

# 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.

# Repsol

Over **8** decades of experience  
in the world of energy

One of the largest energy companies worldwide  
and one of the biggest private oil & gas companies.

Repsol is committed to our customers' global strategy putting our entire organization at their disposal to achieve a common goal: to create long-term relationships which enable us to rise to the common challenges our business presents.



***Repsol Campus, Corporate Headquarters in Madrid***

*LEED® Platinum certificate, awarded by the prestigious US Green Building Council (USGBC), for new buildings construction*

# Chemicals

Over **95** countries  
where we market our products

## Added value

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

Over **1,500** references

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 specialised** on Product Stewardship. Repsol's commitment to R&D is an evidence of the company's aim to attain business excellence to meet future horizons.

# 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 **34** 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.
- Willingness to seek continuous improvement.
- 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.

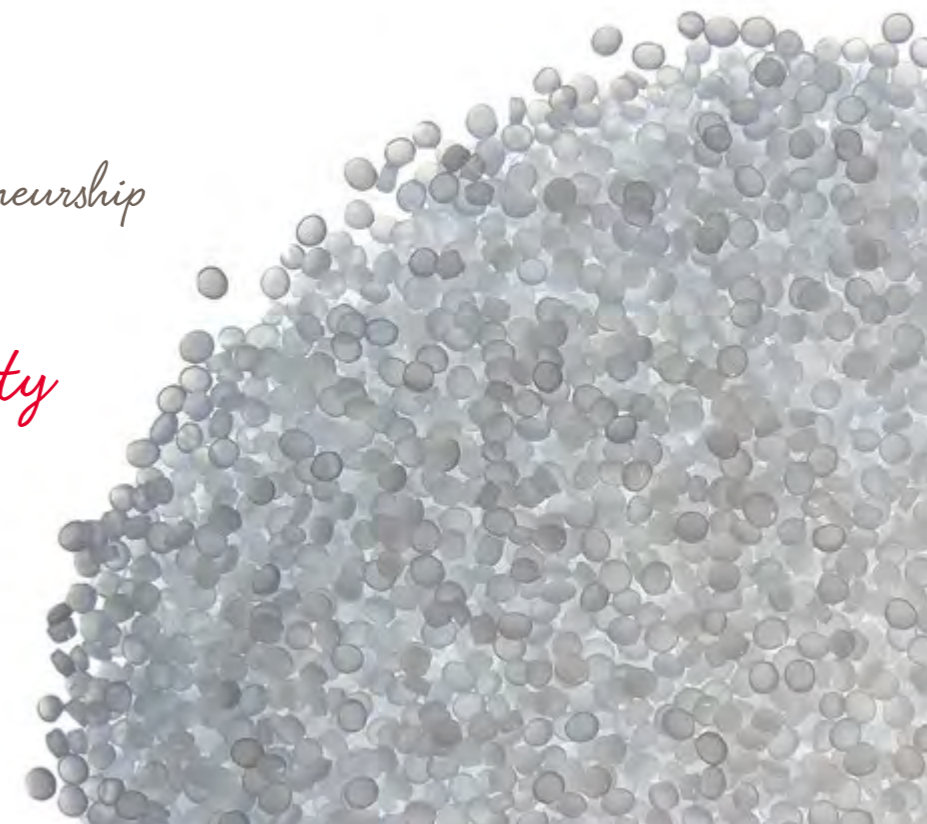
*Results Orientation*

*Intrapreneurship*

*Inspiring Leadership*

*Accountability*

*Collaboration*



# Polypropylene homopolymer



Grade	Properties				Additives	Compliance			Applications
	MFI ISO 1133 g/10' 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 and pouches.
HPP08N	8	3	164	1800	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	Pharmaceutical packaging, caps and closures, labware, dispensers, holders, gaskets...
HPP09M	9	3	164	1500	Slip agent / Antiblock	In composition	In composition	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.
<b>NEW</b> HPP55RMD	55	2.5	164	1800	Clarifying agent/ Radiation Resistant	-	In composition	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.
<b>NEW</b> HPP55CMD	55	2.5	164	1800	Clarifying agent/ Antistatic	-	In composition	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)

All our Polypropylene grades are phthalate free

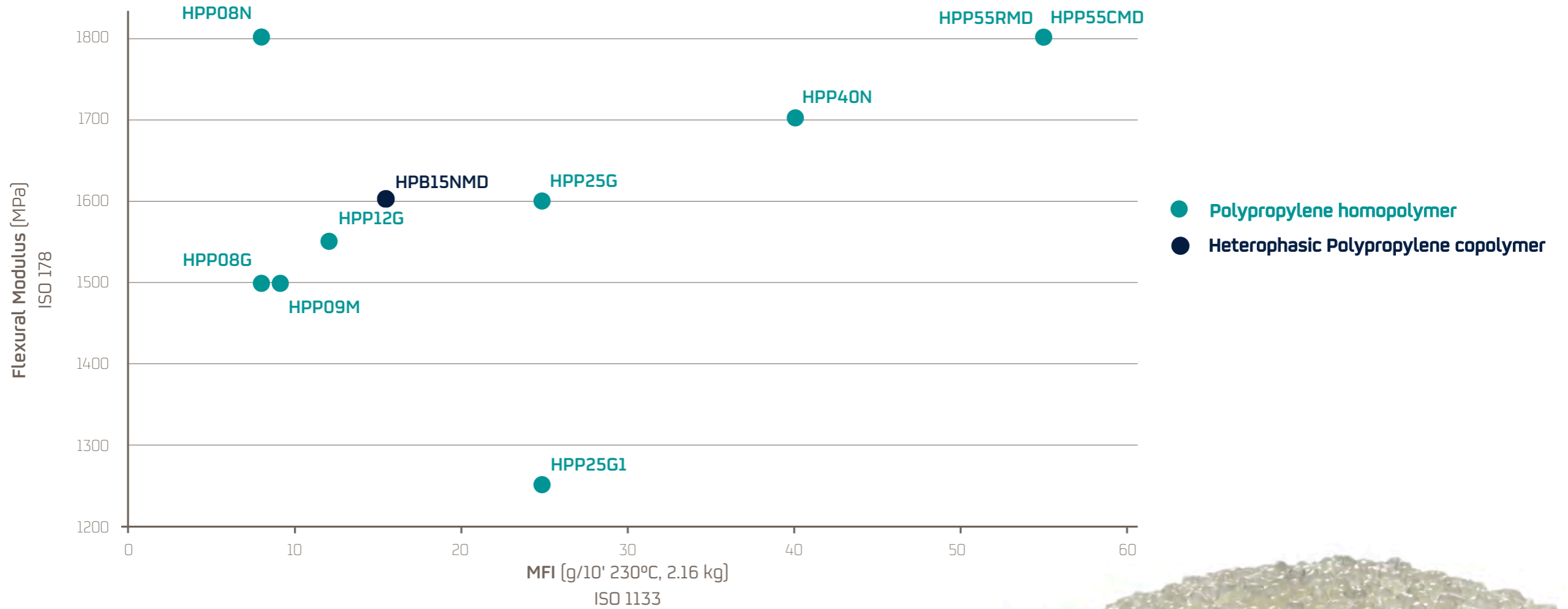
# Heterophasic polypropylene copolymer

Grade	Properties				Additives	Compliance			Applications
	MFI ISO 1133 g/10' 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	
HPB15NMD	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.

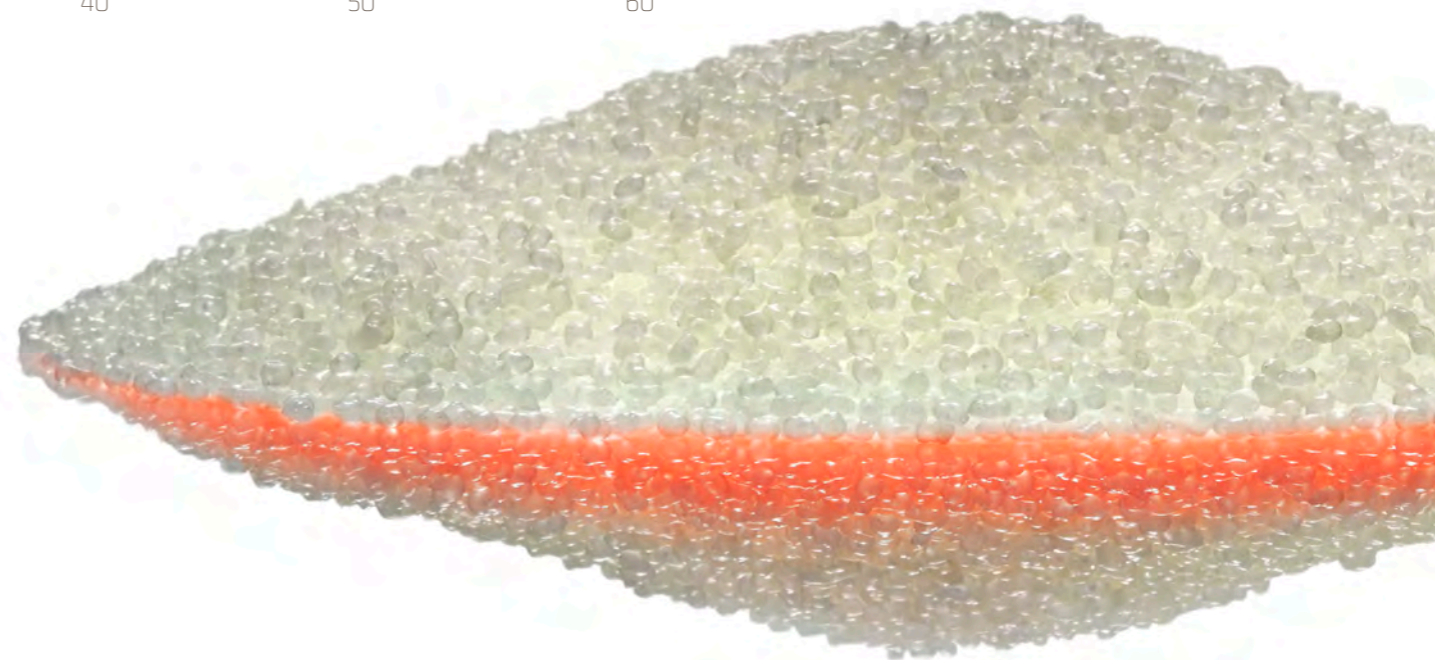
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# Polypropylene homopolymer & Heterophasic polypropylene copolymer



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



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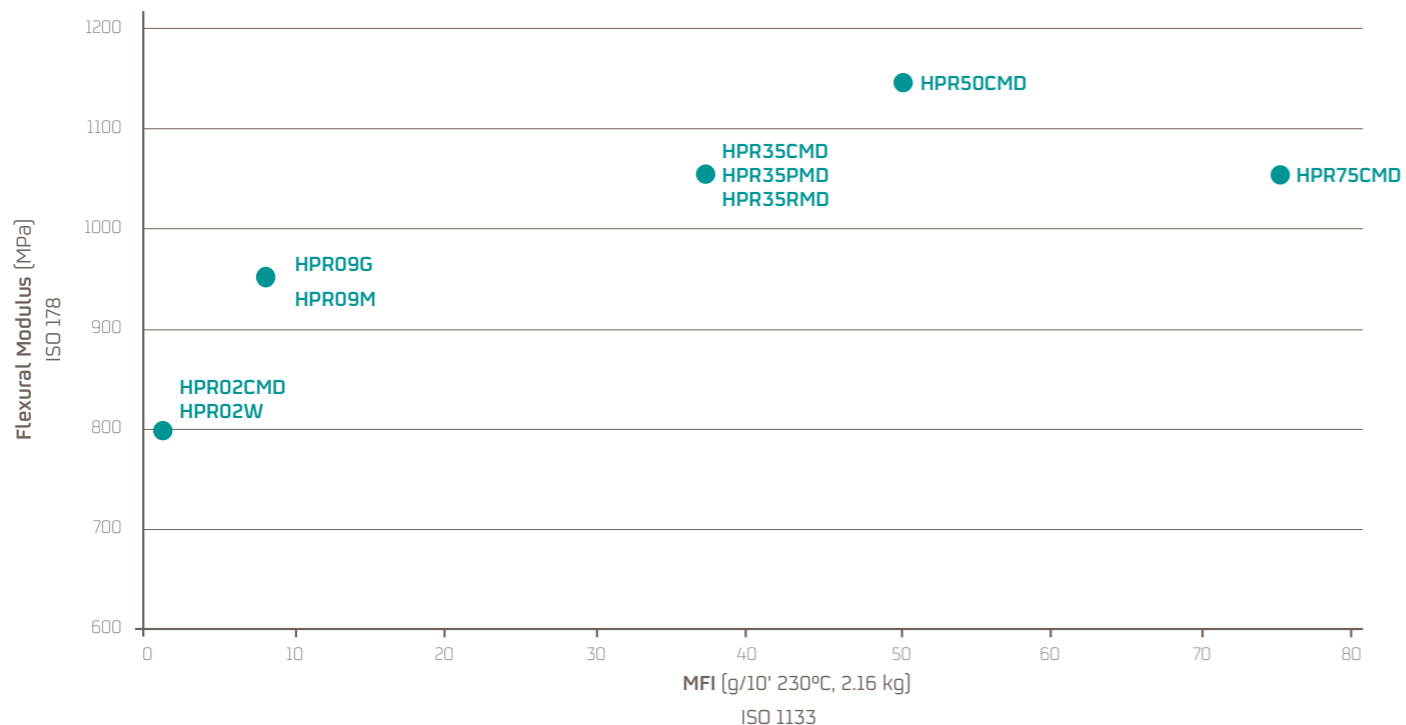


# Polypropylene random copolymer



Grade	Properties				Additives	Compliance			Applications
	MFI ISO 1133 g/10' 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	
HPR02CMD	1.6	>9	143	800	Clarifying agent	-	In composition	USP 87 USP Cytotoxicity (Elution Test) USP 88 class VI ISO 10993-4, -5, -10, -11	Medical packaging, film and pouches, vials.
HPR02W	1.6	>9	143	800	-	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 blow fill seal 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 moulding items.
HPR09M	9	8	145	950	Slip agent / Antiblock	In composition	In composition	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	-	In composition	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	-	In composition	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	-	In composition	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	-	In composition	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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*Stringent production procedures to ensure product consistency and the highest quality standards. All our Polypropylene grades are phthalate free*

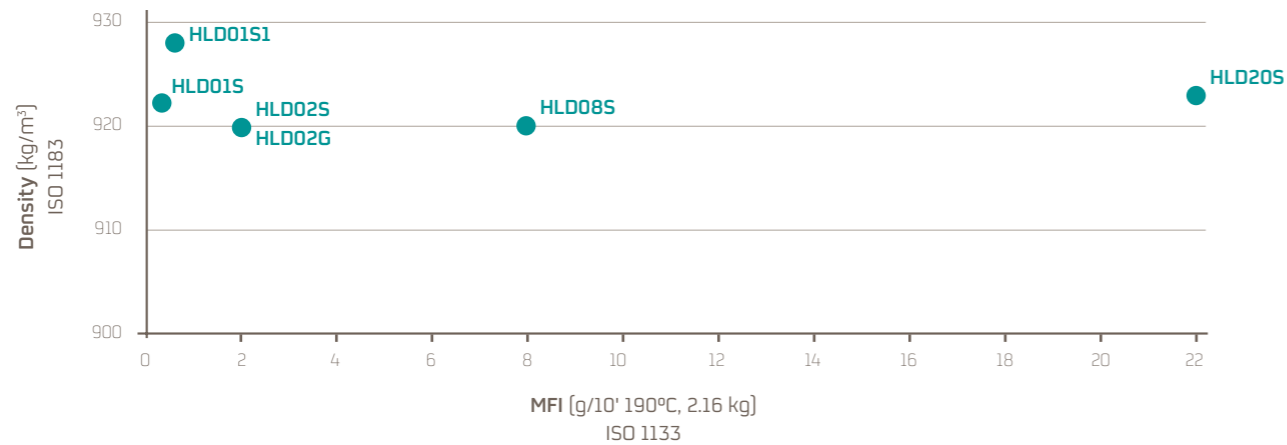
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# Low density polyethylene



Grade	Properties			Additives	Compliance			Applications
	MFI ISO 1133 g/10' 190°C 2.16 kg	Density ISO 1183 kg/m <sup>3</sup>	Melting point °C		EurPh	USP	Biocompatibility	
<b>NEW</b> HLD01S	0.3	922	110	No additives	*	*	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.
<b>NEW</b> 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 up to 110°C.
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. / 3.1.4.	661	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.
<b>NEW</b> 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.
<b>NEW</b> 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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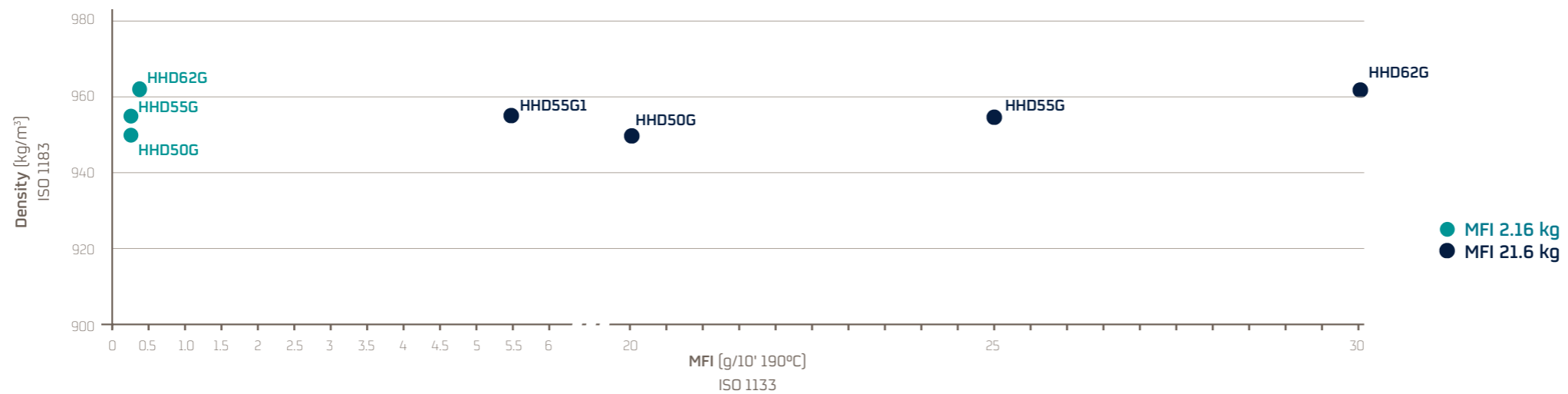
*A comprehensive range of products designed according to the standards of pharmaceutical packaging and medical devices*

# High density polyethylene



Grade	Properties			Density ISO 1183 kg/m <sup>3</sup>	Melting point °C	Additives	Compliance		Biocompatibility	Applications
	MFI ISO 1133 g/10' 190°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		
<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 moulding grade for pill jars, offering increased density and barrier properties. Typically also converted in IBM process.
<b>HHD55G</b>	0.25	-	25	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	962	137	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 moulding 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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*A helping hand on technical matters to obtain the best performance*

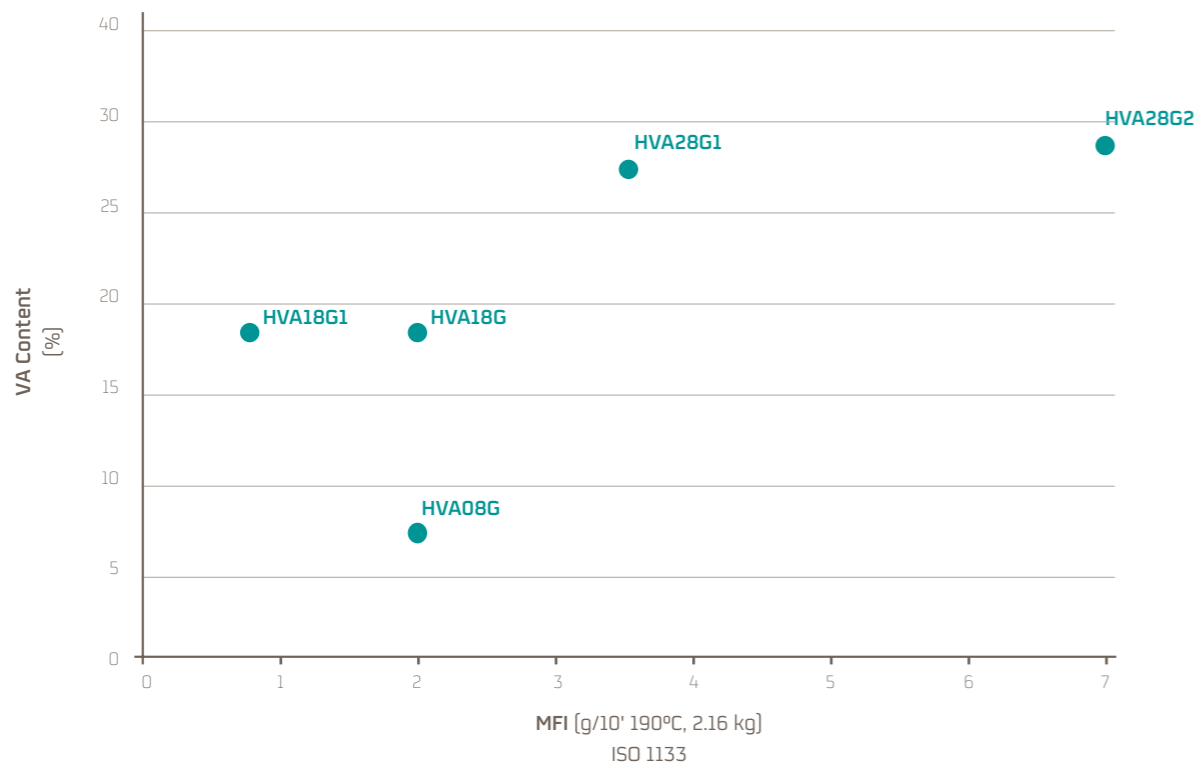


# EVA copolymer



Grade	Properties		Additives	Compliance	Applications
	MFI ISO 1133 g/10' 190°C 2.16 kg	VA content %			
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	Testing in progress	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 moulding medical devices.

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# 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 HDD	☒	☒	☒
EVA Copolymer HVA		☒	☒



## 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.

*A global company that seeks the welfare of people and is a step ahead in building a better future through the development of smart energy*

# Building trust through safety and transparency

Excellence is intrinsic to Repsol's values. It infuses our daily work and helps guide our decisions and actions, contributing to achieve the commitment made to our customers, stakeholders, employees, suppliers / partners and society to build a better future.



## Safety is our priority

Petrochemical complexes, packaging facilities and logistics centres all have OHSAS 18001:2007 (Occupational Health and Safety Assessment Series) certification for their rigorous safety measures.

Petrochemical complexes, packaging facilities and logistics centres

**OHSAS 18001.2007**

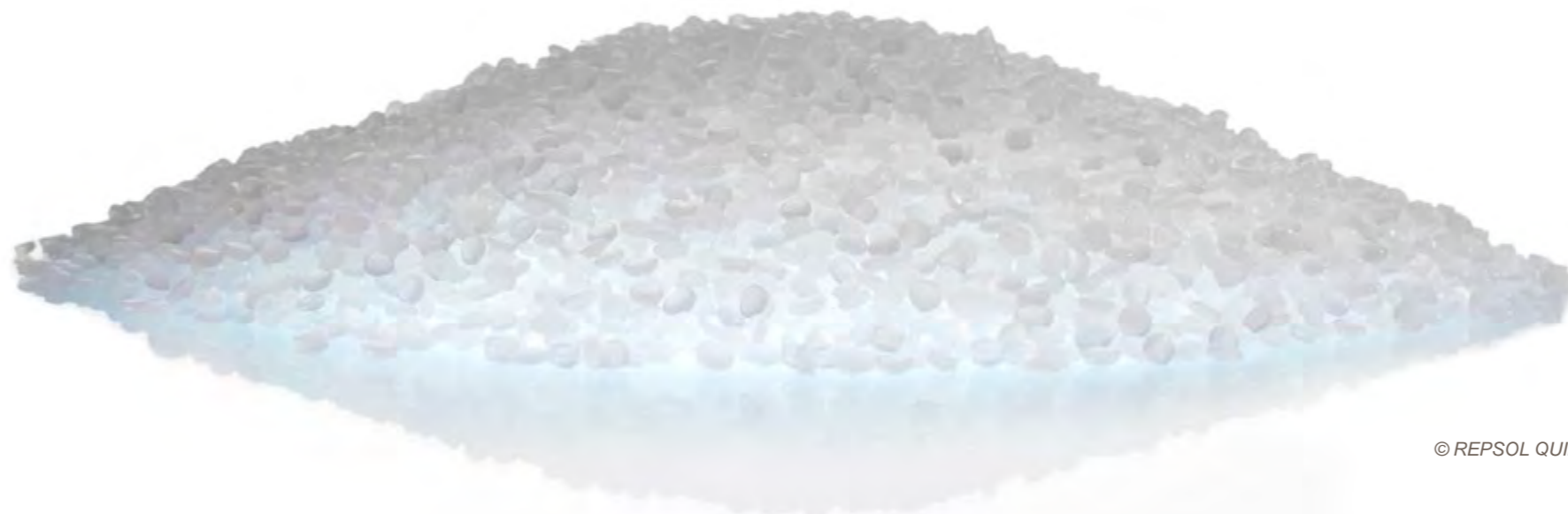
## Quality

All petrochemical plants are compliant with the current ISO 9001:2015 standards, for the quality of processes from manufacture to distribution, transport management and end product warehousing.

All petrochemical plants

**ISO 9001:2015**  
**FSSC 22000**

Technical Data Sheets and MSDS are available on: [www.repsol.com](http://www.repsol.com)





## Environment

We set up and deploy ambitious energy efficiency programmes to reduce energy consumption and GHG emissions as one of the key elements of our strategy. These programmes pursue long term targets which have been made public in order to facilitate their progress by the stakeholders. In this sense, Repsol Química has attained a final reduction of 0.56 million tonnes of GHG emissions at the end of the 2006-2013 period. Repsol is currently working on a new target covering the period 2014-2020, that involves an additional reduction of 0.42 million tonnes of CO<sub>2</sub>.

All petrochemical complexes, have ISO 14001 certification for their environmental management and the reduction of the impact of their facilities; and ISO 14064 for the annual verification of greenhouse gas (GHG) emissions.

The Chemical area of our complexes in Tarragona (2015), Puertollano (2013) and Sines (2016), has implemented an Energy Management system according to the requirements indicated in the International Standard ISO 50001. This system is dedicated to developing and implementing our organization's energy policy, as well as manage the energy aspects of our activities, products or services. The objective is to increase and improve our energy efficiency, based on systems' implementation aimed at continuous energy performances improvement and thus contribute to a more efficient and sustainable use of energy.

Repsol reinforced its commitment with sustainability by signing the "Paris Pledge for Action" document. An historical agreement in which both developed countries and less developed countries and companies engaged to contribute towards a low CO<sub>2</sub> emission economy.

Puertollano, Tarragona and Sines

**ISO 50001 / ISO 14001 / ISO 14064**

December 2020

## Customer Care

### SPAIN

Tel.: 900 10 32 39  
Tel.: + 34 91 753 18 01

### PORTUGAL

Tel.: 800 60 501 111  
Tel.: +34 91 753 18 05

### FRANCE

Tel.: 800 60 503 333  
Tel.: +34 91 753 18 02

### ITALY

Tel.: 800 60 509 999  
Tel.: +34 91 753 18 04

### GERMANY

Tel.: 800 60 504 444  
Tel.: +34 91 753 18 00

### UNITED KINGDOM

Tel.: 800 60 502 222  
Tel.: +34 91 753 18 03

[sacrq@repsol.com](mailto:sacrq@repsol.com)  
[www.repsol.com](http://www.repsol.com)





## Corporate Headquarters

Méndez Álvaro, 44  
28045 Madrid. Spain  
Tel.: +34 91 753 81 00  
[www.repsol.com](http://www.repsol.com)

## Technical Service & Development Repsol Technology Lab

Ctra. de Extremadura A5, km 18  
28931 Móstoles, Madrid. Spain  
Tel.: +34 91 753 86 00  
[atd\\_poliiolefinas@repsol.com](mailto:atd_poliiolefinas@repsol.com)



*Results Orientation*

*Collaboration*

*Inspiring Leadership*

*Accountability*

*Intrapreneurship*