



Blow-moulding

Polyethylene / Polypropylene



Repsol. A global multi-energy company



**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.



Over 90 countries
where we market
our products

Repsol has a diverse workforce of over 25,000 employees, marketing products in over 90 countries and reaching 10 million customers. Repsol's highly integrated Chemical Division focuses its strategy on the continuous generation of value through differentiated products and services.

Repsol Campus, Corporate Headquarters in Madrid

LEED® Platinum certificate, awarded by the prestigious U.S. Green Building Council (USGBC), for new buildings construction



Chemicals



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.

Working for a more



At Repsol, we believe in the **circular economy** and we run specific projects that **minimise 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 specialised department dedicated to the circular economy and the recycling of materials after consumption to drive the development of new materials offering innovative technical polyolefin solutions. We use recycled plastics in critical applications, creating new markets for plastic waste and incentivising circularity by giving it a new use. As a result, we provide a wide range of products for rigid blow-moulded packaging offering excellent technical performance.

sustainable future

We are a driving force in the circular economy for plastics and we are a member of the “**Circular Plastics Alliance**”, an initiative launched by the European Commission for ten million tonnes of recycled plastic to find their way into new products in the European market by 2025, in line with the strategy for the circular plastics economy published by the Commission in 2018.

Blow-moulding



Over 40 years
of market experience

We have been developing our integrated chemical business for over 40 years and this experience allows us to control all of the **key factors in the value chain**: research, development, manufacture, marketing and distribution.

With three integrated production facilities in the Iberian Peninsula, we have experience in high-cleanliness product launches with strict handling procedures in place and we provide a regular supply of materials to the food packaging industry.



Over 30 years of experience
in technical services and development

Our Technology Lab Centre is the hub of our innovation and development. This is where our products come to life and are meticulously perfected in our quest for **innovative solutions to meet our customers' needs**. Our mission is to develop cutting-edge products and offer **high-quality solutions** to improve your business.



Blow-moulding

Over 30 blow-moulding grades

Thanks to our versatility, we are able to produce one of the widest ranges of polyolefins on the market for industrial sectors such as:



Agriculture



Automotive



Well-being & consumer products



Packaging



Household



Types of packaging materials used:

37%



Plastic

34%



Card

18%



Metal and others

11%



Glass

If foodstuffs were packaged with other materials, energy consumption would double and greenhouse gas emissions would almost triple. And all of this would also suppose a 360% increase in packaging weight!

Dairy and food products >

Household goods and cosmetics >

Industrial packaging >

Automotive >

Dairy and food products

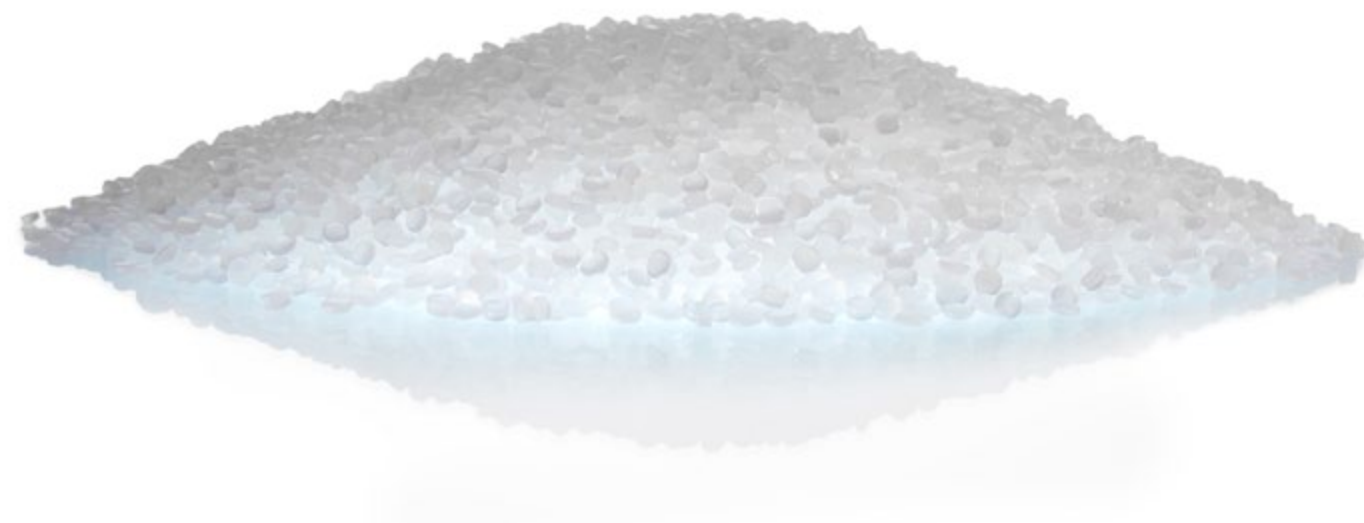
Thanks to their greater density, our grades offer high rigidity from thinner material. Safety is our priority, and this has positioned us in the most demanding markets in terms of food safety.



HDPE

Grade	Density	MFI		Tensile strength at break	ESCR	Flexural modulus	Container capacity	Main application
	kg/m ³	ISO1133 [190°C] g/10'		ISO527-2 MPa	ASTM 1693 ⁽¹⁾ h [F50]	ISO178 MPa	Litres	
		2.16 kg	21.6 kg					
6006L	963	0.6	40	18	< 10	1450	< 5	Packaging for dairy products and other foods
6006B⁽²⁾	972	0.6	40	18	< 10	1450	< 5	White bottles for dairy products and other foods
5703L	962	0.3	30	30	15	1550	< 5	Packaging for dairy products and other foods

[1] 10% Igepal. 50°C.
 [2] Contains 1.25% TiO₂.



We are food safety leaders. All of our facilities are FSSC 22000 certified in recognition of our food safety risk management processes throughout the supply chain

Dairy and food products



Polypropylene

Grade	MFI	Flexural modulus	Tensile strength at yield	Izod impact strength notched	Container capacity	Main application
	ISO1133 [230°C] g/10'	ISO178 MPa	ISO527-2 MPa	ISO180/1A kJ/m ²	Litres	
PR230C1E	1.6	800	27	22	< 10	Transparent containers
RC530S2E	1.6	800	27	22	< 10	Very high gloss, transparency and clarity containers
PP020G3E	0.91	1200	34	-	< 10	Thin walled containers
PP030G1E	1.7	1250	34	-	< 10	Thin walled containers



We have a Product Stewardship department which ensures strict compliance with all of the legislation governing contact with foodstuffs

Household goods and cosmetics

Our commitment to the environment has driven us to new developments. The **new Repsol Reciclex® range** offers compounds using up to 50% of recycled material for the extrusion blow moulding of packaging.

HDPE

Grade	Density	MFI		Tensile strength at break	ESCR	Flexural modulus	Container capacity	Main application
	kg/m ³	ISO1133 (190°C) g/10'		ISO527-2	ASTM 1693 ⁽¹⁾	ISO178	Litres	
		2.16 kg	21.6 kg	MPa	h [F50]	MPa		
5203	950	0.23	20	27	60	1100	< 10	Packaging for household products, cosmetics and chemicals
5502E	955	0.23	22	28	35	1200	< 20	Packaging for household products, cosmetics and chemicals
5503	955	0.25	25	28	100	1200	< 20	Packaging for aggressive households chemical products
5803⁽²⁾	958	0.25	26	30	200	1400	< 20	Packaging for aggressive households chemical products. High rigidity

[1] 10% Igepal. 50°C.

[2] Bimodal.

LDPE

Grade	Density	MFI	Production process	Container capacity	Main application
	kg/m ³	ISO1133 (190°C)g/10'		Litres	
		2.16 kg			
PE003	920	2	Autoclave	< 2	Soft containers for detergents and cosmetics
2308F	923	0.8	Tubular	< 2	Soft containers for detergents and cosmetics
PE033	921	0.3	Autoclave	< 2	Soft containers for detergents and cosmetics



Household goods and cosmetics



Polypropylene

Grade	MFI	Flexural modulus	Tensile strength at yield	Izod impact strength notched	Container capacity	Main application	Other
	ISO1133 (230°C) g/10'	ISO178 MPa	ISO527-2 MPa	ISO180/1A kJ/m ²	Litres		
PR230C1E	1.6	800	27	22	< 10	Transparent containers	
RC530S2E	1.6	800	27	22	< 10	Very high gloss, transparency and clarity containers	
PP020G3E	0.91	1200	34	-	< 10	Thin walled containers	High tenacity strapping, sheet extrusion
PP030G1E	1.7	1250	34	-	< 10	Thin walled containers	High tenacity strapping, sheet extrusion
PB110H2E	0.3	1300	45	-	< 10	Containers < 10l	High shine sheet extrusion, pipes
PB130G1F	1.3	1100	27	-	< 10	Containers < 10l	Excellent gloss



Safety is a priority: we are OHSAS 18001 (Occupational Health and Safety Assessment Series) certified in recognition of our strict safety management

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Industrial packaging



We are leading suppliers to the chemical, lubricant, fuel and food industries.

HDPE

Grade	Density	MFI		Tensile strength at break	ESCR	Flexural modulus	Container capacity	Main application
	kg/m ³	ISO1133 (190°C) g/10'	2.16 kg	21.6 kg	ISO527-2 MPa	ASTM 1693 h [F50]	ISO178 MPa	Litres
5803 ^[1]	958	0.25	26	30	200	1400	< 20	Packaging for detergents and chemical products. High rigidity
45060UV ^[2]	945	< 0.1	6	35	> 1000	1000	700 - 4000	IBC's and domestic fuel containers
49070UV ^[2]	949	< 0.1	9	30	> 400	1000	700 - 4000	IBC's and domestic fuel containers
55050	955	< 0.1	5.5	38	> 200	1350	< 200	Jerrycan and open top drums for chemical

[1] Bimodal.
[2] UV protected.



Our high molecular weight grades for packaging for the transport of hazardous and aggressive materials are lighter, while their rigidity and high resistance to cracking mean they use less material



Automotive



We have grades suitable for high value-added products such as fuel tanks, aeration tubing and other motor vehicle parts, through our continuous development processes.

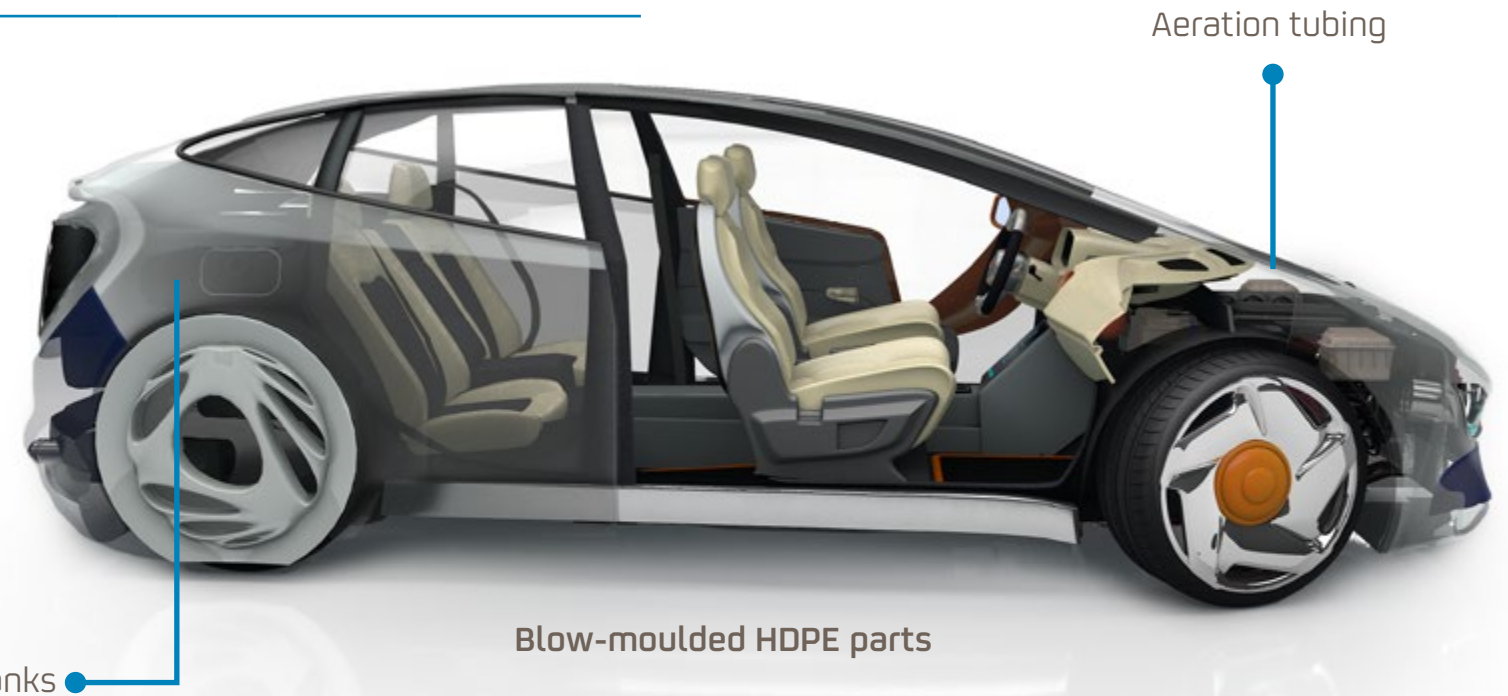
HDPE

Grade	Density	MFI		Tensile strength at break	ESCR	Flexural modulus	Main application
	kg/m ³	ISO1133 [190°C] 2.16 kg	g/10' 21.6 kg	ISO527-2 MPa	ASTM 1693 ⁽¹⁾ h (F50)	ISO178 Mpa	
5203	950	0.23	20	27	60	1100	Blow molding automotive products
5502E	955	0.23	22	28	35	1200	Blow molding automotive products
5503	955	0.25	25	28	100	1200	Blow molding automotive products
45060	945	< 0.1	6	35	> 1000	1000	Plastic fuel tanks

[1] 10% Igepal. 50°C.



All of the activities of the Chemical Division at Repsol are ISO 9001 quality certified. Our industrial facilities meet the ISO 14001, ISO 50001 and OHSAS 18001 (Occupational Health and Safety Assessment Series) standards





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. Technical Data Sheets and MSDS are available on: www.repsol.com

Petrochemical plants, packaging production plants and logistics

OHSAS 18001.2007

All industrial complex

FSSC 22000



All Repsol's polyolefins production centers are **FSSC 22000 certified**

Repsol supplies grades with excellent properties, specially designed for applications with stringent quality specifications



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

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 CO₂.

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.

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.

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 CO₂ emission economy.

Puertollano, Tarragona and Sines

ISO 50001 / ISO 14001 / ISO 14064

Chemicals Customer Care

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Results Orientation

Collaboration

Inspiring Leadership

Accountability

Intrapreneurship

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