



At the LEC we research for a sustainable tomorrow!

The Large Engines Competence Center, LEC for short, is one of the world's leading research institutions for sustainable large engine technologies and develops innovative solutions for green energy and transportation systems.

Since 2015, the LEC is a funded COMET K1-Center. As a pioneer in climate-friendly innovation and virtual development, the center serves as a global innovation hub for sustainable, environmentally sound transportation and power generation systems for a rapid and economically feasible transition from today's conventional systems to systems with a zero carbon footprint. With its research, a globally unique infrastructure and a large international partner network, it contributes significantly to global decarbonization and massive emission reductions. The research focus is on the use of renewable energies (green e-fuels such as hydrogen, ammonia, methanol, etc.), digital technologies and overall system optimization.

LEC OilTracer was developed at the LEC in close cooperation with KS Engineers, a provider of automotive testing, industrial automation and building services.

The LEC OilTracer is distributed by KS Engineers under a license agreement with the LEC GmbH.

LEC GmbH

S Inffeldgasse 19
A 8010 Graz, Austria

T +43 (316) 873-30101
F +43 (316) 873-30102

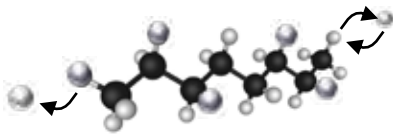
M office@lec.tugraz.at
W www.lec.at





Engine Oil

- labelled with tracer



2H
Deuterium
2.0141

A natural tracer enabling online, stable and precise measurement

Exhaust gas water vapor

- containing tracer

Laser spectrometer

- monitoring of hydrogen-deuterium ratio in the exhaust gas water vapor

Towards cleaner and more reliable engines

The oil consumption of an internal combustion engine has a significant influence on emissions and life cycle costs.

LEC OilTracer solves the task of an accurate measurement with the help of a specially developed tracer.



The engine oil is tagged with a naturally abundant tracer called deuterium by an isotope exchange reaction.

The tracer is detected in the exhaust gas water vapor by means of a laser spectrometer, which allows the oil consumption to be calculated.

The special feature of LEC OilTracer is the ability for online measurement, easy handling and the specification of the required measurement accuracy by the customer using a tailor-made tracer.