

PRODUCT CATALOGUE

Sustainable Solutions for
a Low-Carbon Future



RENEWABLE
& SUSTAINABLE



HIGH QUALITY &
RELIABLE



VERSATILE
APPLICATIONS



GLOBAL
IMPACT



GREEN DIESEL (HVO)

Renewable Diesel
for a Cleaner and
More Sustainable
Future



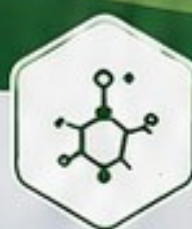
BIODIESEL

100% Renewable
Biodiesel for
High Performance
and Lower Emissions



NEAT SAF

Sustainable Aviation
Fuel for the Future
of Green Aviation



NORMAL PARAFFIN

High Purity
Paraffin for
Industrial
Applications



GLYCEROL

Bio-based Glycerol
for Industrial
and Chemical
Applications



BIO NAPHTHA

Renewable Feedstock
for Chemical
and Petrochemical
Industries

Building a Greener Tomorrow
Through Innovation and Sustainability

VERSION 2026



LOWER
CARBON
FOOTPRINT



CIRCULAR
ECONOMY
SUPPORT



INNOVATION
FOR A BETTER
WORLD

Green Diesel (HVO)

Hydrotreated Vegetable Oil

Advanced Low-Carbon Fuel for the Energy Transition



DEFINITION

HVO or Green Diesel is a renewable diesel produced by hydrotreating vegetable oils, waste oils, and fats.



PRINCIPLE

Hydrotreating removes oxygen and impurities from renewable feedstocks, producing a high-quality paraffinic diesel compatible with existing engines and infrastructure.



ENVIRONMENTAL & ENERGY BENEFITS

- Reduces lifecycle greenhouse gas emissions
- Supports carbon neutrality and energy transition goals
- Low sulfur and cleaner combustion
- Compatible with renewable energy and decarbonization policies



APPLICATIONS



Transportation



Heavy duty
vehicles



Industrial
generators



Marine&logistics

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Biodiesel

Renewable Fuel for Sustainable Energy Applications



DEFINITION

Biodiesel is a renewable fuel produced from vegetable oils, used cooking oil, or animal fats through transesterification.



PRINCIPLE

The process converts triglycerides into fatty acid methyl esters (FAME), creating a cleaner-burning alternative to conventional diesel fuel.



ENVIRONMENTAL & ENERGY BENEFITS

- Reduces CO₂ emissions and air pollutants
- Biodegradable and environmentally friendly
- Supports renewable energy and sustainable fuel mandates
- Helps reduce dependence on fossil fuels



APPLICATIONS



Diesel engines



Agricultural machinery



Transportation fleets



Industrial energy systems



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Neat SAF

Sustainable Aviation Fuel

Accelerating Aviation Decarbonization



DEFINITION

SAF is a low-carbon aviation fuel produced from renewable and sustainable feedstocks.



PRINCIPLE

SAF is manufactured through advanced conversion technologies that transform bio-based feedstocks into aviation-grade fuel compatible with Jet A-1 standards.



ENVIRONMENTAL & ENERGY BENEFITS

- Reduces lifecycle greenhouse gas emissions
- Supports aviation decarbonization targets
- Contributes to net-zero aviation policies
- Compatible with existing aircraft and airport infrastructure



APPLICATIONS



Commercial aviation



Cargo aviation



Airport fuel systems



Sustainable transportation

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Glycerol

Bio-Based Solutions for Industrial & Consumer Applications



DEFINITION

Glycerol is a bio-based compound commonly produced as a by-product of biodiesel and renewable fuel manufacturing.



PRINCIPLE

It functions as a versatile chemical ingredient with moisturizing, stabilizing, and solvent properties across multiple industries.



ENVIRONMENTAL & ENERGY BENEFITS

- Supports waste valorization and circular economy concepts
- Renewable alternative to petroleum-derived chemicals
- Promotes sustainable chemical production



APPLICATIONS



Cosmetics & personal care



Pharmaceuticals



Food industry



Soap & toothpaste manufacturing



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Normal Paraffin

High-Purity Hydrocarbon Solutions for Industrial Applications



DEFINITION

Normal Paraffin is a high-purity hydrocarbon product used in industrial and specialty chemical applications.



PRINCIPLE

Produced through refining and separation processes, it provides stable molecular properties suitable for chemical processing and formulation industries.



ENVIRONMENTAL & ENERGY BENEFITS

- Supports cleaner industrial processing
- Can be integrated into low-carbon and bio-based production pathways
- Improves efficiency in specialty chemical applications



APPLICATIONS



Industrial solvents



Detergent production



Chemical intermediates



Specialty industrial formulations



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Bio-Naphtha

Renewable Feedstock for Sustainable Chemicals & Plastics



DEFINITION

Bio-Naphtha is a renewable hydrocarbon feedstock produced as a by-product of renewable fuel processes such as HVO and SAF production.



PRINCIPLE

It can directly substitute fossil-based naphtha in petrochemical and refining applications while maintaining compatibility with existing systems.



ENVIRONMENTAL & ENERGY BENEFITS

- Reduces fossil resource dependency
- Supports circular economy and bio-based chemical industries
- Enables lower-carbon plastic and chemical production
- Contributes to sustainable manufacturing goals



APPLICATIONS



Petrochemical feedstock



Renewable plastics



Fuel blending



Chemical manufacturing

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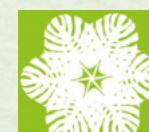
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Our Products

Sustainable Solutions for a Low-Carbon Future



01 Green Dissel (HVO)

Hydrotreated Vegetable Oil

- Produced from vegetable oils and fats
- Higher cetane from diesel
- 100% biodegradable, odorless, and virtually non-toxic
- Reduces CO₂ emissions (>90%) and other harmful substances



Products

HVO High CFPP

Temp: 5 - 25 °C

Application: Warm regions, tropical zones, and summer operations.

HVO Low CFPP

Temp: Max -10 °C

Application: Cold-climate road transport



02 Biodiesel

- Produced from Crude Palm Oil (CPO) or Used Cooking Oil (UCO)
- Can be blended with petroleum diesel (e.g., B7, B10, B20)
- Reduces lifecycle greenhouse gas (GHG) emissions compared to fossil diesel

Products

Biodiesel (B100)

Feedstocks: CPO

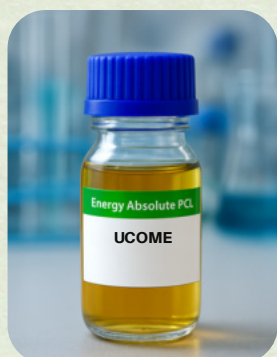
Application: transportation, marine, industrial, and power generation



Biodiesel (UCOME)

Feedstocks: UCO

Application: transportation, marine, industrial, and power generation



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HVO Low CFPP

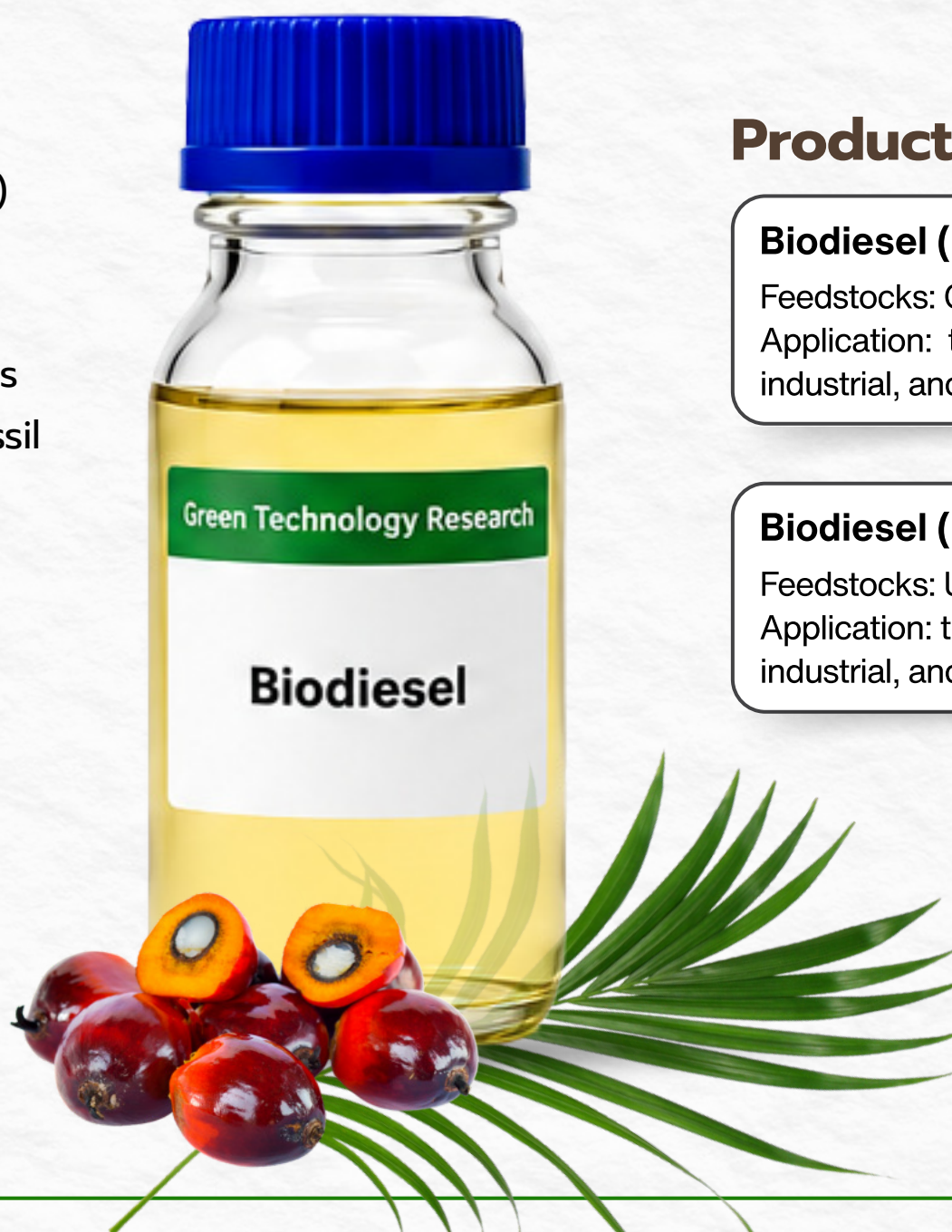
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Products

Biodiesel (B100)

Feedstocks: CPO

Application: transportation, marine, industrial, and power generation



Biodiesel (UCOME)

Feedstocks: UCO

Application: transportation, marine, industrial, and power generation



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03 Neat SAF

Sustainable Aviation Fuel

- SAF Specification (based on ASTM D7566)
- SAF is blended with conventional jet fuel (10–50%) for commercial aviation use.



Products

Neat SAF

ASTM D7566 Annex A2 (HEFA)
Application: Blended with conventional jet fuel for commercial aviation use

04 Glycerol



- Clear, safe, and odorless
- Used in food, pharmaceutical, cosmetic, and personal care applications.

Products

Glycerol

Application: Skincare and Cosmetic, Food Industry, Pharmaceuticals



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Products

Glycerol

Application: Skincare and Cosmetic, Food Industry, Pharmaceuticals

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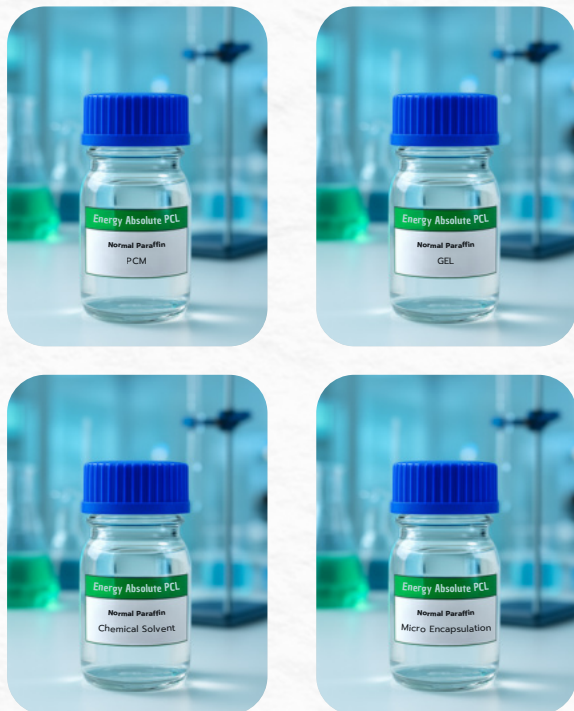
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05 Normal Paraffin

- Various Applications
- High demand growth
- Substitution os fossil paraffin



Products

PCM

ENP@R 12
Temp: -10 °C

ENP@R M15C
Temp: 14.5 - 16.5 °C

ENP@R 16
Temp: 17.5 - 19.5 °C

ENP@R 17
Temp: 20.5 - 22.5 °C

ENP@R 18
Temp: 27.5 - 29.5 °C

ENP@R M23C
Temp: 22 - 24 °C

ENP@R M24C
Temp: 23 - 25 °C

GEL

G-ENP@R 16

G-ENP@R 17

G-ENP@R 18

Chemical Solvent

ENP@R DB 16

ENP@R DB 17

ENP@R DB 18

Micro Encapsulation

M-ENP@R 18 MS

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06 Bio-Naphtha

- A by-product of HVO and SAF production that can replace fossil-based naphtha for fuel blending and renewable plastic production.



Products

Bio-Naphtha

Application: Bioplastics & Polymers,
Fuel Blending, Industrial Fuel

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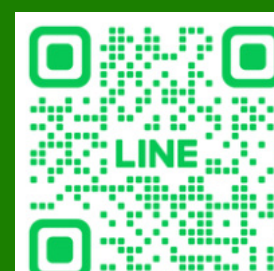


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OUR PRODUCTION CAPABILITIES

01



Technical Consultation

Turning Ideas into Solutions



02



Feasibility Study

Technical and Commercial Feasibility Assessment



03



Project Test

Validating Performance with Reliable Testing



04



Pilot Production

Scaling Up from Lab to Pilot



05



OEM/ ODM

Custom Manufacturing, Your Innovation



OUR SCALE-UP CAPABILITIES

LAB-SCALE

1 kg/day

Samut Prakan



PILOT-SCALE

1 Ton/day

Kabinburi



COMMERCIAL

130 MT/day

Rayong



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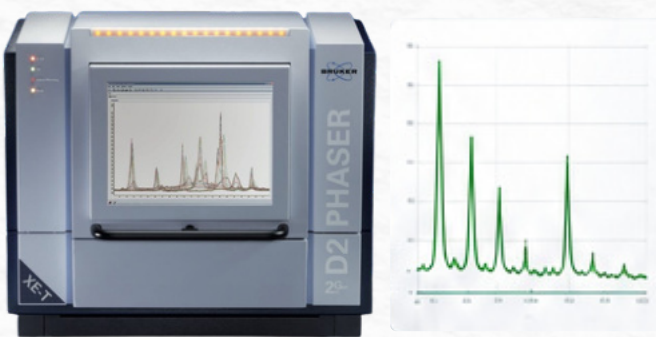
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ANALYTICAL SUPPORT FOR R&D AND COMMERCIALIZATION

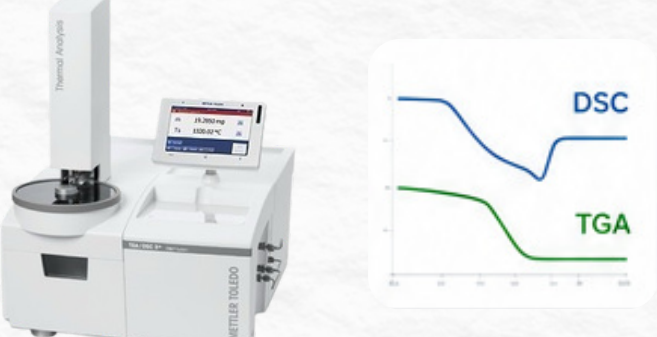
Our analytical facilities support research, product development, process optimization, pilot production, and technology commercialization. These capabilities are available exclusively for collaborative projects and are not offered as general testing services.

01 Structural Characterization



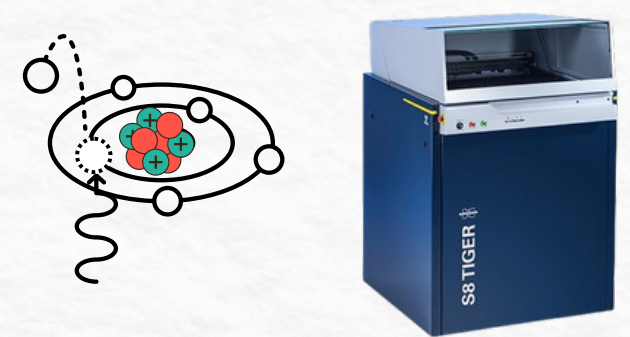
- **XRD**
X-ray Diffraction

02 Thermal Analysis



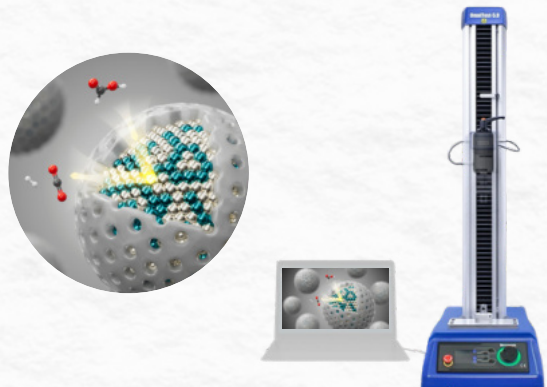
- **DSC**
Differential Scanning Calorimeter
- **TGA**
Thermogravimetric Analyzer

03 Chemical & Elemental Analysis



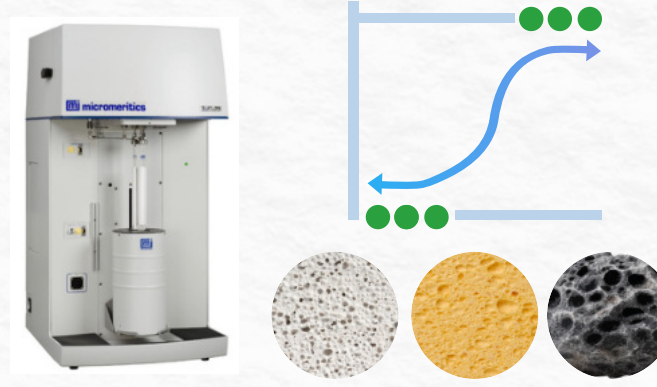
- **XRF**
X-Ray Fluorescence
- **GC (FID/ TCD/ MS)**
Gas Chromatography
- **HPLC**
High-Performance Liquid Chromatography
- **UV-Vis**
Ultraviolet-Visible Spectroscopy

04 Mechanical & Durability Testing



- **Crush Strength**
- **Catalyst Attrition & Abrasion**

05 Physical Property Characterization



- **BET / Porosimetry**
- **Cloud Point**
- **Freezing Point**
- **Kinematic Viscosity**
- **Density**

06 Sample Preparation



- **Microwave Digestion**

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