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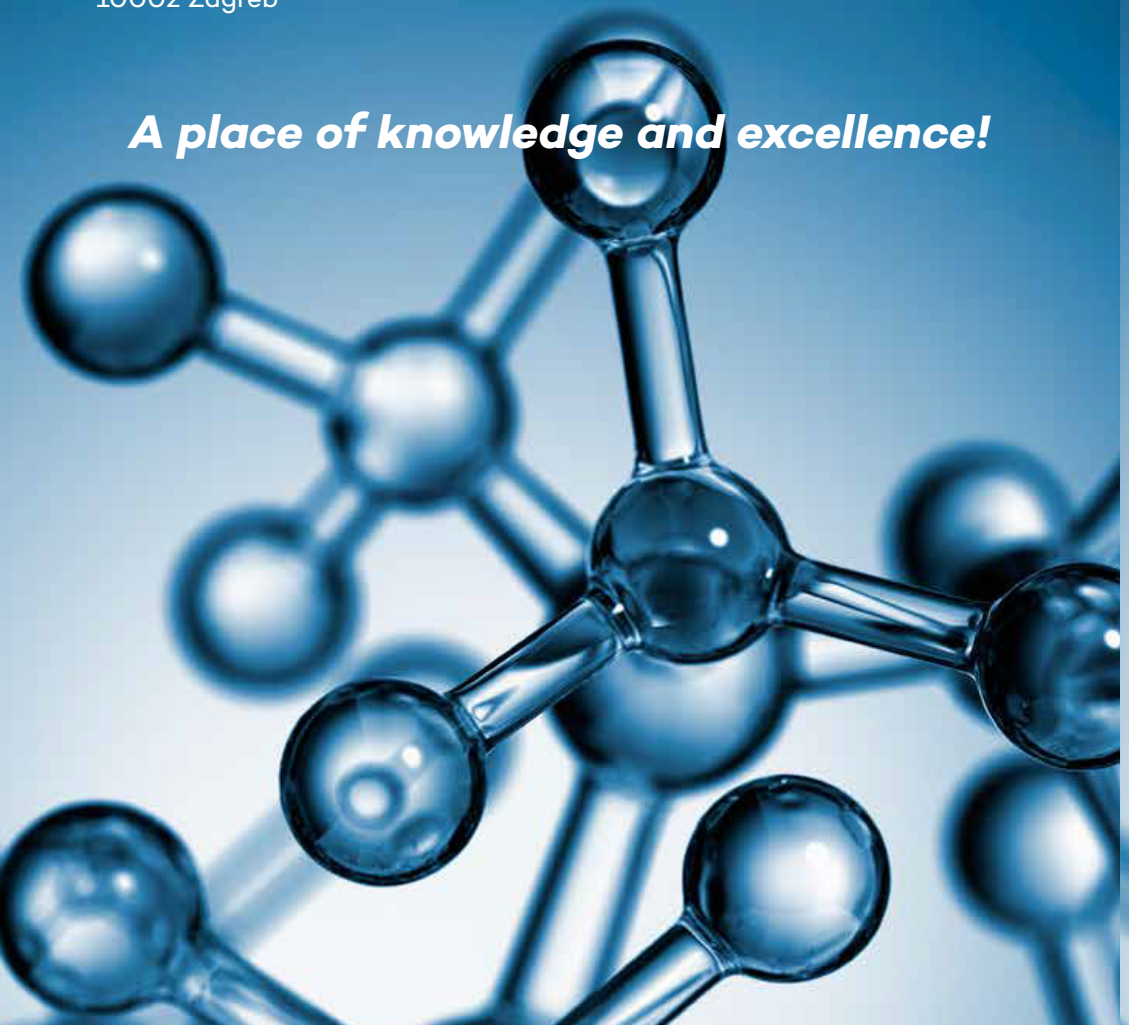
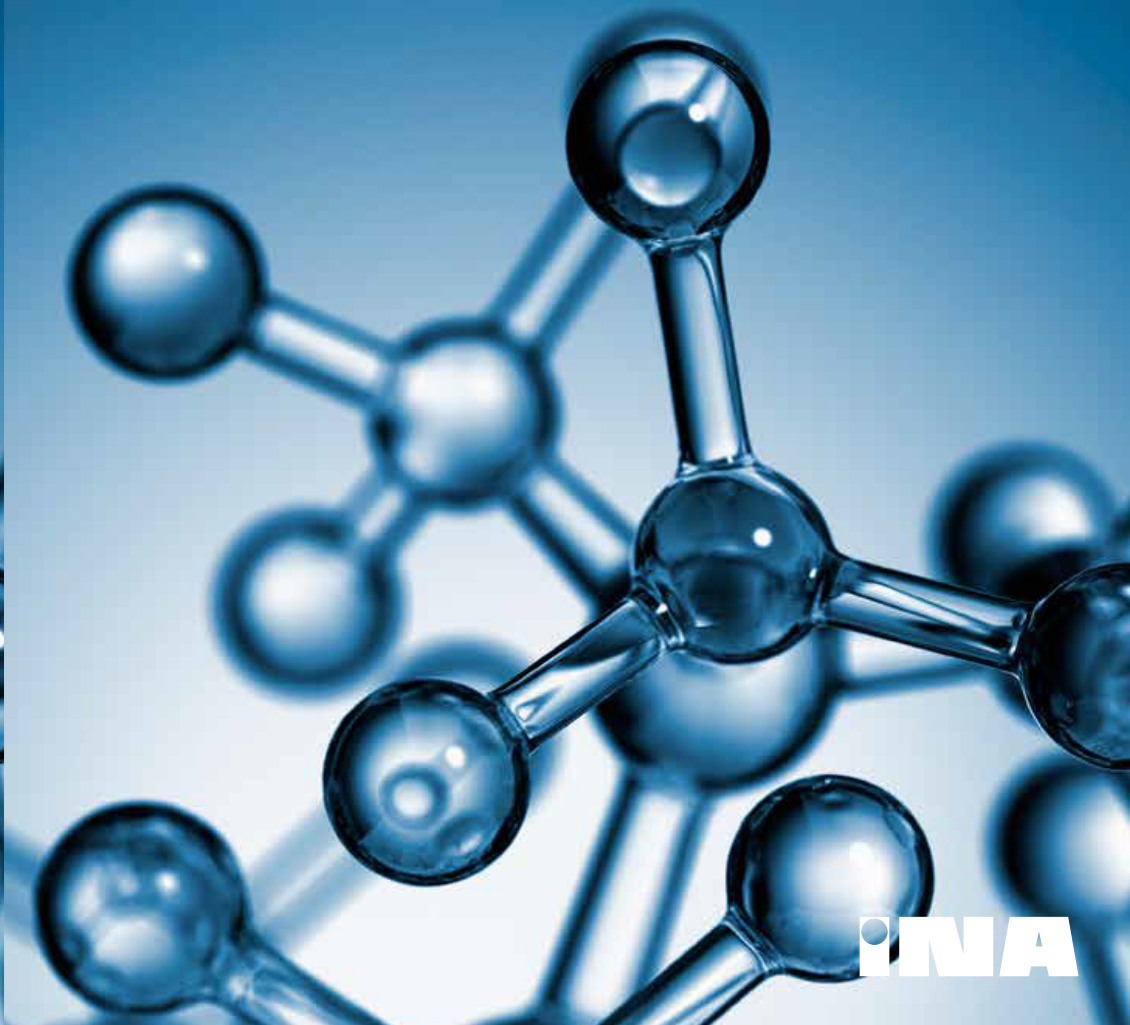
A place of knowledge and excellence!



CiL

CENTRAL TESTING LABORATORY

CRUDE OIL ASSAY



INA

CRUDE OIL ASSAY

- Crude oil assay (COA) represents a set of data which comprises distillation curve, the physical-chemical properties of crude oil and oil fractions and their yields. Data is obtained by the crude oil distillation process in laboratory conditions
- The greatest advantage and importance of COA is to provide accurate information on the characteristics of crude oil and fractions to the customer
- Possibility of gas condensates, crude oil and oil blends distillation
- COA preparation is carried out in accordance with international standards and methods developed by accredited INA Laboratories
- Central Testing Laboratory (CTL) is unique in INA Group and MOL Group in COA preparation

Why COA preparation?

- COAs have essential role in the technical and economic evaluation of crude oil
- Data from COA is being used during defining process parameters and refinery operation optimization
- COA contains a detailed characterization of crude oil and crude oil fractions obtained on the results of laboratory analysis and indicates the quality of future products
- There are no identical crude oils, each crude oil has unique physical and chemical properties and quality differences
- The physical-chemical characteristics of crude oil change over time, so it is necessary to control the quality of crude oil at certain time intervals
- In petroleum industry there are increasing demands on: environmental protection, crude oil reserves reduction, crude oil quality

Crude oil and crude oil fractions

TECHNICAL DATA

In CTL two distillation units are installed and continuously working:

1. EuroDist TBP (Figure 2) – according to ASTM D2892 method

- Atmospheric distillation, AET = 370 °C
- 15 theoretical plates
- Cut adjustment every 5 °C
- Sample volume up to 14 l
- Completely automatic and maximum flexibility

EuroDist TBP

2. EuroDist Potstill (Figure 3) – according ASTM D5236 method

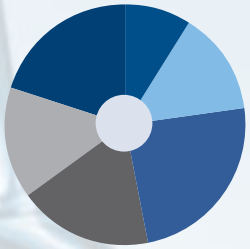
- Vacuum distillation, for hydrocarbon mixtures with initial boiling point >150 °C
- AET = 550 °C, pressures 1 mmHg and 0,2 mm Hg
- Sample volume up to 4 l

TBP and Potstill distillation data can be merged into one single distillation report – distillation curve from 15 up to 550 °C.

EuroDist Potstill

INA'S COA BASE

- Since 2010 over 60 different crude oils and blends were analyzed and over 120 COAs were prepared
- In CTL unique INA's COA base was created



Blends	9%
Middle East	14%
Former Soviet union	24%
North Africa	18%
Domestic Croatian	15%
Others	20%