

Innovative Packaging Solutions.
Sustainable Materials for Circular Economy.



**Innovative
packaging solutions
for any case**
Raw Materials
Processing
Packaging solutions
Recycling
Compostability

The Mitsubishi Chemical Corporation has the organisation and infrastructure to realise local and global synergies among the vast network of Mitsubishi Chemical affiliate companies. With over 40,000 employees in 30 different countries, Mitsubishi Chemical can now provide innovative solutions for customer applications.

Thanks to the intensified collaboration and coordination on a regional and global level, Mitsubishi Chemical group companies are uniquely positioned to meet the changing demands of key industries including automotive, aerospace, medical, packaging and 3D printing.

The quickly globalising packaging market needs strong global partners with a sustained commitment to the packaging industry. Mitsubishi Chemical is a truly global company with manufacturing sites all over the world. Our extensive experience in the packaging industry and our long-term strategy of further investments in this sector are mandatory ingredients of lasting partnerships in the packaging market. In addition to state-of-the-art material technology, Mitsubishi Chemical's technology portfolio creates many opportunities for manufacturers to adapt their materials to the requirements of today and tomorrow. Materials from Mitsubishi Chemical are widely used to produce and optimise a variety of packaging materials.

The tremendous industry pressure for more environment-friendly materials is met with a variety of innovative products with enhanced processing properties.

Our technical service and development teams will help you to select the right materials from our broad portfolio to ensure that the best and most cost-effective solution is chosen for your application.



mcppTM
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 **MITSUBISHI
POLYESTER FILM**



 **MITSUBISHI CHEMICAL
ADVANCED MATERIALS**

Reduce, Re-use, Recycle

End of life options as a new opportunity for the packaging industry

Besides the actual functionality and performance of packaging materials, especially with regard to shelf life and avoidance of food waste, the end of life options are becoming more important decision criteria in the design of "state of the art" packaging.

Our materials support our customers to fulfill the market demands by offering added values in different levels of the supply chain:

- High functionality for packaging weight and resource reduction
- High gas barrier properties and chemical resistance
- Adhesion and compatibility
- Biobased products
- Compostable solutions (organic recycling) for waste recovery and reduction
- Films with high PCR-content
- Monomaterials

As Mitsubishi Chemical we can even offer the full range of materials to design compostable barrier structures.

Processing

Besides materials for the actual package we also offer high performance semi-finished shapes and finished machines parts to support an efficient processing of the packages during filling, packing and other levels of the supply chain.

Tooling solutions

Our special service and know-how

In combination of our respective special knowledge we gladly support you as a team. In the portfolio of our respective divisions you will find everything from films to additives and coatings to all important building blocks for the construction of practicable, safe and at the same time sustainable solutions.



Mitsubishi Chemical's technology portfolio for the packaging industry



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Mitsubishi Chemical Performance Polymers (MCPPE™) as a global compounding specialist offers customized thermoplastic solutions designed for Automotive, Construction, Cable, Consumer, Electronic, Packaging and Medical applications. The portfolio contains high performance resins providing added value to packaging applications: sustainability, high transparency, adhesion, peelability, bio-based, recyclability, re-use, biodegradable/compostability, grip, closure tightness, scratch resistance.

Products and solutions

BioPBS™

BioPBS™ (bio-based polybutylene succinate) is a bio-based and biodegradable polymer, developed based on advanced technology from Mitsubishi Chemical Corporation. Derived from natural resources, such as corn or sugarcane, BioPBS™ has been designed to be safely compostable in specific facilities into biomass, carbon dioxide and water, in respect to international standards and local policies.

MODIC™

High performance anhydride grafted tie-resins and specialized peelable solutions providing high performance in multi-layer barrier structures. Our MODIC™ tie-resin portfolio includes innovative solutions for dilution, high orientation and as compounding specialists we also offer customized solutions based on customer requirements.

TEFABLOC™

Customized TPE solutions designed for easy molding on technical plastics, soft touch effects and improved grip. Suitable for closures and sealing for reusable/reclosable packaging and food storage boxes.

DURABIO™

DURABIO™ is a bio-based polycarbonate resin derived mainly from plant-based isosorbide. Main properties of DURABIO™ are high transparency, excellent optical properties, good chemical resistance and outstanding scratch resistance. Its puncture impact behavior is comparable to those of PC. DURABIO™ has excellent durability and is therefore not biodegradable.

FORZEAS™

Our range of customized compostable compounds, designed to pass most stringent composting standards for flexible and rigid packaging, with or without any barrier, in respect to international standards and local policies

www.mcpe-global.com



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Mitsubishi Chemical is a leading manufacturer of vinyl alcohol resins for many applications such as food packaging, cosmetics, pharmaceuticals, paper & printing, agriculture incl. technical applications such as automotive and underfloor heating. We offer eco-friendly and recyclable resins and provide a high level of technical support to create tailor-made product solutions.

Products and solutions

SOARNOL™

Ethylene-vinyl alcohol copolymer (EVOH) is a sophisticated high gas barrier resin mainly used to produce packaging materials for preserving freshness and flavor whilst reducing food waste. SOARNOL™ can be applied by all main processing techniques (cast or blown film, blow molding, coating, etc.) and provides as well excellent transparency, thermoformability, orientability and chemical resistance.

Nichigo G-POLYMER™

Nichigo G-POLYMER™, a butenediol-vinyl alcohol copolymer (BVOH), is the next generation of vinyl-alcohol resins. With several unique properties based on proprietary "G-Technology", the key benefits for barrier packaging include superior gas barrier properties, high transparency while also providing biodegradability and extrudability for use in compostable – or in conventional high gas barrier packaging.

GOHSENL™

GOHSENL™, a poly-vinyl alcohol (PVOH), is an environmentally friendly, biodegradable, water-soluble synthetic resin. Its superior properties make it ideal for use as paper processing chemical, emulsion, suspension, adhesive and binder in diverse fields.

GOHSENX™

GOHSENX™ is a series of specially modified poly-vinyl alcohol resins. They include: GOHSENX™ Z series which provides easy cross-link ability and water resistance and GOHSENX™ L series which provides emulsifiability and dispersibility and GOHSENX™ T series which provides excellent water solubility and cross-link ability.

Hi-Selon™

An eco-friendly, water-soluble polyvinyl alcohol (PVOH / PVA) film suitable for packaging detergents, agrochemicals and other chemicals.

www.nippon-gohsei.com



The Mitsubishi Polyester Film Group is one of the global leading and largest manufacturers of polyester films, the biaxially oriented polyester film HOSTAPHAN®. Its fields of application range from high tech industrial uses, such as carbon composites or medical/pharmaceutical products, to packaging film for food. We also offer special film solutions, such as a PLA film (Ecolaju™) or high barrier films (Techbarrier™) from Mitsubishi Chemical in Japan.

Products and solutions

HOSTAPHAN® PCR

Hostaphan® PCR is a biaxially oriented polyester film with 30-70% PCR content. It is suitable for direct food contact and available in clear and white version. The siliconized version is used for liner and label applications.

HOSTAPHAN® for Monomaterial Packaging

This HOSTAPHAN® film is a biaxially oriented polyester film for monomaterial packaging e.g. food trays. The thermoformable ultra clear bottom film fits to the ultra clear lidding film. Our brand new solution for ovenable and microwave applications.

ECOLOJU™

ECOLOJU™ is a plastic film made from polylactic acid derived from bio-based resources. This resource saving film becomes more and more popular. It is used in various applications like packaging, envelop windows and cards.

TECHBARRIER™

TECHBARRIER™ is a SiOx vacuum coated high gas barrier film based on PET and a special top coat with extraordinary barrier properties. Due to our unique technology, the film keeps its high barrier properties even after printing and lamination processing.

www.m-petfilm.de



Mitsubishi Chemical Advanced Materials is a leading global manufacturer of high-performance thermoplastic polymer materials in the form of semi-finished shapes and finished machines parts. Among other leading industries, the products are used in the food and pharma packaging industry. The company provides the broadest portfolio of "Food Grade" materials that are approved for direct food contact. The portfolio is completed by a special range of tri-detectable plastics to provide highest safety in food processing and packaging.

Products and solutions

Ertalyte® TX PET-P

Ertalyte® TX is a polyethylene terephthalate compound incorporating a uniformly dispersed solid lubricant. It's a premium internally lubricated bearing grade with outstanding wear resistance and, compared to standard Ertalyte® PET-P, has an even lower coefficient of friction and higher pressure-velocity capabilities. Ertalyte® TX stock shapes feature a food contact compliant composition for processing and packaging applications.

TIVAR® H.O.T. UHMW-PE

TIVAR® H.O.T. [Higher Operating Temperature] is formulated to maintain inherent UHMW-PE key properties over an extended service temperature range, in this way considerably increasing part life in low load bearing applications up to 125°C. Special additives reduce its oxidation rate, thereby slowing down material degradation and extending wear life. TIVAR® H.O.T. features a food contact compliant composition for processing and packaging applications.

TIVAR® HPV UHMW-PE

This high performance UHMW-PE grade provides high wear resistance combined with a near zero level of "stick-slip" which is mostly associated with chatter and/or squeaking. It provides high motion control for precision applications in the packaging industry.

Ketron® TX PEEK

This product has been developed especially for applications that require food contact compliant composition combined with internal lubrication. The material offers superior wear and frictional performance making it especially suitable for a wide variety of bearing and wear applications within 100° to 200°C service temperature range.

www.mcam.com

Offering products that make a positive
contribution to our environment.



CHEMICALS



MATERIALS



TECHNOLOGIES



SOLUTIONS



Mitsubishi Chemical Corporation
www.m-chemical.co.jp

KAITEKI Value for Tomorrow

Mitsubishi Chemical Holdings Group

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