



● Beyond Petroleum

**OFFUEL®** by RUDOLF HUB1922 is a range of auxiliaries for denim processing that truly embodies a new generation of chemistry driven by alternatives to crude oil.

Beside fuels, almost all consumer goods require crude oil as part of the manufacturing process. However, crude oil is a precious and yet finite resource. It forms over millions of years and is being used much faster than it can be replaced.

## **A DIFFERENT THINKING IS IMPERATIVE.**

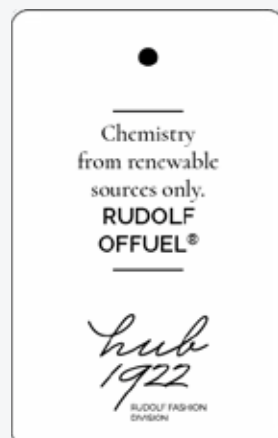
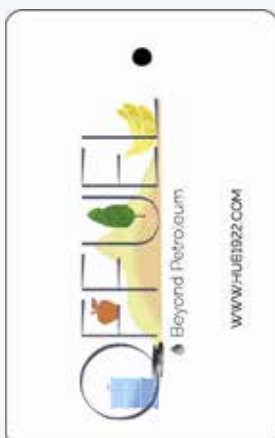
**The OFFUEL® by RUDOLF HUB1922 series is a selected toolbox of chemical auxiliaries for the complete processing of denim garments. All formulations are made of least 90%, of alternatives to crude oil and/or components based on recycled materials.**

The raw materials used in the **OFFUEL®** by RUDOLF HUB1922 range do not compete with human and/or animal nutrition, nor do they compete with the production of any fuel.

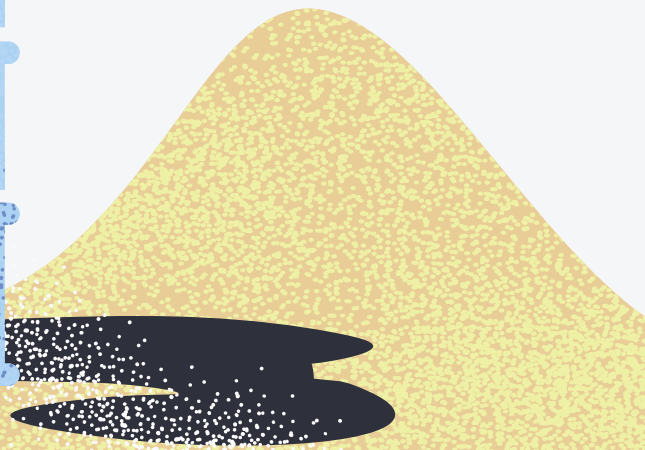
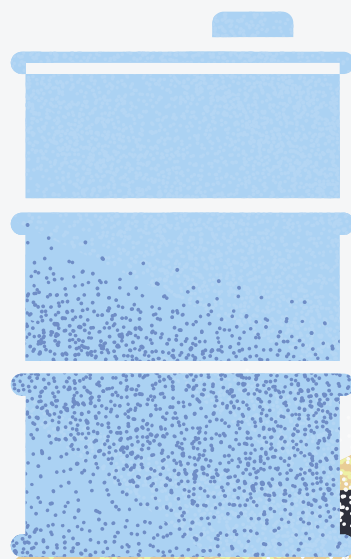
The common denominator throughout **OFFUEL®** by RUDOLF HUB1922 is renewable raw materials. They can be grouped into 5 different families:

- 1** Substances of botanical origin: a. Plant extracts – b. Polysaccharides – c. Peptides and vegetal proteins
- 2** Substances of biological origin, or produced through biotechnologies: a. Synthesis from natural and/or inorganic substances – b. Synthesis by fermentation – c. Synthesis by enzymatic catalysis
- 3** Salts, water, basic acids and alkalis
- 4** Substances recycled from waste of biological origin
- 5** Substances recycled from plastics – either post-consumer, or industrial waste

Our vision is for OFFUEL® to be verified by us during manufacturing according to a process that allows us to access volumes being treated, recipes being applied and amounts of being purchased.

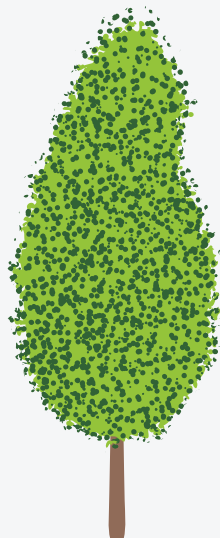


FASHION IS  
FAST, BUT  
MIGHT SOON  
RUN OUT  
OF OIL





THE ROAD  
TO CLEAN  
FASHION IS  
LONG AND  
OIL MAY  
RUN OUT  
BEFORE  
WE GET  
THERE





Product name	Descriptions of auxiliaries from renewable raw materials
RUCOLASE® DFA	Liquid enzyme for desizing active at a wide range of operating temperatures
RUCOLASE® CHPL	Concentrated, high performing liquid enzyme for stonewashing at low temperature
RUCORIT X-HYP	Basis compound for HypNo bleaching as alternative to both potassium permanganate and sodium hypochlorite
RUCORIT X-NOCL	Additive component to HypNo bleaching system as halogen-free alternative to hypochlorite bleaching
RUCORIT X-NOPP	Additive component to HypNo bleaching system as heavy metal-free alternative to PP spray
RUCO®-SPECIAL LSM	Laser smoother for natural laser effects mimicing manual scraping
RUCO®-SPECIAL LPR	Laser primer for garments and fabrics
RUCO®-SPECIAL LPC	Laser primer catalyst
RUCORIT CBL	Universal soaping, cleaning and mild bleaching agent
RUCOGEN® UPCYCLE RNB	Anti-backstainer for highly efficient reduction of indigo redeposition based on polymers from PET
RUCOLASE® X-ZSS	Strong biocatalyst based on acid cellulase for biopolishing
PERRUSTOL® X-MMX CONC	Biomaterial-based, concentrated softening agent

The **OFFUEL®** by RUDOLF HUB1922 range is a complete toolbox of chemical auxiliaries for wet denim processing and it is:

- *Progressive* - Chemistry comes from renewable raw materials
- *Creative* - A wide array of finishes is possible (from dark to light)
- *Reassuring* - All **OFFUEL®** auxiliaries carry ZDHC Chemical Gateway Conformity Level 3 and suitability for OEKO-TEX® Standard 100 Class I-IV.

