



# Pharmaceutical packaging and medical devices

Polypropylene, polyethylene, and EVA copolymers

# Differentiated solutions for the healthcare industry

## Repsol offer

- ❑ High quality products
- ❑ Ready to be part of new projects
- ❑ Capable of developing tailor-made grades
- ❑ Excellent logistics service
- ❑ Technical service and development

## Our drive

- ❑ To fulfill our customers' needs:
- ❑ Product reliability and traceability
- ❑ Compliance
- ❑ Long term commitment

## Commitment

Dedicated storage facilities and quality management protocols to ensure the highest quality standards.

## Guarantee

Certifying our products to meet European & US Pharmacopoeias (USP/EP).

## Service

Aligning our Quality System with the Good Manufacturing Practices required by the industry.

**G**uarantee  
**C**ommitment  
**S**ervice

+



=



# Repsol. A global multi-energy company

## With over 8 decades of experience

It is leading the energy transition with its ambition of achieving zero net emissions by 2050.

Present throughout the energy value chain, the company employs 24,000 people worldwide and distributes its products in nearly 100 countries. Its customer-focused product and services portfolio meets all consumer needs of around 24 million customers, whether at home or on the move.

Repsol Campus, Corporate Headquarters in Madrid  
LEED® Platinum certificate, awarded by the prestigious U.S. Green Building Council (USGBC), for new buildings construction





# Chemicals

Repsol manufactures a wide variety of products, ranging from base petrochemicals to derivatives.

**Base petrochemicals:** ethylene, propylene, butadiene, and benzene.

**Intermediate products:** styrene, propylene oxide, polyether polyols, and propylene glycols.

**Polyolefins:** polypropylene (PP) and PP compounds, both high and low-density polyethylene (HDPE and LDPE), metallocene linear low density polyethylene (mLLDPE), ethylene vinyl acetate (EVA), and ethylene butyl acrylate (EBA) copolymers.

## Over 100 scientists and researchers working for you

Including qualified personnel specialized on Product Stewardship.

Repsol's commitment to R&D is evidence of the company's aim to attain business excellence to meet future horizons.

## Added value

Repsol's Chemicals Division, with a high degree of integration, focuses its strategy on the constant generation of value through differentiated products and services.

# Chemicals

## Our goal

To manufacture and sell polyolefins or **pharmaceutical packaging and medical devices**, offering the maximum quality, service, commitment, and compliance worldwide, keeping the patients' safety as our number one priority.

## Over 40 years of experience producing and selling polyolefins

### Growing from our strengths

**Over 40 years of experience** producing and selling polyolefins with a well-built prestige in Europe.

**Three integrated production facilities** in the Iberian Peninsula. We have experience launching products with the maximum cleanliness and stringent manipulation procedures.

**Food packaging:** we supply regularly to the food packaging industry.

**Qualified in pharmaceutical applications.** Repsol's propylene glycol USP/EP is qualified and approved for use as an excipient in pharmaceutical applications.





# Over 30 grades for healthcare

Polyolefins for pharmaceutical packaging and medical devices

Repsol takes another step in differentiating its solutions and offers.

- ❑ A suitable range of polyolefins: high and low density polyethylene (HDPE, LDPE), ethylene vinyl acetate copolymers (EVA) and polypropylene (PP).
- ❑ An outstanding and differentiated level of service.
- ❑ Eager to continue developing differentiated products.
- ❑ We put your needs first, always. Our tailor-made solutions are proof of our commitment to your singular cause.
- ❑ Our industry is full of challenges awaiting inspired solutions. That's where we come in.

Polypropylene homopolymer >

Heterophasic polypropylene copolymer >

Polypropylene random copolymer >

Low density polyethylene >

High density polyethylene >

EVA copolymer >

# Working for a more sustainable future

At Repsol, we believe in the circular economy, and we run specific projects that minimize the environmental impact of our materials. To this end, we are committed to making our industrial processes increasingly efficient and reducing the carbon footprint of our polymers.

We have a **specialized circular economy department** dedicated to recycling post-consumer materials to drive development of new materials offering solutions based on innovative polyolefins with recycled content.

We use **recycled plastics in critical applications**, creating new markets for plastic waste and driving circularity by giving that waste a new use. As a result, we offer a wide range of polyolefins with recycled content that deliver excellent engineering performance.

We have circular polyolefins obtained by incorporating pyrolysis oil, from chemically recycled plastic waste not suitable for mechanical recycling, together with virgin feedstock into our petrochemical process, reducing the consumption of non-renewable resources.

These **circular polyolefins** have the same properties and quality as virgin material and are therefore **apt for healthcare packaging and medical devices**.

We have obtained ISCC PLUS certification for circular and traceable polyolefins that use plastic waste as raw material.

Moreover, our wide range of polyolefins is 100% recyclable.

Our ambition is **to recycle the equivalent of 20% of the polyolefins we produce** to support, in conjunction with the other initiatives in Repsol's circular economy strategy, the goal we announced in December 2019: to reach net zero emissions by 2050.

To contribute to the company's emissions neutrality goal, **our chemicals business has launched its 3030 Plan, intended to cut our carbon intensity by 30% by 2030**.

Advancing the circular economy and lowering carbon intensity in our chemicals business will contribute towards transforming Repsol's industrial operations, as well as **developing high-value-added raw materials, making it possible to manufacture an infinite number of products that improve human well-being, safety, and quality of life while enhancing the environment**.



**Repsol Net Zero  
Emissions by  
2050**



# Voluntary commitments. Working to build a more sustainable world

Because we care. At Repsol we believe that our society needs a transition towards a new Circular Economy, and we are fully committed to developing solutions, minimizing the impact of our polymers on the environment.

We have strengthened our commitment to sustainability by submitting our voluntary pledge in response to the European Commission's call for stakeholders to come forward with pledges to boost the uptake of recycled plastics. The European Commission target is for 10 million tons of recycled plastics to find their way into products in the EU by 2025.

To meet this ambitious EU target, **Repsol has the ambition of recycling the equivalent of 20% of our polyolefin production by 2030.** Thanks to Repsol's commitment, in less than 10 years, 360 kty of plastic waste will be diverted from landfill and will become raw materials to produce new chemical products.





# Polypropylene homopolymer

Grade	Properties				Additives	Compliance			Applications
	MFI ISO 1133 g/10 min 230°C 2.16 kg	Charpy impact strength notched ISO 179 kJ/m <sup>2</sup>	Melting point °C	Flexural modulus ISO 178 Mpa		EurPh	USP	Biocompatibility	
HPP08G	8	4	164	1500	-	3.1.3 / 3.1.6	661.1	USP 87 USP Cytotoxicity (Elution Test) USP 88 class VI ISO 10993-4, -5, -10, -11	Pharmaceutical packaging, closures, pouches and medical films.
HPP09M	9	3	164	1500	Slip agent / Antiblock	3.1.3 / 3.1.6*	661.1*	USP 87 USP Cytotoxicity (Elution Test) USP 88 class VI ISO 10993-4, -5, -10, -11	Pharmaceutical packaging, caps and closures.
HPP12G	12	4	164	1550	-	3.1.3 / 3.1.6	661.1	USP 87 USP Cytotoxicity (Elution Test) USP 88 class VI ISO 10993-4, -5, -10, -11	Injection molding, caps and closures and pharmaceutical packaging.
HPP25G	25	3	164	1600	-	3.1.3 / 3.1.6	661.1	USP 87 USP Cytotoxicity (Elution Test) USP 88 class VI ISO 10993-4, -5, -10, -11	Syringe parts, caps and closures, pharmaceutical packaging, injection molding items.
HPP25G1	25	4	157	1250	-	3.1.3 / 3.1.6	661.1	USP 87 USP Cytotoxicity (Elution Test) USP 88 class VI ISO 10993-4, -5, -10, -11	Improved impact resistance. Syringe parts, pharmaceutical packaging, caps and closures, injection molding items
HPP40N	40	2.5	164	1700	Nucleating agent	3.1.3 / 3.1.6	661.1	USP 87 USP Cytotoxicity (Elution Test) USP 88 class VI ISO 10993-4, -5, -10, -11	Thin wall injection molding, labware, dispensers.
HPP55RMD	55	2.5	164	1900	Clarifying agent/ Radiation Resistant	*	*	USP 87 USP Cytotoxicity (Elution Test) USP 88 class VI ISO 10993-4, -5, -10, -11	Gamma ray and E-beam resistant high fluidity PP resin. Offers stiffness and excellent transparency.
HPP55CMD	55	2.5	164	1900	Clarifying agent/ Antistatic	*	*	USP 87 USP Cytotoxicity (Elution Test) USP 88 class VI ISO 10993-4, -5, -10, -11	Injection molding medical applications and labware. Offers stiffness and high transparency.

\* Repsol Healthcare grades are DMF listed. For more detailed information on DMF listing, European Pharmacopoeia (Ph Eur.) and United States Pharmacopoeia (USP), please contact Repsol's Technical Service & Development Department [atd\\_poliiolefinas@repsol.com](mailto:atd_poliiolefinas@repsol.com)

Heterophasic polypropylene copolymer [>](#)



All our  
polypropylene  
grades are  
phthalate free

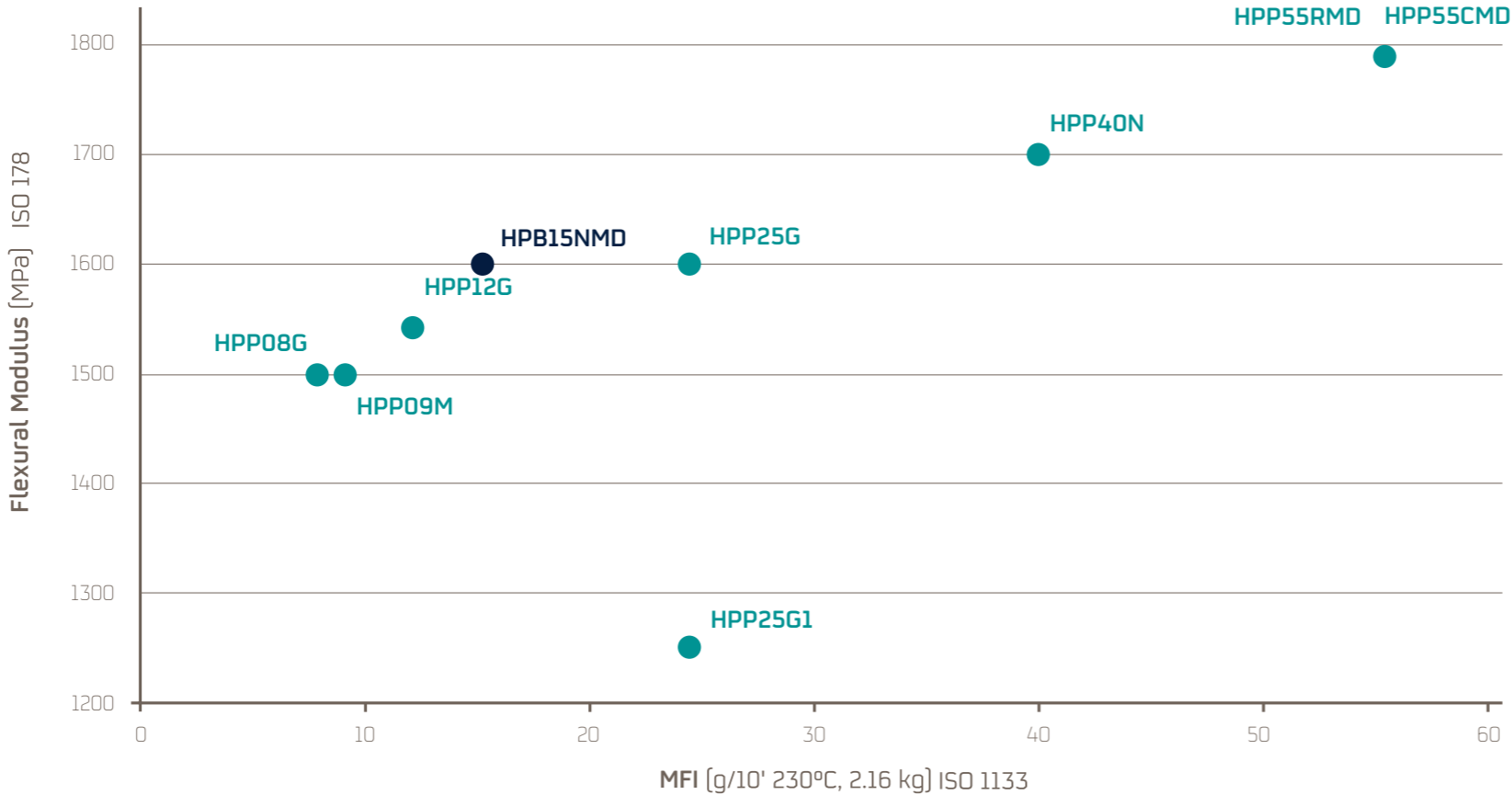
# Heterophasic polypropylene copolymer

Grade	Properties				Additives	Compliance			Applications
	MFI ISO 1133 g/10 min 230°C 2.16 kg	Charpy impact strength notched ISO 179 kJ/m <sup>2</sup>	Melting point °C	Flexural modulus ISO 178 Mpa		EurPh	USP	Biocompatibility	
<b>HPB15NMD</b>	15	6	164	1600	Nucleating agent	-	In composition	USP 87 USP Cytotoxicity (Elution Test) USP 88 class VI ISO 10993-4, -5, -10, -11	Injection molding medical applications. Offers excellent impact/stiffness balance

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[Polypropylene homopolymer](#)
[Polypropylene random copolymer](#)

## Polypropylene homopolymer & Heterophasic polypropylene copolymer



- Polypropylene homopolymer
- Heterophasic Polypropylene copolymer



# Polypropylene random copolymer

Grade	Properties				Additives	Compliance			Applications
	MFI ISO 1133 g/10 min 230°C 2.16 kg	Charpy impact strength notched ISO 179 kJ/m2	Melting point °C	Flexural modulus ISO 178 Mpa		EurPh	USP	Biocompatibility	
HPR02CMD	1.6	>9	143	800	Clarifying agent	*	*	USP 87 USP Cytotoxicity [Elution Test] USP 88 class VI ISO 10993-4, -5, -10, -11	Medical packaging, film and pouches, vials.
HPR02W	1.8	>9	143	800	Clarifying agent	3.1.3 / 3.1.6	661.1	USP 87 USP Cytotoxicity [Elution Test] USP 88 class VI ISO 10993-4, -5, -10, -11	Large volume parenteral BFS bottles apt for autoclave sterilization at 121°C. Medical packaging, film and pouches.
HPR09G	9	8	145	950	-	3.1.3 / 3.1.6	661.1	USP 87 USP Cytotoxicity [Elution Test] USP 88 class VI ISO 10993-4, -5, -10, -11	Barefoot grade. Medical packaging, films and pouches. Injection molding items.
HPR09M	9	8	145	950	Slip agent/ Antiblock	3.1.3 / 3.1.6*	661.1*	USP 87 USP Cytotoxicity [Elution Test] USP 88 class VI ISO 10993-4, -5, -10, -11	Contains slip and antiblock. Medical packaging, labware, caps and closures and ISBM.
HPR35CMD	38	6	149	1050	Clarifying agent/ Antistatic	*	*	USP 87 USP Cytotoxicity [Elution Test] USP 88 class VI ISO 10993-4, -5, -10, -11	Caps and closures, syringe parts, medical device components.
HPR35RMD	38	6	149	1050	Clarifying agent/ Radiation resistance	*	*	USP 87 USP Cytotoxicity [Elution Test] USP 88 class VI ISO 10993-4, -5, -10, -11	Caps and closures, syringe parts, tubes, labware. Gamma and E-beam rad.
HPR50CMD	50	5	149	1150	Clarifying agent/ Antistatic	*	*	USP 87 USP Cytotoxicity [Elution Test] USP 88 class VI ISO 10993-4, -5, -10, -11	Caps and closures, syringe parts, medical device components.
HPR75CMD	75	6	149	1050	Clarifying agent/ Antistatic	*	*	USP 87 USP Cytotoxicity [Elution Test] USP 88 class VI ISO 10993-4, -5, -10, -11	Small syringes, thin wall parts.

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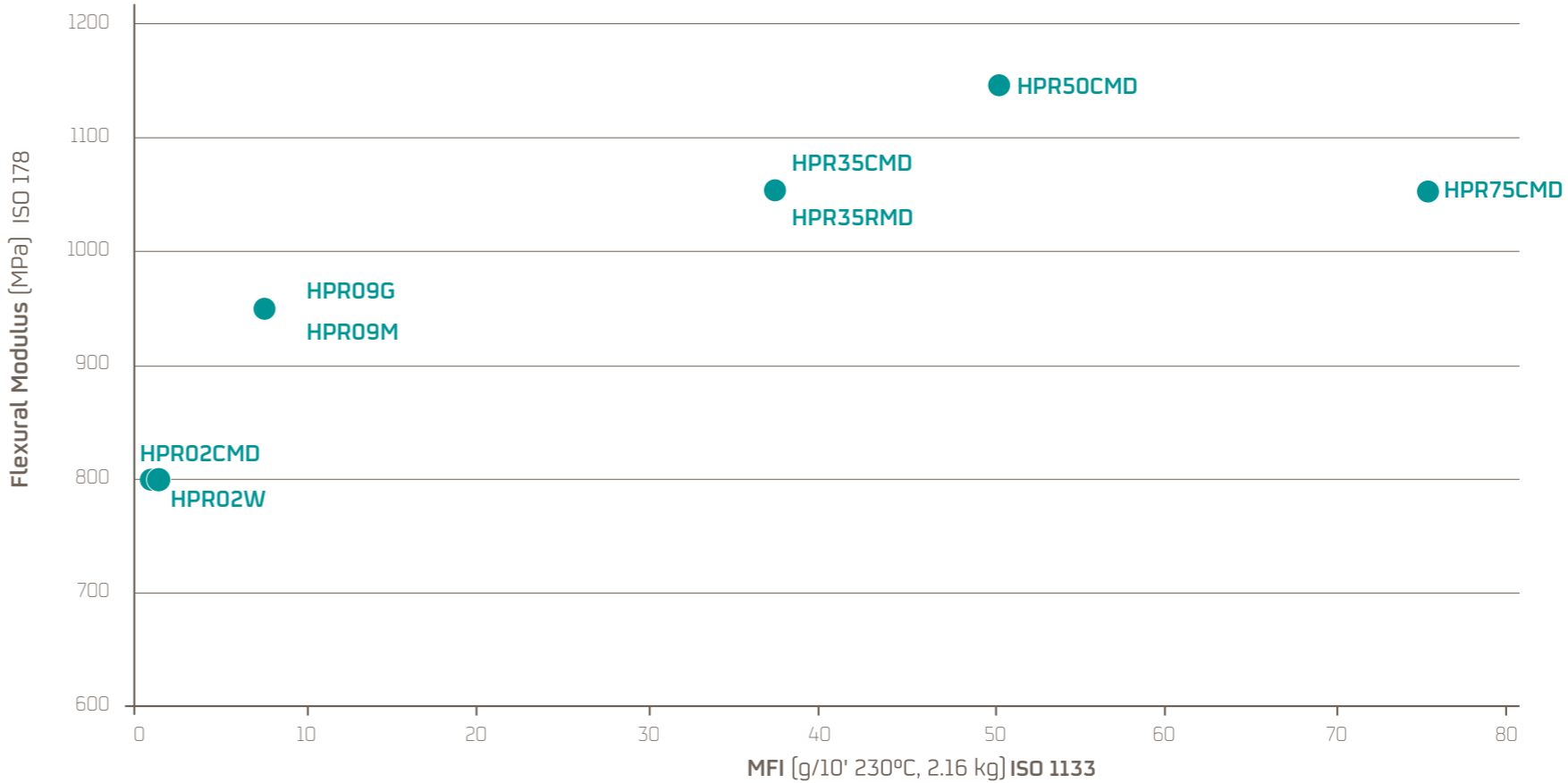
< Heterophasic polypropylene copolymer Low density polyethylene >



Stringent production procedures to ensure product consistency and the highest quality standards



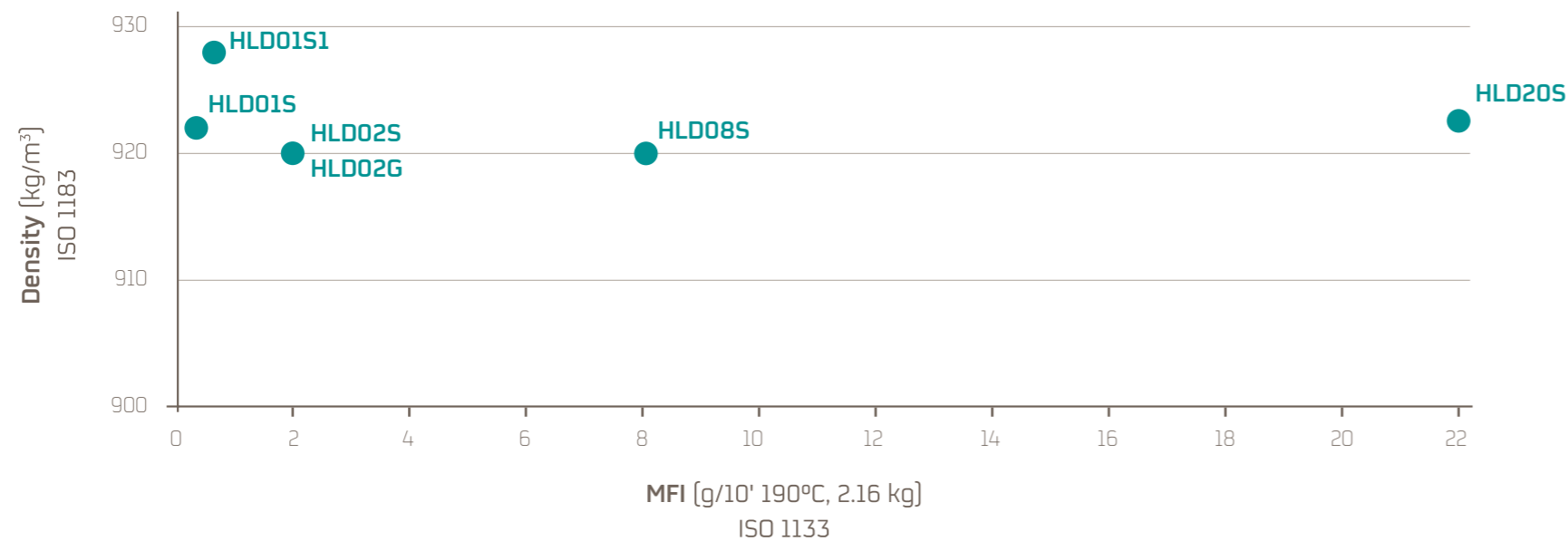
### Polypropylene Random copolymer



# Low density polyethylene

Grade	Properties			Additives	Compliance			Applications
	MFI ISO 1133 g/10 min 230°C 2.16 kg	Charpy impact strength notched ISO 179 kJ/m <sup>2</sup>	Melting point °C		EurPh	USP	Biocompatibility	
HLD01S	0.3	922	110	No additives	3.1.3. / 3.1.4	661.1	USP 87 USP Cytotoxicity (Elution Test) USP 88 class VI ISO 10993-4, -5, -10, -11	Excellent flexibility for small volume parenteral bottles and ampoules.
HLD01S1	0.55	928	117	No additives	3.1.3. / 3.1.4	661.1	USP 87 USP Cytotoxicity (Elution Test) USP 88 class VI ISO 10993-4, -5, -10, -11	Small volume parenteral bottles and ampoules for steam autoclave treatment.
HLD02S	2	920	110	No additives	3.1.3. / 3.1.4	661.1	USP 87 USP Cytotoxicity (Elution Test) USP 88 class VI ISO 10993-4, -5, -10, -11	Very flexible grade for ampoules. LDPE for pharmaceutical bags, pouches and medical devices.
HLD02G	2	920	110	Antioxidants/ Antiblock/Slip agent	3.1.3. / 3.1.5	661.1	USP 87 USP Cytotoxicity (Elution Test) USP 88 class VI ISO 10993-4, -5, -10, -11	Soft LDPE containing slip and antiblock. For pharmaceutical packaging, caps and closures and other medical devices.
HLD08S	8	920	109	No additives	3.1.3. / 3.1.4	661.1	USP 87 USP Cytotoxicity (Elution Test) USP 88 class VI ISO 10993-4, -5, -10, -11	Extrusion coating and medical films. components.
HLD20S	22	923	104	No additives	3.1.3. / 3.1.4	661.1	USP 87 USP Cytotoxicity (Elution Test) USP 88 class VI ISO 10993-4, -5, -10, -11	Caps and lids. Injection molded parts that require flexibility.

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< Polypropylene random copolymer High density polyethylene >



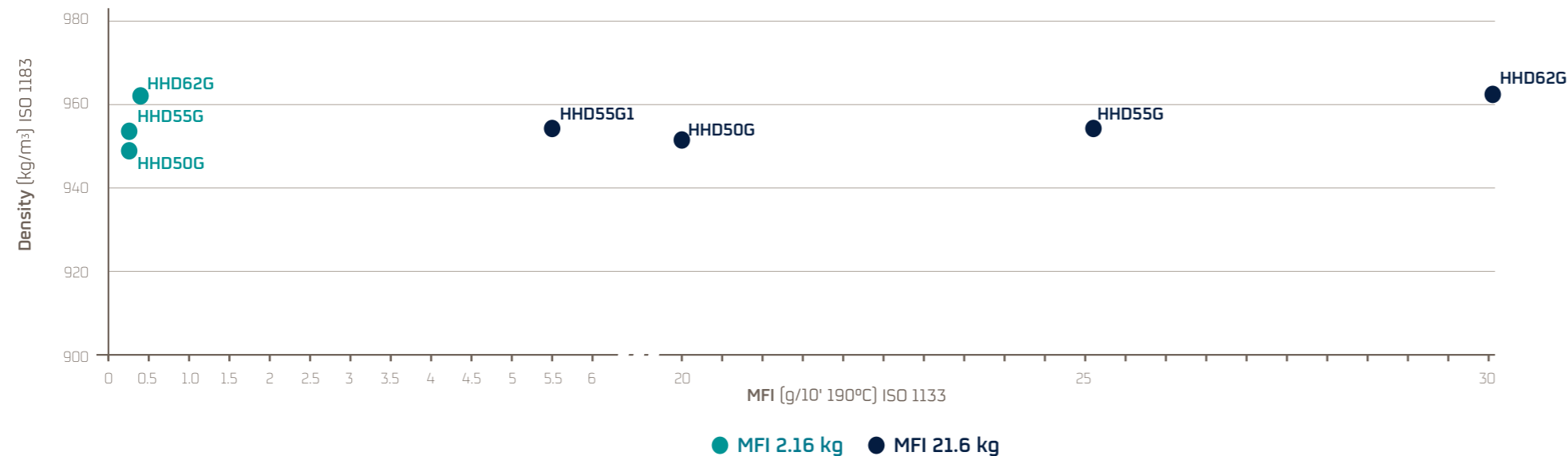
A comprehensive range of products designed according to the standards of pharmaceutical packaging and medical devices

# High density polyethylene

Grade	Properties			Density ISO 1183 kg/m <sup>3</sup>	Melting point °C	Additives	Compliance			Applications
	MFI ISO 1133 g/10 min 230°C 2.16 kg	MFI ISO 1133 g/10' 190°C 5 kg	MFI ISO 1133 g/10' 190°C 21.6 kg				EurPh	USP	Biocompatibility	
<b>HHD50G</b>	0.25	-	20	950	135	Antioxidants	3.1.3 / 3.1.5	661.1	USP 87 USP Cytotoxicity (Elution Test) USP 88 class VI ISO 10993-4, -5, -10, -11	Typical extrusion blow molding grade for pill jars, offering increased density and barrier properties. Typically also converted in IBM process.
<b>HHD55G</b>	0.25	-	23	955	135	Antioxidants	3.1.3 / 3.1.5	661.1	USP 87 USP Cytotoxicity (Elution Test) USP 88 class VI ISO 10993-4, -5, -10, -11	Blow molding HDPE grade presenting stiffness and excellent stress cracking resistance. Grade used for pill jars and containers for pharmaceutical packaging.
<b>HHD62G</b>	0.3	-	30	959	133	Antioxidants	3.1.3 / 3.1.5	661.1	USP 87 USP Cytotoxicity (Elution Test) USP 88 class VI ISO 10993-4, -5, -10, -11	Packaging, diagnostic and tubes, blow molding bottles.
<b>HHD55G1</b>	-	24	5.5	955	136	Antioxidants	3.1.3 / 3.1.5	661.1	USP 87 USP Cytotoxicity (Elution Test) USP 88 class VI ISO 10993-4, -5, -10, -11	Extrusion blow molding HDPE grade for pharmaceutical packaging including BFS processes. Good process stability.

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[< Low density polyethylene](#)
[EVA copolymer >](#)



A helping hand on technical matters to obtain the best performance

# EVA copolymer

Grade	Properties		Additives	Compliance	Applications
	MFI ISO 1133 g/10 min 230°C 2.16 kg	VA content %		Biocompatibility	
HVA08G	2	7.5	Antioxidants	USP 87 USP Cytotoxicity [Elution Test] USP 88 class VI ISO 10993-4, -5, -10, -11	It is used for transdermal patches but can also be used for small blow molding, injection molding or tubing.
HVA18G1	0.7	18	Antioxidants	USP 87 USP Cytotoxicity [Elution Test] USP 88 class VI ISO 10993-4, -5, -10, -11	Extrusion of medical film and production of medical bags, seals.
HVA18G	2	18	Antioxidants	USP 87 USP Cytotoxicity [Elution Test] USP 88 class VI ISO 10993-4, -5, -10, -11	Medical film and bags, tubing, seals and closures.
HVA28G1	3.5	27.5	Antioxidants	USP 87 USP Cytotoxicity [Elution Test] USP 88 class VI ISO 10993-4, -5, -10, -11	Medical film.
HVA28G2	7	28	Antioxidants	USP 87 USP Cytotoxicity [Elution Test] USP 88 class VI ISO 10993-4, -5, -10, -11	Injection molding medical devices.












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← High density polyethylene



Qualified in more pharmaceutical applications  
 Repsol's propylene glycol USP/EP is qualified and approved for use as an excipient in pharmaceutical applications

# Sterilization

Repsol Healthcare	Autoclave	EtO	Gamma and E-beam radiation
Polypropylene Homopolymer HPP			Only for HPP55RMD
Polypropylene Random Copolymer HPR			Only for HPR35RMD
Low Density Polyethylene HLD	*		
High Density Polyethylene HHD			
EVA Copolymer HVA			



Repsol Healthcare grades resist sterilization without affecting the aesthetic or mechanical properties of the polymer.

\* For specific information on sterilization resistance, please contact the Technical Service and Development Department

## MEDICAL POLICY DISCLAIMERS

- The use of this product in any Medical Device must comply with the following criteria:
  - Class I Medical Devices (European Union and/or U.S. FDA): the product may only be used for this purpose with prior notification to REPSOL QUIMICA, S.A. of each specific final application.
  - Class II Medical Devices (European Union and/or U.S. FDA): the product may only be used for this purpose with REPSOL QUIMICA, S.A.'s prior written approval.
  - This product may not be used for implantable devices and for Class III Medical Devices (European Union and/or U.S. FDA).
- REPSOL QUÍMICA, S.A. makes no warranties, express or implied, which extend beyond the description contained herein. Nothing herein shall constitute any warranty of merchantability or fitness for a particular purpose.
- Before using a product sold by REPSOL QUÍMICA, S.A. users should make their own independent determination that the product is safe, lawful and technically suitable for the intended use.
- REPSOL QUÍMICA, S.A. accepts no liability from the use of its materials in conjunction with other materials.



# Safety and quality are our priority

All our petrochemical complexes and production plants meet the most stringent quality and safety standards.

Our petrochemical complexes, packaging production plants and logistics centers have rigorous food-safety management systems in place and hold ISO 45001.

Their manufacturing, distribution, transport, and end-product storage processes are also certified to the ISO 9001 quality standard.

The Chemicals units at our complexes operate under an Energy Management System. Our Certified Environmental Management System guarantees that Best Available Practices and Technologies are in place to minimize the impact of our sites.

## IATF 16949 certified

In 2021 we have obtained the highest certification for our auto products, having adapted all our automotive materials production centers under the IATF 16949 standard, an international standard for quality management systems in the automotive industry. This standard is the most demanding for quality management systems in the automotive sector at an international level and one of the essential requirements that car manufacturers require from their suppliers.

## Certifications

All Repsol complexes and plants	All Repsol complexes	Puertollano, Tarragona and Sines	Puertollano, Tarragona and Monzón plants	Puertollano and Monzón plants
ISO 45001 FSSC 22000	ISO 9001 ISCC Plus	ISO 50001 ISO 14001 ISO 14064	IATF 16949	UNE-EN 15343

*Collaboration*

*Results orientation*

*Inspiring leadership*

*Intrapreneurship*

*Accountability*





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