



FLEXILIS
innovative solutions

PRODUCTS

efficient & sustainable

Introduction

DEUREX AG was founded as a specialty producer of Olefins and Waxes for wide range of applications.

The introduction of Deurex's special lubricants and waxes in rubber and tire production started in line with the industrialization of new production technologies within the last years. A new range of products in the tire and technical rubber goods application is born.

Polyethylene Waxes for general application:

Deurex E11; Deurex E12

Special Waxes:

Deurex E06; Deurex E09

Synthetic lubricants and ozone protection:

Flexol TP405; Flexol D2320; Flexol OZ M1

Rheology control:

T Line

Products in Comparison

Standard processing aids based on fatty acid conversion to soaps and esters:

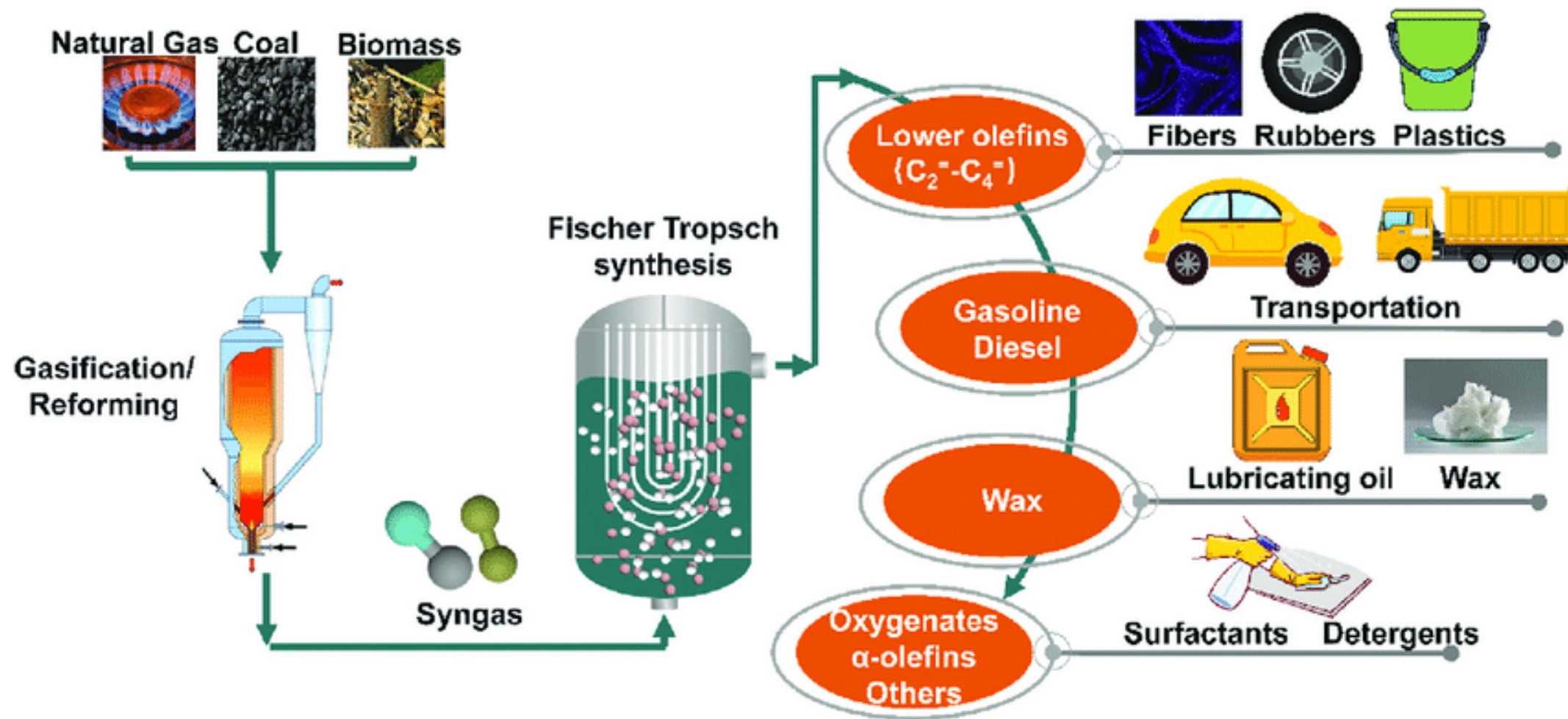
- lower mechanical properties → not acceptable for high hardness compounds
- are not part of polymer matrix after vulcanization
- low mol. weight and polarity → potential migration after vulcanization
- degradation in vulcanization temperature

Deurex Processing Additives & T Line Flow Olefins:

- neutral in mechanical properties
- migration and polarity control
- no degradation under temperature, UV, Xenon
- chain structure is controlled and defined

From Syngas to Biogas

The Biomass to Liquid (BtL)-Fischer-Tropsch (FT) route converts lignocellulosic feedstock into renewable hydrocarbons. This paper presents a novel production route for synthetic kerosene wax from biomass via gasification of lignocellulosic feedstock, Fischer-Tropsch synthesis (FTS) and hydrofining. The Fischer-Tropsch wax was fractionated, refined, and analyzed for compliance with commercial standards. The fractionated kerosenes were hydrofined using a commercial sulfidic NiMo-Al₂O₃ catalyst and a trickle bed reactor. Parameter variation was performed to optimize the hydrofining process. It was shown that the generated medium melting kerosene wax could meet the requirements for "Paraffinum solidum" defined by the European Pharmacopoeia (Ph. Eur). The high melting wax fraction showed potential for use as a food packaging additive. In addition, the renewable wax was analyzed for PAH content and the hydrofined wax was found to be virtually PAH-free.



Deurex E11 & Deurex E12, Polyethylene Waxes Deurex E06 & Deurex E09, Special Waxes

DEUREX waxes are being produced through the high-pressure polymerization of ethylene.

Highly derived, very stable (temperature, pressure, UV light, chemicals) molecular structures are being produced.

DEUREX is using the polymerization process.

Advantages:

- The size of the C-Chains can be chosen exactly and changed according to your needs
- Constant quality
- No impurities

Synthetic lubricants and ozone protection special and modified products

Flexol TP405

EPDM processing

Flexol D2320

Demolding

Flexol OZ M

Ozone protection

DEUREX® T-Line Olefins

efficient & sustainable application for the industry

Introduction

T-Line Rheology Improvers:

The latest generation of GTL (gas to liquid) technology olefines produced in the Fischer-Tropsch-Process are applicable as synthetic lubricants. The exact defined linear structure, narrow molecular weight distribution and very low melt viscosity lower the processing temperature of polymers.

The unique combination of physical properties and the ability of Deurex to adapt its melting in a narrow temperature range according to the process request, going along with a high hardness allows quick and safe processes within defined temperature ranges.

The feed stock presently is coal gas derived from coal waste, in near future certified biogas will replace it. This guarantees a local and sustainable production and supply chain.

Application in extrusion and injection molding

Recommendation for testing:

- Deurex TR17G or TR19G
 - to be added in first mixing step
 - dosage 1-3 phr, additionally to the compound formulation Expectation
 - significant drop of pressure in form giving process
 - significant drop of process viscosity
- Extruded/Injected parts
 - adaption of capacity, either higher output or more stable process parameters
 - improvement of cooling and dimensional stability

Contact us

Flexilis GmbH

Untere Viaduktgasse 55/7, A-1030 Vienna, Austria

Phone: +43-1-522 36 40

E-Mail: marek.gardavsky@flexilis.eu

Web: www.flexilis.eu

VAT No. ATU75937701