eco-action

Helping businesses make sustainable choices today.

DISCOVER A NEW GREEN ALTERNATIVE

natural polyols

PolyGreen

The polyurethane industry is a business area covering diverse applications from the production of your everyday furniture upholstery to high performance pipeline underlay, construction and insulation foams for roofs and buildings, freezers, fridges, mattresses, sofas, car seats, paddings for your shoulder pads, bras and many more..

It is an indispensable material in our lives.

make a change

It is exactly so, that interest in using biobased polyols in the manufacture of polyurethane products has increased significantly in the recent years. Conventional polyols are synthetic polyethers derived from the petroleum chemistry. More than ever we now seek to replace petroleum-based polyols with polyols that have organic and natural content from plant sources.

Our aim at PolyGreen - to make this possible.

Our eco-friendly Natural Polyols (NOPs) come from Palm Oil, a renewable resource that meets the same product performance as foams manufactured with traditional, synthetic polyols.

This is indeed a tall order to follow but finding green and natural products that support a healthy environment is half the battle. It's not just about ecology, it's also about economy. As buyers and consumers, we can change the world by changing the products we buy.

Choose PolyGreen's Polyol to substitute and replace part or all of the traditional synthetic polyols.
They are made from Palm Oil, the most cost efficient and most eco-friendly natural raw material.

History of Natural Oil Polyols

Producing polyols from natural oil sources isn't a completely new concept. There has always been the discussion and the need to reduce our dependency on petroleum-based polyols, but it has not been easy. Apart from environmental concerns, prices for petrochemical derived products have increased dramatically over the years creating immense challenges for everyone. While some natural oils can be used for polyol production, the type of product obtained and the suitability of the polyol for its intended application varies significantly in terms of performance and price. Some commonly used sources include soybean, rapeseed and castor oils and today the latest and best choice, Palm Oil, which is the base of PolyGreen's Polyols.

Natural oils being complex mixtures of triglycerides can undergo a number of chemical reactions, some of which are relevant to their use as a component for polyurethanes while others contribute to performance challenges as retaining tensile strength, resiliency, compression set and even its natural odour. Some sources like castor oil are scarce and expensive or like soybean oil are simply more expensive than petroleum-based polyol, forcing users to accept having to pay a higher price when switching to a green product.

PolyGreen's NOPs from Palm Oil are developed with particular reference to the resultant environmental and financial advantages needed. Palm oil is found in abundance and can be used as a cost efficient raw material to allow PolyGreen's Polyols to replace the petroleum polyols in many formulations without compromising quality, performance, price and the ecosystem.

Green Benefits

Safe & Simple Production
Production of NOPs are greenhouse gas neutral. NOP production uses considerably less fossil fuel resources than the manufacturing of conventional polyols. PolyGreen to date has one of the most efficient and cost effective conversion processes of any natural oil to Polyol.

Breakthrough Formulation
PolyGreen's products are used in higher concentrations than other natural Polyols. This allows a high level of bio-content. Polyols formulated for flexible foams have been used in concentrations of up to 40% in standard bulk formulations and even higher for specially formulated foams.

Renewable Content
NOPs provide maximum flexibility in formulation development. It also improves the product's life-cycle performance. PolyGreen's Polyols have a renewable raw material content of above 90%.

Reduced Carbon Footprint
NOPs have carbon benefits over petroleum polyols and do not lead to a permanent depletion of petroleum-based resources which have a limited global availability.

Lets take a closer look. Know the facts.

» HIGHER YIELD
Oil palm is entirely GMO-free and produces up to 10 times more oil per unit area than soybean, rapeseed or sunflower.

» LESSER LAND
Oil palm produces more than 34% (palm and palm kernel oil) of the world's eight major vegetable oils on less than 5% of the total area under oil crops.

» PROVIDE JOBS
The Palm Oil industry is also a big provider of jobs that no nation can afford to ignore. Statistics say 1 employee is needed for every 5 - 7 hectares hence Malaysian and Indonesian plantations could provide jobs for more than a million people, bringing progress to under-developed countries and help fight poverty.

Although Palm Oil is a more sustainable source of vegetable oil than other oil crops, it is not so simple! The cultivation and global trade of agricultural commodities come with well-documented cost and benefits for people, planet and profit. As an agricultural commodity cultivated in the tropics, Palm Oil inevitably competes for land with the rainforest, local communities and indigenous people.

In response to these concerns, growers as well as users have formed multiple initiatives with the objective of promoting the growth and use of sustainable oil palm. We at PolyGreen understand and support these concerns too and are happy to provide RSPO certified Palm Oil from sustainable sources. Speak to us about how other manufacturers have found Palm Oil based polyol to be their preferred choice.

make a change

GREEN FACTS : Do you know...

The absorption of Carbon Dioxide (CO_2) for soybean oil is about 2.85 MT CO_2/ hectare of land required for soybean plantation. In order to harvest 1MT of soybean oil about 2 hectares of land have to be planted. Palm Oil on the other hand absorbs 29MT CO_2/ hectare of land required for oil palm plantation. In order to harvest 1 MT of Palm Oil only 0.2 hectares land are required.

Palm Oil has a negative Carbon Dioxide generation of about 5800 kg/ 1000 kg Palm Oil, with soybean oil being quite similar with 5700kg / 1000 kg soybean oil.However Palm Oil only requires 10% of the planting area to produce the same amount of oil, leaving 90% of the land undisturbed or to be utilized otherwise.

The production process of PolyGreen's Polyols generates the CO_2 equivalent emission of 12 kg CO_2/ 1000 kg Polyol leaving a net recovery of 5788 kg CO_2 for 1000 kg PolyGreen's Polyols produced. We do not have the details for the other Natural Oil Polyols but believe that PolyGreen's Polyols utilize the best available resource and having the biggest CO_2 absorption/ reduction if compared with any other natural or synthetic raw materials.

Be a part of the solution.
Know your options. It all starts here.

PolyGreen can help manufacturers have a positive impact on the environment and connect with environmentally conscious customers. The use of NOPs from Polygreen strongly illustrate a corporate commitment to sustainability by choosing to incorporate renewable, natural materials.

Make a change, be a part of the solution!

For the last 15 years, our researchers continuously improved formulations and processes that enable us to commercially manufacture Natural Oil Polyols from Palm Oil. We operate in Malaysia with a production capacity of 30,000 metric tons of Natural Oil Polyols annually made from abundant, natural renewable resources.

We are committed to supplying high quality Natural Oil Polyols made from natural, renewable sources to help manufacturers go green without compromising the product quality or adding pressure to raw material cost.

Get in touch with us to know more.

Tree-Free Paper
made from eco-friendly, sustainable sources of palm fibers.

natural polyols
PolyGreen

In support of
Green Living

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