

4 Informing users and providing knowledge about the products, associated risks, and precautions to take in use

Strategy

- Developing an integrated system to compile dossiers on properties and risks and draw up comprehensive and reliable safety data sheets.
- Ensuring consistency worldwide in the information about our products.
- Establishing programs providing support to users of hazardous products: informing and training users in conditions for safe usage.

One or more safety documents accompany deliveries of all our products, especially those classified as hazardous, in compliance with national and international regulations relating to use and transport, whether by road, sea or air.

These documents are supplied automatically with the first delivery and following an update. Solvay also supplies a safety data sheet for many products that are not classified as hazardous, such as our polymer resins.

SACHEM (SAfety of ChEMicals) is an integrated information system project for our products. It is based on a central database assisting compliance with the regulations. The system will ensure consistency worldwide of the information on our products, notably through the production of safety data sheets according with legal requirements, bringing together systematically all the legally required information on each product's hazardous properties and the risks associated with its use. This covers the requirements as from 2007 for transport, then for installations involving major risks (called "Seveso" in the EU), for worker protection, and for waste products. SACHEM will meet the requirements of the Globally Harmonized System of classification and labeling of chemicals, which will progressively result worldwide in changes to all the relevant existing laws.

Solvay has a program operating worldwide to provide support to our customers for hazardous products, aimed at achieving product safety at every stage, and going beyond the information strictly required by the regulations. Product Stewardship involves the players at all stages along the sequence, including transport firms, distributors and users. For some products that are particularly difficult to use, and for which risk control is essential to avoid a dangerous situation, specific training or advice is provided. Such collaborative action between producers and users gives concrete expression to the shared responsibility for complete safety.

For pharmaceuticals, the information on products and their risks and how this is communicated is covered by specific regulation and is strictly controlled.

Laws now increasingly require environmental impact statements for new medicinal products, and this will influence the risk/benefit ratio attributed to them (see box). Compliance with future regulations, and the transparency demanded of clinical trials, will necessitate increased communication with patient groups, governmental authorities and the health care bodies ■

Targets for 2012

- Improve the knowledge about risks associated with the use of our products in their various applications, within the scope of REACH.
- Extending the SACHEM (Information on the safety of our products) project worldwide, including in it the new requirements of the Globally Harmonized System (GHS) of classification and labeling of chemicals.

5 Transport safety and the transport of hazardous products

Strategy

- Establishing specific systems for manage the transport of hazardous materials, and rigorous audit systems.
- Seeking alternatives to road transport for hazardous substances.

The large-volume production of « essential » chemicals is usually located close to the source of raw materials, apart from oil-derived raw materials. The largest industrial complexes are also often highly integrated, which avoids the need for transport, with recycling for materials such as water and by-products, and energy conservation measures, in a perspective of industrial ecology.

In addition, a significant part of the raw materials that we use in large quantities – notably ethylene, and salt in the form of brine – are supplied by pipelines.

Our new integrated industrial complexes established close to locations where the finished products are used by our customers are helping to further limit the transport of hazardous materials: the new hydrogen peroxide plants at Antwerp (Belgium) – with a capacity of 230kt/y – and in Thailand – 330kt/y, both immediately adjacent to customers' installations, the future PVC plants in Russia – with a capacity of 330kt/y – which will produce its own vinyl chloride.

Solvay transports large quantities of finished products – over 10 million tonnes a year in Europe – of which about half are classified by transport regulations as hazardous: mainly hydrogen peroxide, caustic soda, sodium hypochlorite, peracetic acid, hydrogen fluoride, chlorinated solvents, allyl chloride, epichlorohydrin, etc.

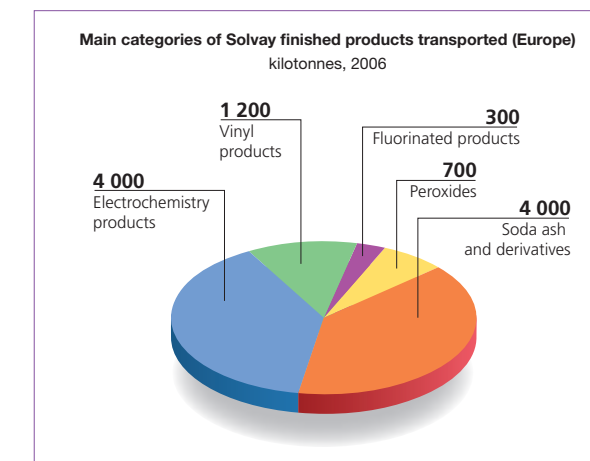
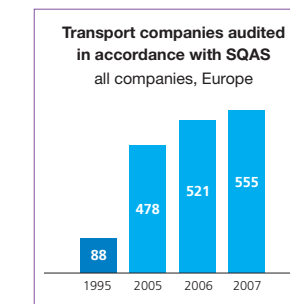
Following the significant reduction in the transport of chlorine and vinyl chloride in recent years, new programs are under way to further improve the safety of hydrogen peroxide transport, and to reduce the transport of anhydrous hydrogen fluoride by a further 30%.

Most of the transport of raw materials and finished products is subcontracted. SQAS (Safety & Quality Assessment System) audits for logistics service providers and chemical distributors are being developed rapidly in Europe for road transport, storage and distribution suppliers. They are now being extended to China, through the Association of International Chemical Manufacturers (AICM).

There is an international service – Carechem24 – usable from any country for obtaining telephone assistance in the event of an accident or other incident with our products. The service's experts can provide advice without delay in the appropriate language, saying what action should be taken, based on Solvay documents. Our initial agreement with Carechem 24 (2001) covered 34 countries, and recent developments including collaboration with the United States' Chemtrec system have enabled the service to provide worldwide coverage. In addition, our plans participate in the various countries' plants for handling chemical emergencies. Such plans are operational in Austria, Belgium, Finland, France, Germany, Italy, the Netherlands, Spain, Sweden, Thailand, Great Britain and the United States ■

Targets for 2012

- Applying audit and selection systems to 100% of providers of logistical services for the dangerous products to the Group.
- Monitoring to ensure the application of the most rigorous standards and wherever possible reducing the transport of very hazardous substances.
- Providing the drivers with specific training in the case of self-loading.
- Generalizing the reporting of distribution accident and of corrective actions throughout the Group, and introducing a Solvay indicator for transport accidents.



During the period 2004-2007, there were, regrettably, nine significant transport accidents.

Four were classified «serious» (having resulted in serious injuries, closure of a major communication route, evacuation of premises, or significant loss of the product transported):

- derailment of a train carrying hydrofluoric acid (in the USA)
- leakage of hydrofluoric acid from a tank that had deteriorated (in USA);
- splitting of a plastic tank containing hydrochloric acid, following a road accident (in Spain);
- collision between a train and a lorry carrying sodium carbonate (in Italy).

