



As a consequence of divestments made in 2004, energy consumption, waste volumens and greenhouse gas emissions declined substantially.

Environmental report 2004

The Kemira Group continued to show solid progress in its management of environment, health and safety. In addition, business divestments resulted in significant improvement in reported amounts of environmental releases, waste, and resource parameters.

Environmental operating costs decreased by 13% while capital expenditures increased marginally from the previous year. Provisions for environmental remediation increased slightly.

Sales of environmental products now amount to approximately 26% of the Group's net sales. Growth continued both in the form of acquisitions and organic growth, and more than equalled the effect of divestments.

Workplace incidents decreased further and a performance improvement of around 10% could be observed in the continuing businesses. However, one person died in an accident at the formic acid plant in Oulu, Finland. Kemira deeply regrets the loss of life.

Development of global product safety IT systems continued. These are part of active preparations for REACH, the major change in chemicals legislation proposed in the EU. The greenhouse gas trading directive was applied at three Kemira sites, in the form of carbon dioxide allowances.

Kemira's 11th environmental report deals with the Group companies in line with financial reporting. The report has been prepared, where applicable, in accordance with:

- CEFIC (European Chemical Industry Council): Health, Safety and Environment Reporting Guidelines, November 1998.
- The Finnish Accountancy Standards Board's recommendation on the recognition, measurement and disclosure of environmental issues

in annual accounts and annual reports of companies.

Highlights of activities at the sites

Pulp & Paper Chemicals

At Krems, Austria, a new production plant for polyaluminum chloride, equipped with efficient gas scrubbing, came on-stream in September. Contaminated surface soil was removed from the site during construction activities. The Vaasa plant in Finland continued its sediment remediation project in the adjacent small lake.

In Columbus, Georgia, USA, a waste water project resulted in improved monitoring of effluent wastewater even in upset conditions. A reactor failure caused property damage, and material from the incident was released to a local waterway resulting in fish kill.

In Fortville, waste water treatment was changed from a batch process system to a separated continuous flow system with low amounts of solids. Remedial activities were continued to remove sodium silicate contamination. The Prince George plant completed its bio-remediation project.

At the hydrogen peroxide plant in Maitland, Canada, improvements were made in energy efficiency and water treatment. Two reportable spills of hydrogen peroxide and phosphoric acid occurred in the site area. In Ube, Japan, the record of no injuries and no disasters has continued for almost 13 years. At

Rozenburg, Netherlands, successful de-bottlenecking of the hydrogen peroxide plant increased production by more than 10%, with no significant environmental impacts.

Kemwater

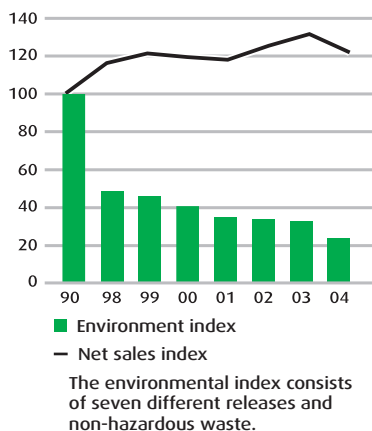
A new production plant was taken into operation in the Netherlands, and approximately 25% of the investment was devoted to environmental and safety measures. As an example, as much as 97% of the filter material of the plant can be reused as a raw material in production.

In Harjavalta, Finland, an investment in recycling washing water for production was completed. The plant also increased its use of recycled aluminum raw material.

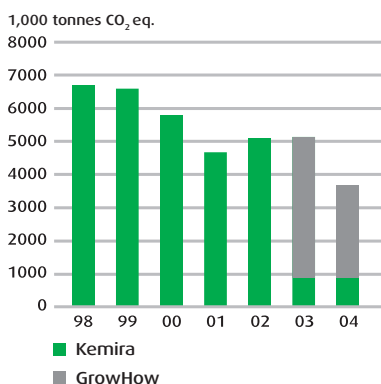
The Police plant in Poland changed raw materials from calcium carbonate to calcium hydroxide, thus avoiding CO₂ emission. ISO 14001 certification was obtained by the Estarreja plant in Portugal.

The Kemiron sites in North America actively harmonized their EHS and quality programs, and the company started integration of the twelve Eaglebrook sites (Kemiron's newest acquisition). Several site assessments were also conducted. At the Mojave plant, contaminated surface soil was removed from the site as a consequence of iron coagulant spills from storage tank failures. Another storage tank failure occurred at the coagulant plant in Brazil, causing an iron sulphate spill which was mostly contained on-site.

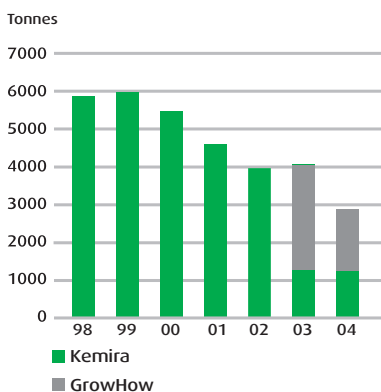
Environmental load and net sales



Greenhouse gas emissions



NO_x emissions



Industrial Chemicals

In Finland, the Oulu plants completed the oil soot treatment project by the end of the year. The investment cost of this waste minimization project was EUR 3.2 million. Enhanced recycling of methanol in the formic acid process also reduced waste for incineration. Construction of a new storage area for heavy fuel oil was started. The local energy company Oulun Energia is planning to build a waste incineration plant at the Kemira site and has obtained a permit for that purpose. This project is expected to have environmental and energy synergies with the Kemira plants.

Kemira Pigments completed the Environmental Impact Assessment (EIA) process at Pori, Finland. A new integrated environmental permit application was also submitted to the authorities. The occasional escape of boiler ashes from the on-site landfill, caused by heavy wind, discolored river ice and some summer house properties in the vicinity of the plant. Expansion of the ferrous sulphate storage area was completed, and an investment of EUR 1.6 million for gypsum landfill was started. The annual City of Pori Award was granted to Kemira Pigments, reflecting the company's actions as a good employer in the Pori region during more than 40 years, and emphasizing its remarkable environmental efforts and investments in its plants.

The Kokkola site went through three ownership changes of plant units during the year, with associated environmental site assessments and investigations. A permit was obtained for the isolation and wall construction of the sludge storage area. The new companies on the site own and operate the land and landfill areas connected with their production.

Lower production volumes at the Helsingborg site in Sweden reduced the plant's dust emissions and waste

water amounts substantially, and 60% less waste was sent to the off-site landfill.

Paints & Coatings

Tikkurila continued to improve its environmental safety in production and logistics by concentrating the manufacture of solvent-based products and the handling of flammable liquids. The industrial coating business in the UK was divested, and a former production property in Holland was also sold. The Vantaa plant recorded 20% lower emissions of VOC than in the previous year, while hazardous waste for external treatment increased due to higher production.

The Debica plant in Poland continued with soil and ground water investigations and completed the first phase of remediation. The site had no occupational incidents during the year.

GrowHow

The independently listed Kemira GrowHow Oyj closed production at Fredericia, Denmark. A new, efficient nitric acid plant was inaugurated at Uusikaupunki, Finland. Ammonia production at Tertre, Belgium, was modernized to improve energy efficiency and to curb carbon dioxide emissions. The Siilinjärvi plants in Finland completed an environmental impact assessment project concerning future expansions.

Environmental statistics

The environmental data presented here is based on reports from 85 sites owned by Kemira worldwide (more than 50% ownership and for more than 6 months). Environmental figures for the Kemira GrowHow sites and the divested fine chemicals plant at Kokkola, Finland, are included for the first nine months. Ten sites in North America and three in Europe were reporting for the first time, while four other sites were closed or sold.

The structural changes in the Group, even when accounted for only part of the year, were thus very significant and explain most of the changes in the reported environmental data. It should be noted that the divested businesses represented approximately two thirds of the annual production volumes in the Group.

Over the year, reported production volumes decreased by 18%. This was due to business divestments, as production in continuing businesses was up by almost 10% over the previous year. Similar changes, although less distinctive, were evident in the consumption of fuels, electricity and water.

The total environmental index of the Group dropped by one half from the previous year, and was only 17% of the level for the reference year 1990. When this is compared to the development of net sales (graph on page 28), improvements in performance and portfolio changes are highlighted.

Greenhouse gas emissions (calculated as CO₂ equivalents) decreased by 30% since the divested fertilizer business was a dominant source of both carbon dioxide and nitrous oxide emissions in the Group. Three Kemira sites take part in the EU greenhouse gas trading scheme and obtained the emission allowances late in 2004. The allowances are not expected to have significant impacts on the operations of these plants during the trading period 2005–08.

Emissions of sulphur compounds were on a par with the previous year, while nitrogen dioxide, gaseous inorganic compounds and dust were on a clear downward trend. VOC emissions were down 27% mainly due to production changes in the paint and coatings business.

Releases of nutrients into water diminished further due to the business divestments. Increases in COD and solid effluents can be

attributed to production changes and individual sampling results at certain major plants.

Generation of non-hazardous waste increased by 13% in the continuing businesses, but business divestments reduced the corporate totals by 21%. Hazardous waste generation was up 22%, mainly because of removal of contaminated soil from two sites. This more than outweighed the reductions of hazardous process waste achieved by several plants.

Environmental costs

Capital expenditures on environmental protection diminished slightly from the previous year, to EUR 10.3 million, with highest figures reported for Pori and Oulu. No major environmental projects were going on, and apart from the measures included in the environmental permit application for the Pori plant, no significant environmental investment projects are planned.

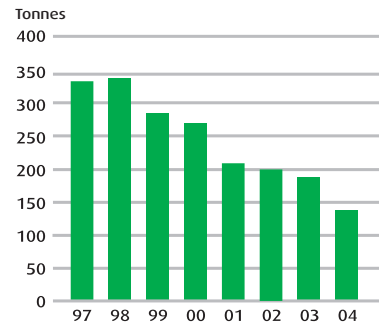
Environmental operating costs totalled EUR 40 million, down 13% from the previous year. This was caused mainly cost savings and ultimately divestment of the fertilizer business. Environmental compensations to third parties totalled less than EUR 0,2 million.

Environmental business

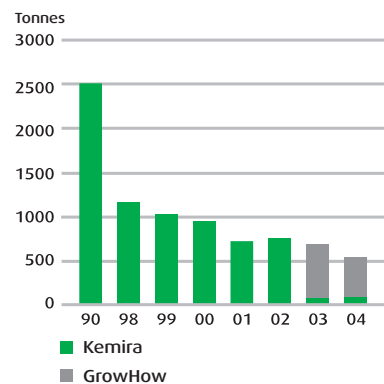
Sales of environment-related products and services totalled EUR 653 million. Growth of 5% over the previous year was achieved in the continuing businesses, due both to acquisitions and organic growth. These more than exceeded the reduction resulting from the divestment of the catalytic converter business.

Kemira Kemwater’s sales stepped up by as much as one third mainly due to successful acquisitions and expansions in North America and central Europe. In Sweden, Kemwater entered into the first licensing agreement for Kemicond, a new method for reducing sludge volumes

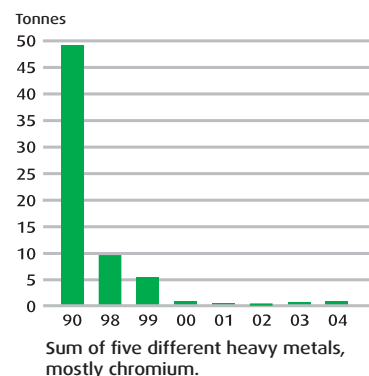
VOC emissions



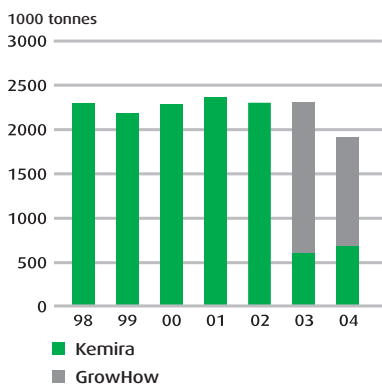
Nitrogen discharges



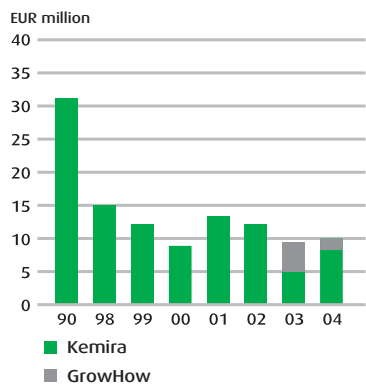
Heavy metal discharges



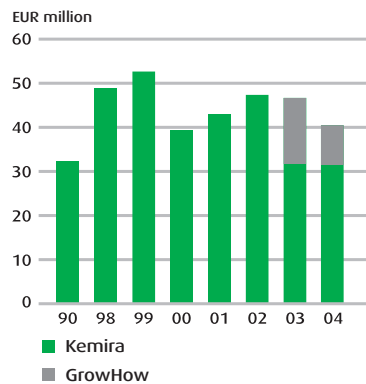
Non-hazardous waste generation



Environmental capital spending



Environmental operating costs



and enhancing sludge quality. Increasing use of recycled raw materials was another focus area.

Sales of hydrogen peroxide were up 5% after successful de-bottlenecking projects. Sales of sodium percarbonate were mostly stable, as were sales of products based on waste and co-products.

The Formics business unit of Industrial Chemicals developed and commercialized Denoxium, an environmentally benign alternative for urea-water solutions used in Selective Catalytic Reduction (SCR) systems for heavy diesel exhaust gases. Urea solutions have a freezing point of -11°C while Denoxium does not freeze until -30°C . Sales of formate products for other applications increased substantially.

The so-called Deco-VOC directive of the EU was finalized in April. It sets maximum limits for solvent concentrations in decorative paint products, beginning in 2007 with a tightening in 2010. These requirements, together with corresponding norms for industrial coatings, are shaping product development in the paint and coating business. Tikkurila has been concentrating much of its development efforts in water based alternatives for demanding applications.

Product safety

Kemira completed the pilot phase of its global product safety IT system. The roll-out of this ERP-based system will be conducted in 2005. The system improves management of MSDS and other product safety information, and helps in meeting the challenges of REACH. In addition, the product safety portal developed earlier is utilized as a Kemira-wide networking tool for sharing external safety signals.

Major changes took place in Kemira's product portfolio, roughly halving the number of substances to be registered for REACH. At present, Kemira manufactures or imports approximately 60 such substances.

The number of harmful substances subject to the proposed authorization procedures is very limited. Any pending or future business acquisition or divestment may change these figures considerably.

Kemira participated actively in the stakeholder dialogue concerning REACH. (REACH deals with registration, evaluation, testing, and risk assessment of substances which are marketed in the EU as well as with the authorization of the most harmful substances). When it comes into force in 2007, REACH will impose responsibility and costs on manufacturers and importers for assessing and making available an extensive amount of information on all substances marketed in excess of 1 ton per producer per year. This obligatory registration will be company and substance specific, but companies are also encouraged to form consortia. A potential change of the proposal known as OSOR (one substance-one registration) has been put forward by the authorities, aiming at cost savings, less bureaucracy and more flexibility in the REACH procedure. The coverage of REACH as well as the prioritization of substances according to risk are also matters of concern.

No significant product liability cases, accidents or unforeseen limitations connected with the use of products were encountered during the year.

Safety

The number of occupational incidents (LTA 1) decreased further to 6.7 (7.3 in 2003). A performance improvement of 11% over the previous year can be observed if the spin-off of Kemira GrowHow is taken into account. A fatal accident occurred at the Kemira plant in Oulu, Finland, on March 31. One person died as a consequence of falling during a maintenance operation.

The biggest accidents at the sites have been described above. Kemira GrowHow reported two major

incidents at the Kemira Ince plant in Chester, UK, caused by gaspipe delocation and failure of a nitric acid plant reactor.

Kemira continued developing the Pride Synergi safety software at its main sites. With the help of this software, accidents and close-call situations are reported and analyzed. Corporate safety training efforts focused on e-learning and work safety cards. More systematic efforts will also be directed at security management of sites and supply chains.

Environmental risks and liabilities

See Notes to the Consolidated Financial Statements, page 88. Two authority notices are pending in the United States as a consequence of the reported accidents.

Corporate responsibility (CSR)

Social responsibility issues concerning personnel are discussed on page 18. A separate review of corporate responsibility in the industrial chemicals business can be found on page 22.

Kemira sharpened the EHS policy and safety management practices of the Group, and this change is expected to be formally accepted in early 2005. The revised Responsible Care (RC) voluntary initiative in the European chemical industry continues to deserve our full commitment. The most essential changes in the revision of RC deal with management systems, external verification and self-assessment, as well as product stewardship.

Events at the beginning of 2005

- At the harbour of the Helsingborg plant in Sweden, a tank rupture occurred on Friday, 4 February 2005, resulting in the spillage of about 11,000 tonnes of sulphuric acid in the plant area and into the sea. A water vapour cloud containing acid droplets was

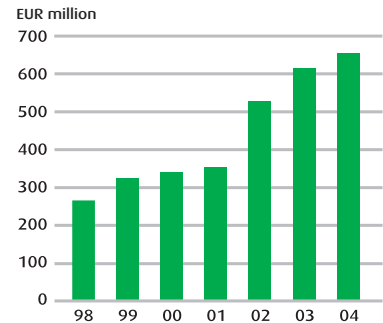
formed, which moved seaward and then dispersed. Around ten people were taken to hospital, but they did not sustain serious injury. No major environmental impacts resulted from the accident. The physical damage was considerable and an assessment of it is presently under way.

Because of the accident, the area around the plant perimeter was closed off as a precautionary measure for just over two days. The accident received wide publicity. Kemira thanks all those who took part in the rescue operations and regrets the inconvenience which residents in the nearby area were caused due to restrictions on their movements.

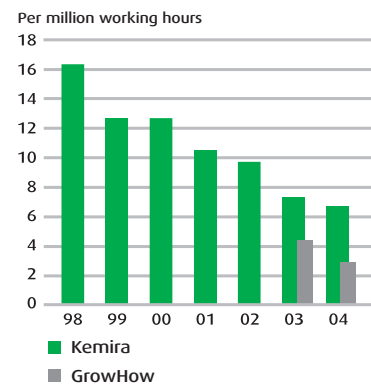
Based on information at the moment, the cause of the accident was a sudden rupture of a cooling water pipe, allowing spurting water to carry away earth from around the tank. This caused the tanks and their safety basin to move, and one of the tanks emptied. The Group has initiated internal enquiries into the accident and it is also being studied by the authorities and the Swedish Accident Investigation Board. The Group will also assess the structural safety of its other large chemicals tanks.

- On 7 February 2005, Kemira Oyj announced it had purchased Finnish Chemicals Oy and Verdugt B.V. Both acquisitions involved an environmental protection due diligence project in which the environmental situation of seven plants in all was examined. The liability risks of polluted ground areas have been taken into account in the purchase agreements. Upon completion of the transactions, the Group's electric power consumption will increase substantially, but the emissions and waste volumes of the acquired plants are not significant.

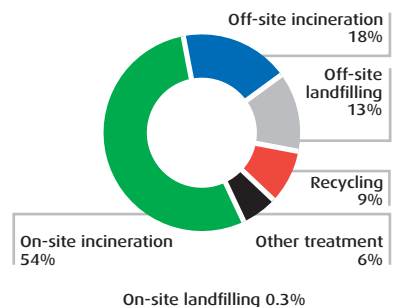
Growth of environmental business



Lost time incidents



Hazardous waste treatment in 2004



Environmental and safety management systems at production sites in 2004

Site	Environment	Safety
Krems, Austria	ISO 14001 ¹	
Sao Bernardo do Campo, Brazil	ISO 14001	
Telêmaco Borba, Brazil	ISO 14001	Other
Prerov, Czech Republic	ISO 14001	Other
Esbjerg, Denmark	ISO 14001	Other
Tallinn, Estonia	ISO 14001	
Harjavalta, Finland	ISO 14001	
Kokkola, Finland	ISO 14001	DNV ISRS ²
Oulu, Finland	ISO 14001	DNV ISRS
Pori, Finland	ISO 14001	DNV ISRS
Vaasa, Finland	ISO 14001	DNV ISRS
Vantaa, Finland	ISO 14001, EMAS ³	
Lauterbourg, France	ISO 14001	
Ansbach, Germany	EMAS	
Rheinberg, Germany	ISO 14001	
Ube City, Japan	ISO 14001	
Ulsan, Korea	ISO 14001	Other
Riga, Latvia	ISO 14001	
Fredrikstad, Norway	ISO 14001	
Police, Poland	ISO 14001	
Swiecie, Poland	ISO 14001	Other
Wroclaw, Poland	ISO 14001	
Estarreja, Portugal	ISO 14001	
Bistrita, Rumania	ISO 14001	
Fundulea, Rumania	ISO 14001	
Flix, Spain	ISO 14001, EMAS	
Santander, Spain	ISO 14001, EMAS	
Sevilla, Spain	ISO 14001, EMAS	
Tarragona, Spain	ISO 14001, EMAS	
Helsingborg, Sweden	ISO 14001	
Kvarntorp, Sweden	ISO 14001	
Stockholm, Sweden	ISO 14000	

1) International Organization for Standardization, Environmental management systems.

2) Det Norske Veritas, International Safety Rating System.

3) European Union, Eco-Management and Audit Scheme.

Environmental data for the Kemira Group

	1990	2001	2002	2003	2004
Releases into water, tonnes					
Chemical Oxygen Demand (COD) ¹	-	168	159	173	309
Nitrogen (N)	2,500	718	753	686	542
Phosphorus (P)	4,952	17	16	19	15
Suspended solids, 1,000 tonnes	934	1.2	0.9	1.1	1.3
Metals (Hg+Cd+Pb+Cr+As)	49	0.6	0.4	0.7	0.8
Metals (Hg+Cd+Pb+Cr+As+Cu+Ni+Zn)	-	3.7	2.8	3.6	4.0
Releases into air, tonnes					
Particulates	1,950	854	850	801	257
Sulphur dioxide (SO ₂) ²	23,138	4,272	4,580	4,436	4,330
Nitrogen oxides (NO ₂) ³	8,546	4,583	3,950	4,038	2,864
Carbon dioxide (CO ₂), 1,000 tonnes	-	2,343	2,369	2,364	1,828
Volatile organics (VOC) ⁴	-	208	199	186	136
Volatile inorganics (VIC) ⁵	-	2,671	2,581	2,627	1,310
Waste⁶, tonnes					
Hazardous wastes, total	8,669	4,737	5,858	8,473	10,310
— Off-site landfill	-	1,103	1,038	1,356	3,621
— Off-site incineration	-	2,829	3,752	5,390	4,892
— On-site landfill	-	2	29	64	94
— Other treatment	-	803	1,040	1,663	1,704
Non-hazardous wastes, 1,000 tonnes	2,254	2,352	2,289	2,299	1,903
Natural resources					
Fuel consumption, ktoe ⁷	-	1,160	523	533	427
Fuel consumption as raw material, ktoe	-	-	740	757	560
Purchased electricity, TJ	-	4,400	4,654	4,633	4,137
Purchased heat, TJ	-	-	794	982	907
Cooling water volume, million m ³ , approx.	-	377	336	349	239
Waste water volume, million m ³ , approx.	-	16	15	15	13
Safety					
Number of accidents ⁸ per million working hours	-	10.4	9.7	7.3	6.7
Reference data, EUR million					
Group net sales	2,087	2,454	2,612	2,738	2,533
Environmental capital expenditure	31.1	13.5	12.3	9.5	10.3
Environmental operating costs	32.3	42.8	47.3	46.7	40.4
Total environmental costs, % of net sales	3.0	2.3	2.3	2.1	1.8

1) Estimate. In this case, partly caused by inorganic discharges.

2) All sulphur compounds calculated as SO₂.

3) Nitric oxide and nitrogen dioxide calculated as NO₂.

4) VOC is a sum of volatile organic compounds. Does not include VOC sources in ammonia production.

5) Sum of ammonia, hydrogen chloride and six other simple inorganic compounds, mostly ammonia in this case.

6) Reported figures do not include mining by-products, on-site incineration, waste which is further processed into products at the sites, or sold as a co-product to external recycling. Figures are on wet basis.

7) 1,000 tonnes of oil equivalent. Includes fuel as a raw material in 2001.

8) Accidents causing an employee absence of at least one day (LTA1). Includes only figures for production sites in 2001.

Assurance statement

At the request of Kemira Oyj, we have reviewed the information, systems and methodologies behind the data and statements presented in the Environmental Report 2004 of Kemira Oyj. The report is the responsibility of and has been approved by the Board of Directors of Kemira Oyj. The inherent limitations of completeness and reliability of the data are set out in the report.

Our review has consisted of the following procedures:

- enquiries of management responsible for compiling the report;
- an examination of relevant supporting information for data and statements presented;
- a review in more detail of the systems for gathering and processing environmental data at operating level at one site in Finland, selected by us.

Kemira Oyj complies, where appropriate, with the Finnish Accountancy Standards Board's recommendation on the recognition, measurement and disclosure of environmental issues in the annual accounts and annual reports of companies (14.01.2003). The report has been prepared, where appropriate, in line with the CEFIC Health, Safety and Environmental Reporting Guidelines (1998).

Based on our activities undertaken, nothing has come to our attention that causes us to believe that the presented data and statements in the Environmental Report 2004 of Kemira Oyj would not provide a fair and balanced view on the issues presented in the group's Environmental Report.

Helsinki, 7 February 2005

KPMG OY AB

Hannu Niilekselä
Authorized Public Accountant

Tuomas Suurpää
Manager, Sustainability Services