



Product stewardship

Our product stewardship activities cover the entire lifecycles of our products. We systematically identify, assess and control potential sources of danger and the associated risks at all stages of the value chain – from materials purchasing through product manufacturing to use of our products at customer sites. Our efforts here extend beyond minimum legal requirements.

Product development and launches

Our analysis of potential safety, health and environment hazards in a product's lifecycle starts as early as at the development phase of new solutions. We take particular care when launching new products and technologies as rarely have long years of experience to fall back on. Our new product introduction (NPI) process outlines the different steps that have to be taken before a product can be brought to market.

Purchasing

Product stewardship starts with the procurement of key resources and materials. We have determined standardised processes for supplier selection and assessment. They ensure, for instance, that materials and products meet the highest quality requirements and that all applicable packaging and transport safety regulations are followed. We also include safety, health and environment risks when assessing suppliers.

> More on supply chain management

Safety at our sites

At all of our sites, we identify and evaluate risks that our plants might pose to employees and any neighbouring companies or people living in the vicinity. Our major accident prevention policies (MAPPs) define concrete responsibilities and processes at regional level.

In recent years, we have also rolled out a Group-wide management programme to systematically identify the most serious risks at all sites. This major hazards review programme (MHRP) creates a uniform basis for measuring risks at all locations and defining specific control mechanisms to minimise these risks to the greatest possible extent. The major hazards in focus cover all key aspects of occupational health, safety and environmental protection relevant to The Linde Group.

We have developed regulations and instructions for our employees, visitors and employees from other companies to ensure their safety at our production sites and make sure they are aware of our safety requirements. Employees from other companies are also bound by the regulations in our material safety data sheets. This document is always an integral part of Linde contracts.

Prerequisite for the employment of security guards at our sites is a suitability vetting process. The security personnel at our sites respect human dignity and human rights and comply with local laws and regulations. In safeguarding the security of our sites we act in accordance with international standards such as the UN basic principals on the use of force. We require that all Linde guards are trained accordingly.

Our crisis management agenda includes emergency planning for major catastrophes such as fire, explosions, natural disasters, crime and pandemics, and the impact these would have

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on our sites and business processes. We have defined areas of responsibility and decision-making channels for these scenarios at local, regional and Group level and developed guidelines for structured communication during crises. We reviewed our crisis planning worldwide in 2010.

Health, safety and environmental metrics are an integral part of plant planning and engineering. Design reviews are crucial here, with interdisciplinary teams checking compliance with all HSE criteria at every stage of plant construction. The scope of our inspections extends to our suppliers.

Regular audits enable us to ensure compliance with our internal management system, as well as with industry standards and individual national and international regulations. Operational audits are performed using a risk-based approach, i.e. the higher the risk, the more frequent the audit. In 2010, we performed or commissioned occupational health and safety audits at over 53 percent of our sites. MHRP audits were an important part of our safety activities in 2010. As a minimum requirement under MHRP, all locations operated by Linde that store or process hazardous substances must hold a valid licence awarded following an internal audit.

Many of our locations have been certified in line with international safety standards. 22 percent of our sites, for example, are certified in accordance with the international standard OHSAS 18001 (Occupational Health and Safety Assessment Series) or with SCC (Safety Certification Contractors).

> More on occupational safety, on supply chain management and on environmental audits

Storage, packaging and distribution

Products and packaging are labelled in line with international and local statutory regulations, international standards and our in-house standards.

At the beginning of 2011, we completed notification of classification and labelling notification for our substances to comply with the European Union CLP regulations (classification, labelling and packaging of substances and mixtures). This is a key step under the new European regulations on hazardous substances.

Customer sites

When we hand over our products to our customers, we want them to be aware of all necessary safety measures and fully understand our products and their properties. Providing clear information is the first step here. Our product safety datasheets plus extensive information on the handling, storage and labelling of gas products can be easily accessed, for example, via our online customer portals.

We also offer special customer safety training sessions covering the properties of gases, potential risks and important safety measures for transport, use and storage. We complement our offering with an extensive portfolio of gas supply services, ranging from risk assessment through explosion avoidance documents to the inspection, maintenance and repair of customer gas supply systems. In the Gases Division, for example, specially trained Linde employees carry out customer screenings prior to delivery, assessing whether all requirements for the safe and proper handling of gases have been met. Our product list details the different gases where customer screening is mandatory. Linde emergency teams are also on hand to help customers outside of business hours and on weekends.

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Medical gases call for consistently high quality standards in relation to the purity of the gases as well as the safe handling. Linde Healthcare follows Good Manufacturing Practices (GMP) and Good Distribution Practices (GDP) covering, among other issues, quality management, production and quality control of medicinal products as well as the processes involved in the storage and distribution of medicinal gases.

In addition, we work with clinical specialists, healthcare providers and regulatory authorities. At hospitals and other care facilities, we continue to introduce and implement training, systems and procedures to ensure safe and effective gas handling, proper controls, timely response and adherence to guidelines and standards.

As quality standards in the supply of medical gases to patient are also affected by activities within the hospital, Linde Healthcare helps customers to meet these challenging requirements by offering a complete range of services under the brand name QI Medical Gas Services. These are practical services that include all areas of medical gas supply from planning efficient gas delivery through ensuring emergency supplies to managing maintenance and repairs. Ongoing monitoring and staff training are also available.

Our high safety standards were also recognised by our customers in 2010. In Thailand, Cargill Meats, an important customer in the food industry, presented Linde with the "Safety Award – Best Contractor of the Year".

Disposal and recycling

We constantly strive to avoid waste, decrease the volume of waste we generate, and reduce its risk potential. When we cannot recycle waste, we dispose of it in line with legal regulations. In 2011 we published a global standard and training materials for asbestos management in our operations. These outline steps required to ensure that asbestos materials are handled and disposed of safely.

> More on waste management

Meeting legal requirements: REACH

The European Union has reformed the law governing chemicals in the EU. The new REACH regulation stipulates that all companies manufacturing or importing chemical substances in the EU in quantities of one tonne or more per year must assess the impact of these chemicals on the environment and register them according to a strict timeline.

The Linde Group meets all requirements set down in REACH to the full extent. To do this, we set up a project team of over 30 specialists across Europe headed by a REACH Europe manager to coordinate compliance with REACH.

We work actively with the European Industrial Gases Association (EIGA) and other industry associations to ensure compliance with REACH. In 2010 for example, we led a consortium formed mainly of EIGA members to complete the registration of carbon monoxide for intermediate uses. We also work with our customers and suppliers to ensure successful execution.

Our REACH website we provide detailed information on how we are meeting our legal obligations within the framework of REACH as a manufacturer, importer and user. We also detail the substances we have registered and explain how we inform our customers and suppliers about this.

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> More about our activities for REACH and on use of resources

Working together for more safety

We also collaborate with industry associations and local communities to promote the safe handling of gases. For example, we joined forces with the European Industrial Gases Association (EIGA) to take part in a campaign promoting the safe handling of oxygen.

Our commitment to safety in the US includes sponsoring a safety day for handling industrial gases on the campus of Pennsylvania State University in DuBois, Pennsylvania. An event for customers, fire fighters and emergency services in July 2010 focused on the safe handling of cryogenic and compressed gases.

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