHEET

# Repsol Alcudia® 5503

REPSOL ALCUDIA 5503 is a medium molecular weight, high-density polyethylene copolymer of hexene. It is specifically formulated for blow molding-extrusion applications to manufacture containers for liquid detergents and chemicals. This grade includes stabilizers tailored to the end use of the product to enhance thermal stability.

Due to its molecular weight and density, REPSOL ALCUDIA 5503 provides excellent mechanical properties, demonstrating both high stiffness and resistance to environmental stress cracking.

## Applications:

- Packaging detergents, cleaners, shampoos and cosmetics

Recommended melt temperature range from 180 to 200°C. Processing conditions should be optimized for each production line.

## Properties:

| Properties | Value* | Unit | Test Method |
|---|---|---|---|
| **General** | | | |
| Melt flow rate (190°C, 2.16 kg) | 0.23 | g/10 min | ISO 1133 |
| Melt flow rate (190°C, 21.6 kg) | 25.0 | g/10 min | ISO 1133 |
| Density at 23°C | 955 | kg/m$^3$ | ISO 1183 |
| **Mechanical** | | | |
| Tensile strength at break | 28 | MPa | ISO 527-2 |
| Elongation at break | 700 | % | ISO 527-2 |
| Flexural modulus | 1200 | MPa | ISO 178 |
| **Other** | | | |
| Vicat Softening Temperature (10 N) | 128 | °C | ISO 306 |
| Shore Hardness D | 65 | ° | ISO 868 |
| Environmental Stress Cracking Resistance ($F_{50}$) (10% Igepal, 50°C) | 100 | h | ASTM D-1693 |
| Environmental Stress Cracking Resistance ($F_{50}$) (100% Igepal, 50°C) | >200 | h | ASTM D-1693 |

* Typical values - Not to be considered as specification

(1) 10% Igepal, 50°C



This information is offered in good faith and meant only as a guide. The transformer or user will be, in each case, responsible for the processing conditions and the final use of the product. Freedom under patents, copyright and registered designs cannot be assumed.

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## Storage:

REPSOL ALCUDIA 5503 should be stored in a dry atmosphere, on a paved, drained and not flooded area, at temperatures under 50ºC and protected from UV radiation. Storage under inappropriate conditions could initiate degradation processes or undesired migration of additives included in its formulation which may have a negative influence on the processability and properties of the transformed product.

## Disclaimer:

This grade complies with the European regulations for materials for use in food contact. This grade is not intended to be used in medical, pharmaceutical, or healthcare applications, therefore Repsol does not authorize its use in them.

Repsol does not grant express or implicit guarantees that extend beyond the description contained herein. Nothing herein shall constitute any guarantee of merchantability or fitness for a particular purpose. Before using a product sold by Repsol, users must make their own independent determination that the product is safe, legal, and technically suitable for its intended use. Repsol does not assume any responsibility for the use of its materials together with other materials.

## Related documents:

The following related documents are available on request, and represent various aspects on the usability and safety of the product:

- Safety data sheet
- Statement on compliance with food contact regulations

**Recommended consumption period**: 12 months from the date of delivery to the customer.

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