

Sustainable Materials requested by the era.

Econykol™

Econykol™ is Biomass material that could contribute to reducing greenhouse gas emissions.



Econykol™ is a polyol for polyurethanes based on castor* oil made from castor beans.

*Castor : Castor is produced in India, inedible and does not compete with food issues.

Castor oil has an optimal chemical structure as a polyol raw material and is also widely used for other industrial applications.

● We are proactively supporting castor farmers through the Econykol™ business.



Reducing environmental burden by Econykol™ could contribute to ESG management.

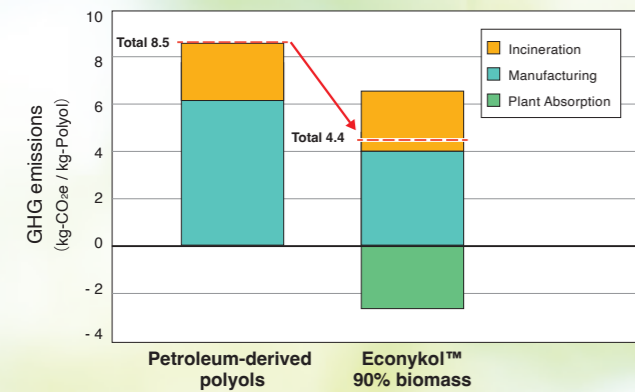
We create new value together with our customers for a sustainable future.

Contribution to carbon neutral

Based on LCA (Life Cycle Assessment*1), plant-derived Econykol™ can reduce emissions of the greenhouse gases (GHG) compared to petroleum-derived polyols.

The Ministry of the Environment of Japan is aiming to introduce about 2 million tons of biomass plastic per year by 2030 as a milestone in its main strategy of “The Plastic Resource Circulation Strategy”. By using our Econykol™, we can contribute to reaching the target.

GHG emissions comparison (vs. petroleum-derived polyols)*2



*1 What is Life Cycle Assessment?

It is a method for quantitatively evaluating the environmental burden of a product or service throughout its life cycle (resource extraction - raw material production - product production - distribution and consumption - disposal and recycling).

*2 Based on our LCA calculation method with IDEA inventory and certain assumptions.

Since these values vary depending on the condition, please contact us before using them for your own products.

This content is only for reference and not guaranteed. Also, this is subject to change without advance notice.

High quality and stable supply chain

Econykol™ is manufactured by Vithal Castor Polyols Pvt. Ltd. (VCP) in India, a major castor bean producing area (producing 70% of the world's castor bean). VCP is a joint venture of MCI and the world's largest castor oil manufacturer, JAYANT AGRO-ORGANICS LTD. in India. It enables MCI to stably procure raw material, castor oil. Under this scheme, VCP has 8,000 tons annual production capacity of Econykol™.



Contribution to the achievement of the SDGs by supporting castor farmers

We are a member of the Sustainable Castor Association, an NGO that promotes environmentally and socially sustainable castor farming, and we support the welfare of castor farmers, improving their safety and cultivation techniques.



<https://castorsuccess.org/>

Purpose	
●	Using good agricultural practices to increase yield and farmer income
●	Enabling better health and safety practices, and respecting human rights
●	Efficiently using water resources and maintaining soil fertility
●	Driving adoption of good waste management practices

Biomass plastic mark can be certified

Polyurethane products made from Econykol™ can obtain the “Biomass Plastic Mark” as products that contribute to create resource-recycling society.

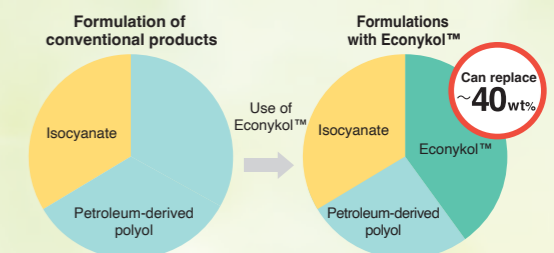


- Our product (EBT-500) has also acquired the Biomass Plastic Mark.

- Many of our customers have already obtained the mark as JBPA*3 members.

To obtain the Biomass Plastic Mark, the product must meet the requirements set by the JBPA, such as containing at least 25.0% weight of biomass-derived components, and must be approved by the JBPA.

By using Econykol™, you can achieve a biomass content of 25.0wt% or more.



*The graph is an example and actual usage varies depending on the application and performance requirements of the customer's product.

*3: JBPA (Japan BioPlastics Association) is a private organization established to promote the use of bioplastics and solve technical problems. As a member of the JBPA, we are working to promote the use of biomass plastics.



Carbon Neutral

In general, all plastic materials generate CO₂ when incinerated, but the CO₂ from plant-based biomass materials is originally absorbed by plants when they grow.

We will meet the needs of our customers who are aiming for both “Environmental Friendliness” and “Market Development”.

Applications and Adoption examples

Econykol™ can be widely used as a substitute for various petroleum-derived polyols, and has been used in a wide range of products, from general-purpose products to high-end products requiring high specifications.



Product list of Econykol™

Econykol™ has a lineup of grades with various characteristics and offers high performance and high bio-content compared to other biomass-derived polyols. *4 Econykol™ is also already registered under Positive List Classification E, which is required for the labeling of the biomass plastic mark.

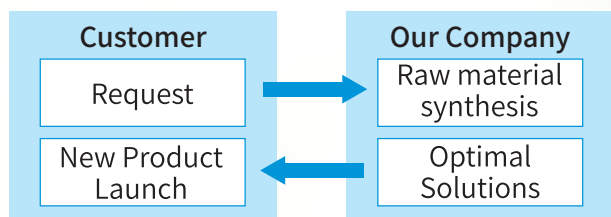
Brand name Econykol™	Biomass %*5	Feature	Hydroxyl group value mgKOH/g	Viscosity mPa·s
EBT-320i	98	Standard	115-125	800-1200
EBT-500	87	High resilience	50-55	2500-4000
EBT-509	100	High foaming ratio	62-68	1500-2500
EBT-510	89	High resilience and durability	45-52	2500-4500
EMU-301	99	For slabstock foaming	115-125	800-1200

*4: References A. Miyata et al. Conference Proceedings, Polyurethane 2010

*5: Weight concentration of biomass-derived components in raw materials

Enhancement of joint development system with customers

We are available to consult with customers on new product development upon request.



Blue Value™

Some applications have Mitsui Chemicals' Blue Value™* Certification.

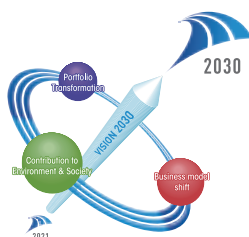
*Blue Value™

Visualization of the contribution of the products and services provided by Mitsui Chemicals Group to the environment and society in order to realize the future society we aspire to: a recycling-oriented society in harmony with the environment and a comfortable society where people can live in health and peace of mind. The award recognizes products and services whose environmental contribution value throughout their lifecycle exceeds that of other products and services, and which have made it possible to share this value with stakeholders.

Chemistry for Sustainable World

A global solutions company that leads change and contributes to a sustainable future

Mitsui Chemicals



Mitsui Chemicals

Basic & Green Materials Business Sector Polyurethanes Div.

Yaesu Central Tower, Tokyo Midtown Yaesu 2-2-1 Yaesu, Chuo-ku, Tokyo 104-0028

Contact Information
TEL : +81-3-6880-7432 (general)
Web : <https://jp.mitsuichemicals.com/en/>
E-mail : pupu@mitsuichemicals.com