SAS PIVERT

Unfold innovation,
from field to chemicals

CHEMISTRY Process

# Functionalisation of triglycerides by hydroformylation (NT005)

**The patented process consists in functionalizing by hydroformylation unsaturated triglycerides obtained from vegetable oils (rapeseed, sunflower, castor oils...) in a self-emulsifying medium.**

***Keywords:*** *Triglycerides, Cyclodextrins, Hydroformylation, Biphasic catalysis*
***Intellectual property:*** *WO2015/071580 (entry into the national phases : Europe, USA, Canada, Malaysia)*

## Presentation of the technology

- Hydroformylation process by phase transfert catalysis
- Hydrosoluble catalyst (Rhodium) stabilized in aqueous phase
- Oil/water self-emulsifying medium synthesis thanks to cyclodextrins
- Purification by liquid-liquid extraction

## Competitive advantages

- High selectivity and conversion
- Low catalyst loading
- Soft conditions
- "One-pot" synthesis
- Recyclable catalyst
- Oleochemistry

## Applications

- Polymers
- Lubricants
- Platicizers
- Chemical intermediates...

## Development stage

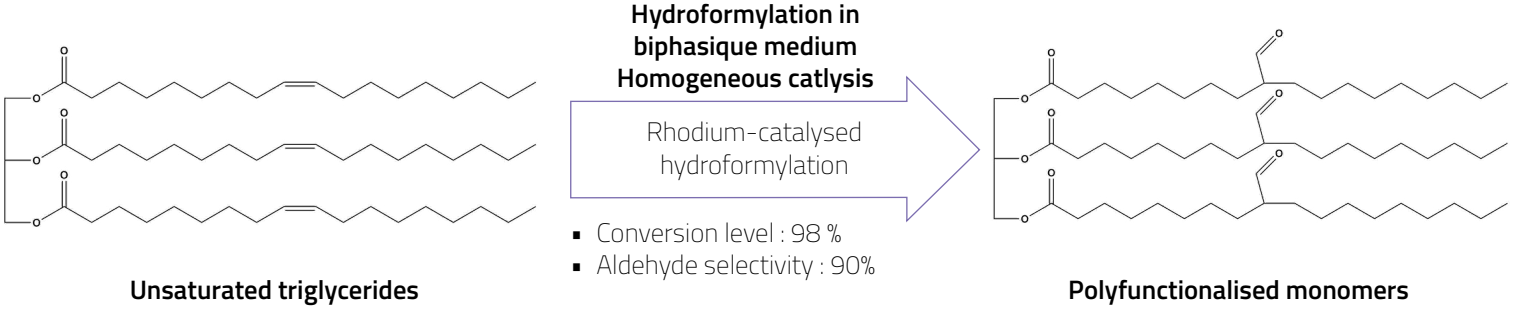
- Technology validation in laboratory environment
- Samples available

1 2 3 **4** 5 6 7 8 9

## Development opportunities

- Scaling-up development
- Partnerships for product development

## Technical specifications




- Conversion level : 98 %
- Aldehyde selectivity : 90%

**Unsaturated triglycerides**

**Polyfunctionalised monomers**

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