

# Antioxidants and antibacterials for bio-based fuels and lubricants

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## CHALLENGE

Fuels as well as lubricants based on plant oils or animal fats are prone to oxidative degeneration affecting both storage capability and technical performance of the respective products. In addition, water-containing formulations form an ideal breeding ground for bacteria. Conventionally, highly toxic and environmentally hazardous chemicals are used as antioxidants or antimicrobials. Although bio-based fuels or lubricants may themselves be harmless and bio-compatible, **most finished products are toxic and essentially no longer “green”** because of the addition of environmentally harmful antioxidants or antimicrobials.

## INNOVATION

The innovative technology describes the use of natural, non-toxic antioxidants and antibacterial agents for the conservation of bio-based fuels, lubricants and other oil or fat-based technical products. Highly effective non-toxic additives are used to obtain **truly green, non-toxic products with competitive combustion or lubrication properties**. Cost-effective components allow the formulation of profitable eco-friendly final products with high customer acceptance.



- Truly green preservatives
- Antioxidants & antibacterials
- Non toxic & eco-friendly
- Competitive performance
- Long storage life
- Cost-effective

## COMMERCIAL OPPORTUNITIES

The inventive antioxidants and antibacterial agents are applicable for a broad range of technical products. Thus, **commercial opportunities for the green preservatives** are:

- Biofuels, e.g. biodiesel
- Lubricants based on plant or animal fats and oils
- Other technical products made from fat or oils

## DEVELOPMENT STATUS

Proof of concept. Tested for different product formulations.