

## Gas detection training course

*Aim: The target of the course is to understand risks and hazard of explosive, oxygen deficient and toxic atmospheres and develop safe principles for work in tanks and confined spaces. Additionally, practical aspects of the equipment limitations will be considered.*

### Timetable:

08:00-10:00	<i>Hazardous gas properties (Ambient air physical properties, Effect of gas concentrations to the human body, Explosive gas atmospheres, toxic gas atmospheres, oxygen deficient gas atmospheres, Lower Explosive Limit, Upper Explosive Limit, Techniques used to reduce Hydrocarbon content in air, gas dilution principles)</i>
10:00-10:15	<i>Coffeetime</i>
10:15-12:00	<i>Industry examples for gas measurement (Hydrocarbon gases, hydrogen sulfide in refineries and tank terminals, H2S in Bunkering operations, Cancerogenic substances and toxic substances in the oil industry, practical examples for high gas concentrations)</i>
12:00-12:30	<i>Lunchtime</i>
12:30-14:00	<i>Gas measuring technology (Equipment types, Equipment manufacturers, limitations of the equipment, Calibration and bump tests, Maintenance requirements, difference between personal gas warning and gas measurements, Measuring of inerted cargo tanks)</i>
14:00-14:15	<i>Coffeetime</i>
14:15-16:00	<i>Permit-to-work and safety requirements (Gas free certificates, Continous ventilation and ventilation requirements, Tank Entry permits, Tank rescue and contingency plans, Examples of industry accidents, Best practice)</i>
16:00-16:30	<i>Q&amp;A and closing meeting</i>