

CASE STUDY

[MIDEL®]
SAFETY INSIDE

PROJECT: Duqm oil & gas refinery | Oman
ESTER TYPE: MIDEL 7131 synthetic ester
PURPOSE: Cost effective fire safety for oil refinery

[OVERVIEW]

One of the most challenging operating environments for transformers is the heat, humidity and dust encountered in the Middle East. With high ambient temperatures, there is a clear need for safer transformer insulating materials that can mitigate the threat of transformer fire and power outages. For decades, MIDEL has been helping transformer owners increase safety and reliability through its range of synthetic and natural ester fluids.

A transformer fire in an oil or gas processing facility is likely to have disastrous and costly consequences. Choosing MIDEL 7131 in place of mineral oil increases fire safety because it has a much higher fire point (>300°C) and a 100% fire safety record. Specifying MIDEL 7131 may allow for a smaller fire suppression system (or potentially none at all), thereby reducing the cost and size of the substation, whether on land or in offshore sites.



CASE STUDY



[SITUATION]

The Duqm refinery in the Sultanate of Oman is a clear example of how MIDEL delivers world-class risk mitigation. The facility's position close to international shipping lanes in the Arabian Sea and Indian Ocean means the process of transporting oil in and out of the region is expedited and gives the refinery a strategic advantage.

With a refining capacity of around 230,000 barrels of crude oil per day, fire safety is obviously an operational imperative.

MIDEL is already used across the globe in environments where ambient temperatures of >50C are the norm. Leading names include JEPKO (Jordan), MEW (Kuwait), ADMA OPCO (Abu Dhabi), ZADCO (Abu Dhabi) and Qatar Petroleum (Qatar). MIDEL ester transformer fluids service multiple sectors such as Utilities, Oil & Gas, Rail and Metro Systems, Industrial, and Renewable Energy.

[RESULT]

Because of this focus on fire safety, the engineering team at Duqm commissioned new transformer units from leading transformer OEM, Hyosung Heavy Industries. The ongoing project (undertaken in two phases, or "packages") includes 135 transformers with a range of ratings, mostly around 11kV. By using MIDEL fluid, the Duqm engineering team was able to secure:

- Transformer risk mitigation (MIDEL fluids are K class, all with fire points >300C)
- Environmental protection (MIDEL fluids are all readily biodegradable)
- Improved total cost of ownership (less maintenance and civils costs with MIDEL)

“MIDEL is the name to trust in this critical region, with over 5 million litres of MIDEL transformer fluids deployed to date, and increasing monthly – that’s the proof of our commitment. With an impeccable service history, we have demonstrated that MIDEL fluids can cope with the Middle East’s challenging climate and grid conditions.”

Tim Martin
Sales Director for EMEA, MIDEL

The use of MIDEL ester fluids in this project supports the following UN Sustainable Development Goals:

