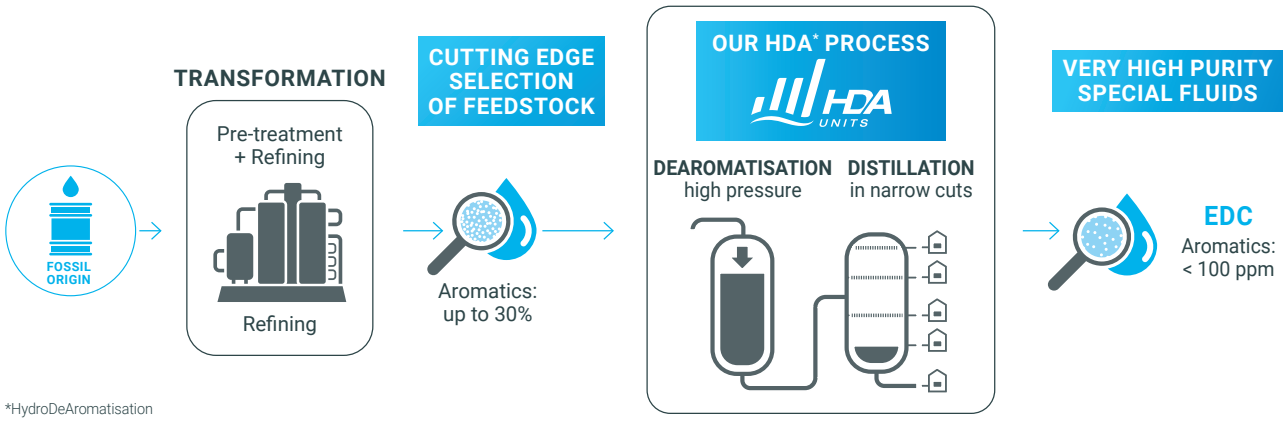
EDC 170SE
Clean base fluid for high performance drilling

As the entire EDC base oil portfolio, the EDC 170SE is manufactured through the patented HDA process which allows to remove the huge majority of aromatics and thus obtain the purest base oils on the market.

A high purity range...

EDC base oils have an exceptional level of purity and extremely low aromatic content. Our exacting production process obtains sterling drilling fluids.



This high purity makes the EDC 170SE the most environmentally friendly Group 3 base oil on the market (using a severely treated fossil feedstock).

The most environmentally friendly Group 3 base oil

This environmental benefit of the EDC 170SE has been recognized by independant international organizations and turns out to be best in class in aromatics and benzene contents. The EDC 170SE also proves its low carbon intensity through its unparalleled Life Cycle Analysis (LCA):

	EDC 170SE	Other Base Oils
LCA in kg CO_2 Eq/T	+620	From +630 to +5 800

Guaranteeing Safety and Health of the operators around the world

The EDC 170SE is the only base oil on the market not classified irritant for skin nor for eye by independant organizations.

Waste management through Circular Economy

In a pioneering approach, the cuttings can now be co-processed to manufacture concrete allowing to:

- Valorise the drilling wastes
- Save significant emissions of CO_2
- Encourage the local industrial activities
- Boost the production of concrete through the additional energy generated by cuttings

Approved for offshore dumping – OSPAR/HOCNF guidelines

The readily biodegradable profile of the EDC 170SE combined with its excellent eco-toxicity results allowed to obtain the best CEFAS (Centre for Environment, Fisheries and Aquaculture Science) > ranking: **group E = Lowest environmental hazard**.

Further information on Biodegradation and Eco Toxicity herewith: TDS - EDC 170SE

Dumping approved in: Gabon, Mauritania, Namibia, Senegal, Australia, Brasil, Suriname, Indonesia, Malaysia, Myanmar.

TotalEnergies

Technical specifications

A winning combination between very low viscosity and high flash point.

PROPERTIES	TEST METHODS	EDC 170SE
SPECIFIC GRAVITY @ 16°C	ASTM D1298	810 kg/m³
FLASH POINT IN °F	ASTM D94	> 172°F
VISCOSITY @ 40°C	ASTM D445	1.69 cST
AROMATIC CONTENT	UV Internal method	< 80 ppm
ANILINE POINT IN °F	ASTM D611	> 170°F
POUR POINT IN °F	ASTM D97	-85°F
SULFUR CONTENT	ASTM D5453	< 1 ppm
CARBON DISTRIBUTION	GC2D	C11-C14

Succes stories

1 US - Land Based Drilling: The EDC 170SE high flash point combined with its low viscosity improves the drilling performance and decreases the overall costs of onshore operations.

BETTER TECHNICAL PROPERTIES	IMPACT ON OPERATIONS	DIRECT TECHNICAL BENEFITS
Higher Flash Point > 78°C (VS 40-50°C for Diesel)	**Lower Evaporation** Daily evaporation reduced by 86%	**Reduced overall fluid losses** Daily fluid losses reduced by 69%
Better mud properties Optimal efficacy of additives	**Reduced Dilution** Reduced surface losses through an efficient mud maintenance	
Boosted Rheology Optimized PV and YP values	**Improved drilling performance** ROP boosted by 16%	**Reduced drilling duration** Drilling duration reduced by 19%

Proven Economic Benefits through Total Cost of Ownership (TCO) approach

EDC CLEAN FLUID VS DIESEL FLUID – SAVINGS PER WELL

TECHNICAL BENEFITS	DIRECT ECONOMIC BENEFITS	GENERATED SAVINGS
Overall fluid losses reduced by 69%	Cumulative cost of fluids for the entire duration of the drilling operations: Only +2% VS Diesel	All inclusive well costs decreased by 15% (VS Diesel Fluids)
Drilling duration reduced by 19 % (thanks to boosted ROP)	Service & Engineering costs reduced by 47% Rig all inclusive costs reduced by 19 %	Average generated savings = 121 270$

2 Lebanon – Ultra deep water: The EDC 170SE is also the perfect base oil for deep water and ultra deep water conditions with proven results in challenging operations.

DRILLING CONDITIONS - EXPLORATION WELL 16/1	KEY ACHIEVEMENTS
Water Depth 1546 mRT	Optimal ECD achieved
Well TD 4191 MDRT	Risk of induced losses minimized
Final mud weight 1.50 sg/12.50 ppg	Flat rheology system reached
Bottom hole temperature 80°C/176°F	Successful narrow margin fracture gradient management

It has been successfully used in:

Nigeria • Lebanon • UK • Angola • UAE • US • Senegal
Lybia • Mauritania • Netherlands.

Decommissioning Operations: The EDC 170SE has been also used as an efficient solvant for clean up of tubing prior plug and abandonment.

specialfluids.totalenergies.com

TotalEnergies Fluids SAS - Head office: 24 cours Michelet - 92069 Paris la Défense Cedex - France - T +33(0) 1 41 35 40 00 - Share capital: €6,920,000.00, Registered in Nanterre: RCS B 342 241 908 - Photo credits: Shutterstock, TEP Barnett - Design and layout: Nobiri's - May 2022