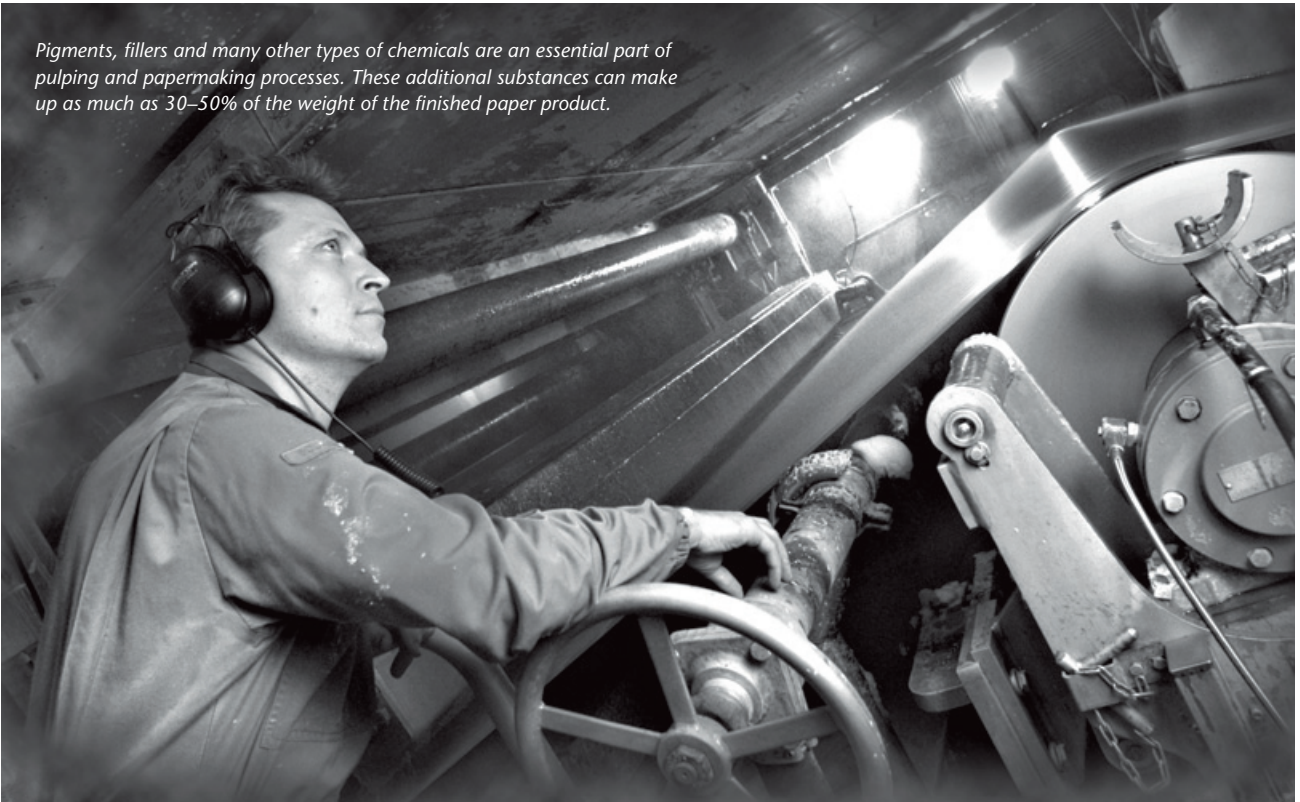


Improving co-operation with suppliers

Stora Enso performs internal studies and works together with suppliers to develop mutually beneficial partnerships and opportunities to improve the efficiency of the use of materials.

Pigments, fillers and many other types of chemicals are an essential part of pulping and papermaking processes. These additional substances can make up as much as 30–50% of the weight of the finished paper product.



A new Internet-based tool for the Chemsoft system was launched in October 2004 to speed up the procedures through which suppliers provide updated information to all the units concerned.

Suppliers are now able to provide important information about health and environmental safety through chemical and material safety data sheets. Stora Enso uses various data systems such as Chemsoft and Dolphin to make safety information easily available for employees handling chemicals and other raw materials.

Chemsoft's unique feature is its connections to a common pulp and paper database known as ChemSource®, which contains details of some 14 000 chemical products used by the European pulp and paper industry, as well as health, safety

and environmental information on some 6 800 chemical substances present in the products.

Strict criteria for chemicals

Stora Enso North America requires additional chemical information from suppliers. In the United States, all raw material and chemical purchases must be approved using procedures established through a rigorous procurement policy. Suppliers are required to complete special procurement forms that provide additional information not typically found on material safety data sheets.

Minimising the use of hazardous chemicals

To ensure that chemicals are used safely, Stora Enso's mills work continuously to improve chemical management systems.

Chemical contact persons or chemical working groups at the mills screen and approve new chemical products to ensure that all products used in mills are environmentally acceptable and safe to use.

At Stora Enso's Swedish mills, products already in use are evaluated on an annual basis to determine if they can be replaced with safer, non-hazardous alternatives. At **Norrsundet Pulp Mill**, for instance, sodium hydrogen sulphite is now used instead of sulphur dioxide in the bleaching process. Other mills have replaced insulation materials, sealants and oil products.

Whenever necessary, chemical risk assessments are performed and the results are used to improve safety. •

How chemicals are used

In the pulping process, chemicals are used for cooking, bleaching and improving the efficiency of pulp production. Many of these chemicals are recovered for reuse in the pulping process, or diverted to energy production.

In the paper manufacturing process, pigments and fillers like calcium carbonate, clay, talc and other chemicals like binders, starch and retention chemicals are used to increase strength, opacity and brightness, and to provide smooth surface characteristics for quality printing and packaging applications. Other chemicals are also added to various mill support processes such as boilers and waste water treatment facilities to optimise system performance.

In 2004, Stora Enso purchased about 3 million tonnes of pigments and fillers. Unlike the fibres in pulp, many of these pigments and fillers are non-renewable, which makes the efficient use and recovery of these materials even more important.