



Mourik International Catalyst handling

Catalyst change-out, shutdown management and reactor services

◀ Breathing Apparatus technician



A world-wide recognition in safety and quality driven catalyst handling services makes Mourik International a reliable partner with over 30 years of experience. Through our state of the art equipment (mostly in-house developed) and a dedicated team of professional inert entry technicians and staff, we get the job done. Mourik International provides services that focus on work in inert and toxic atmospheres with particular application in catalyst handling and related activities during plant shutdowns and unit revamps.

Catalyst handling is a highly specialised area of activity and is used widely throughout the petrochemical, pharmaceutical, agrochemical and processing industries. Catalysts must be safely and efficiently removed and (re) loaded in which expensive downtime is to be minimised. As a specialized contractor in this niche market we strive to provide high quality and innovative services that make a sustainable contribution to the process performance of our clients. In everything we do we try not to be the biggest, but the best.

Our operations extend across the world with activities in Europe, the Middle-East and the Americas. We think globally, but act locally, as we operate through a world-wide network of subsidiary organisations. Our subsidiaries are located in the Netherlands, United Kingdom, Germany, Italy, Spain, Venezuela, Aruba, United States of America, Saudi Arabia, Qatar, Singapore, Thailand, Taiwan, India, Malaysia and China.

◀ Unloading a HDS reactor





▲ Safety as an integral part of our daily business

Safety first

Health, Safety, Environment and Quality (HSE/Q)

Mourik considers safety as an integral part of our business and performance. We are dedicated to sharing, leading, motivating and facilitating continuous safety improvement. Our success is reflected by efforts that have enabled Mourik International to become a recognized leader in industrial safety.

Safety care

A significant amount of time and resources are invested in HSE/Q within the Mourik organisation. All employees have and receive safety instructions, task settings and safety training. Besides the basic safety training, all employees have additional safety certificates. Many of these training courses are undertaken internally. In this way know-how and safety awareness are being kept at the highest possible level. Every month a new safety theme is brought to the attention of all employees by means of a newsletter and a multi language theme poster. Together with the monthly incident and learning reviews this theme is sent throughout the entire organisation and discussed at safety meetings with all employees (toolbox meetings). A broad incentive program has also been implemented to make all employees continuously aware of safety.

Continuous improvement

For years the extensive know-how and experience within Mourik International have resulted in the availability of integral and process based HSE/Q management systems. As a result continuous improvement in all processes according to the Plan-Do-Check-Act (PDCA) circle is guaranteed. This has resulted in major improvements over the years. These improvements are reflected in our low lost-time-accident and TRIR indices over the last years. However this does not mean a reduced effort for further improvements. Permanent attention for HSE/Q and implementation of improvements is constantly controlled by inspections (internal and external audits as well as client evaluations). Furthermore improvement reports, near-miss identifications and quality and safety registrations are analysed after each project to guarantee customer satisfaction at every level.

Safety training

Various specialised (work related) safety-training programs are developed and executed by Mourik. By giving training courses internally, a constructive dialog is created within the field staff where specific work situations can be discussed. A lot of practical training equipment and facilities are in house available. For example a 12 meters high training reactor is being used for training breathing apparatus (BA) specialists and inert entry-training courses. This BA-training is the global uniform standard for all Mourik companies.

Certification of SHE-Q management systems

Mourik International and her subsidiaries are equipped with an integral HSE/Q system. The HSE/Q advisors support the development, implementation, management and improvement of all management systems within the organisation. The ambition is having all companies certified on the same level. Several companies are awarded with a safety certificate (i.e. SCC** or OHSAS 18001). All of the companies have an ISO 9001 certificate and many of our companies received their ISO 14001 (environmental) certificate.



Qualified staff with modern equipment ►



▲ Continuous monitoring and improvement of our process



▲ Practical training to support a constructive dialog with our people



Catalyst handling

Quality matters

Present-day reactors within chemical plants and refineries require the best available technical services. In the competitive petrochemical world our clients aim at having the most reliable reactors with a minimum downtime and maximum runtime and performance. Catalyst handling is an important step in this process to gain maximal reactor performance. For instance; the smallest percentage of mal-distribution in catalyst beds can significantly decrease the reactor's performance and runtime.

Mourik International can supply all kinds of catalyst handling activities, such as (soft)vacuum unloading, wet unloading, sock loading, dense loading (Densicat®, Unidense™ etc.), inspection services, reactor cool down services, mechanical services, transport services etc. Most of our modern work processes and techniques are in-house engineered which result in a minimum of breakage and attrition levels during our handling. In this way we can save a lot of your (mostly very expensive) catalyst for regeneration during unloading, or get the most performance out of your catalyst through a qualitative loading. Our traceable work processes and pro-active attitude gives our clients a transparent insight in the (un)loading processes of their reactor. This process is recorded in a detailed reactor inspection and loading report. By supplying our services, in this transparent and controllable way, we are able to contribute to the best reliability and availability of your reactor.

Reactor revamps and mechanical maintenance

Catalytic reactors contain more and more critical internals and high-tech distribution and quench zones. Technical control on modern catalytic reactors and chemical processes require high-tech solutions. New developments in distribution trays, thermo couples and quench sections increase the need for highly skilled technicians for their installation and maintenance.

A lot of experience has been gained over the last 30 years in mechanical maintenance at very complex reactors like; ammonia converters, Parex units, Platforming reactors and CCR units. These complex units often need a "tailor-made" approach. These mechanical services are offered by Mourik International in combination with the wishes and desires of our clients.

Tubular reactors

Our Tubular Division is specialised in worldwide catalyst change-outs for tubular reactors. Depending on the type, a tubular reactor can hold 2.000 up to 30.000 tubes with often very small diameters and lengths of up to 13 meter. Each tube is filled with one or more layers of catalyst of different kind and shape. Mourik International has years of experience with many types of tubular reactors, like Ethylene oxide-, Methacryl-, Acryl acid-, Phthalic anhydride-, Maleic Anhydride-, Azethylene-, Aroma-, MSPO and GTL-reactors. Thirty years of experience in this field of work, state-of-the-art equipment and highly skilled staff has made us a leading company that can provide you with a safe and efficient catalyst change-out.



▲ Air-lancing, personal fully protected



▲ Modern equipment and qualified staff improves efficiency



▲ Installation ammonia converter basket



▲ Mechanical work



▲ Welding pie-section



▲ Pd control-box



▲ Tubular reactor catalyst change out area

Quality is what makes us unique

Qualified staff (well trained, experienced, flexible and reliable)

Unique safety management system resulting in one of the best safety performance in the business

A "cradle to grave" catalyst handling knowledge

Local presence through our global coverage with local service providers

In-house development, engineering and construction of state of the art equipment

Tailor-made solutions (we provide tailor-made high quality solutions through our one-stop shopping concept)

Years of experience (more than 45 years of cleaning- and over 30 years of catalyst handling experiences)



▲ Measuring the outage of a reformer tube



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