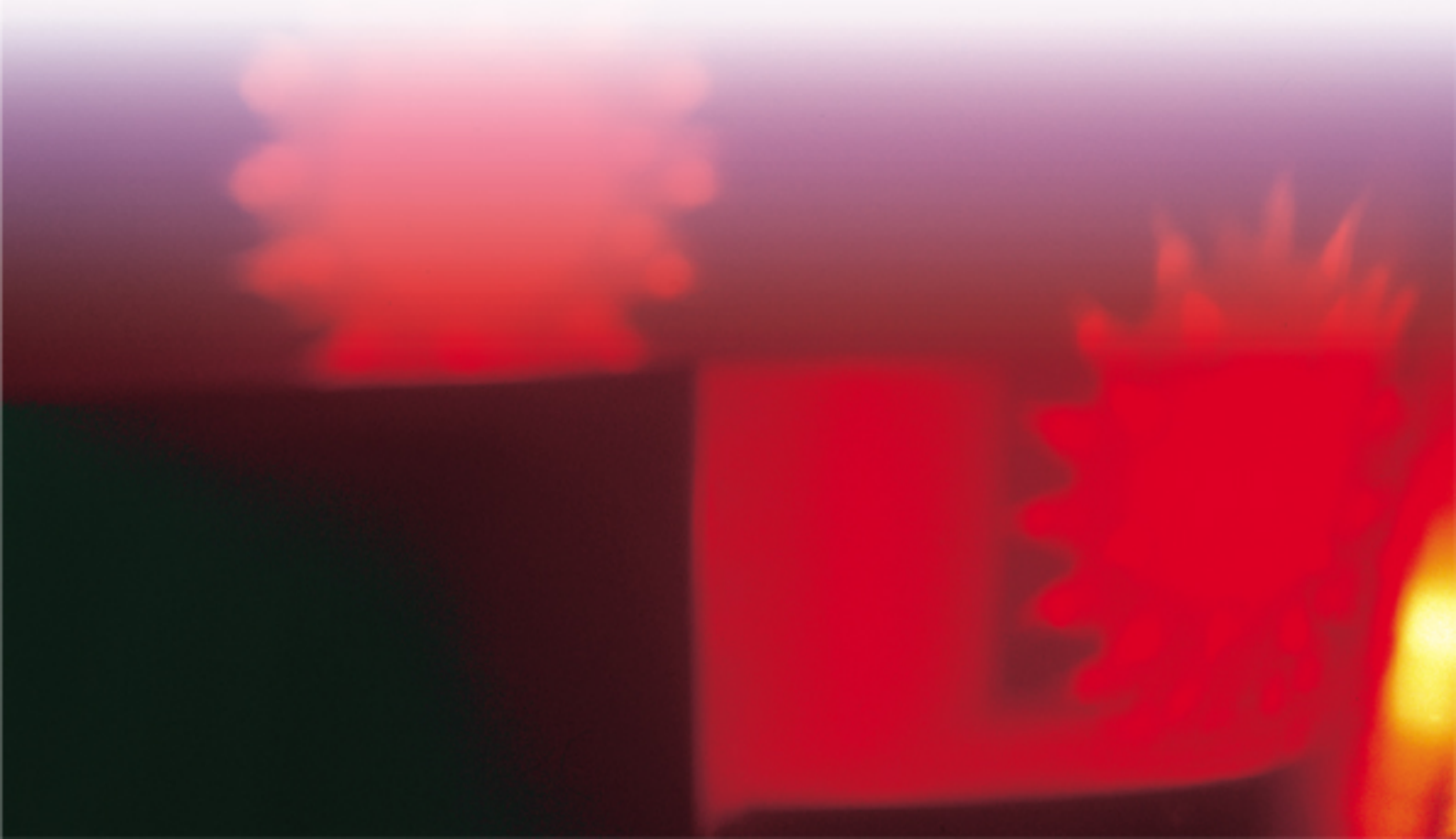


2002

Givaudan^o

**Safety and Environmental Protection:
The Givaudan Group Report**





**Safety
and Environmental
Protection:**

**The Givaudan Group Report
2002**



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Dr. Jürg Witmer
Chief Executive
Officer

The year 2002 has been favourable again for Givaudan in terms of safety, health and environmental protection. The S&E policy which focuses on prevention has been applied for many years and continues to show positive effects. It has proven its efficiency in an environment where often adaptations have to be made to care for customer needs and public communities. These achievements were possible thanks to the commitment of all Givaudan employees to maintain high safety standards and safe working conditions.

The acquisition of FIS, announced in January 2002, and its subsequent integration presented an additional challenge to our S&E organisation in order for the acquired business to ensure adherence to Givaudan's standards and policies. All S&E aspects, in compliance with local regulations and in order to protect our business remained a key consideration for all our investments into production. In 2002, steam production capacity was upgraded at Givaudan sites in Sao Paulo, Cincinnati and in Vernier. Construction work to increase production capacity has been initiated in Singapore, Shanghai and Vernier.

Since the spin-off in 2000 no major incident or accident has occurred in Givaudan. The accident rate of 2002 remains very low, despite a slight increase compared to last year, reminding us to continue our efforts to avoid any accident. Also, in 2002 no occupational illness was reported. The strong safety-oriented attitude in all domains of activity in our company is the base of this positive outcome.

Givaudan's efforts to improve the quality of its processes and production equipment are reflected in the environmental impact. Despite the fact that production volume has steadily increased since 1998, the energy consumption and the CO₂ emissions have not followed proportionally, but at a lower rate. In addition, other parameters like air emissions, water emissions and hazardous waste have even decreased over the same time frame. Our efforts in S&E were also recognised by the ISO 14001 certification of the Sant Celoni chemical manufacturing site in Spain. The ecotoxicological laboratory in Vernier has received GLP certification for the third time.

The consumption of natural resources remains one of Givaudan's major preoccupations. In 2003, energy consumption will be the topic for an in-depth evaluation to identify opportunities for improvement with the objective to use energy resources in the best possible economic and ecological way.





Comparison of the 2002 with 2001 data

Production

Overall production of fragrances and flavours has grown by about 14 % .

Energy

Overall energy consumption has increased by 4.9 %.
Fossil energy : 5,5 %

Carbon dioxide

CO₂ emissions have increased by 4.2 %.
This is lower than the fossil energy increase due to the replacement of light fuel by natural gas in different sites.

Inorganic gas

NO_x emissions increased along with the increase in fossil energy consumption. SO₂ emissions are stable due to the increasing use of low sulphur content fossil energy.

VOCs emissions

Total VOC emissions have decreased by 9 %;
halogenated VOCs by 62 %.

CFCs inventory

CFCs inventory remains constant

CFCs consumption

CFCs consumption has increased by 67 %.
Replacements represent 13 % of the total inventory.

Waste water

The total organic carbon (TOC) rejected by the waste water treatment installations of the chemical plants decreased by 5.4 %, despite an increased chemical ingredients production.

Hazardous waste

Overall quantity of hazardous waste increased by 17.6 %. The landfill part (3 %) remains low and continues to decrease.

Non-hazardous waste

Non-hazardous waste quantity has grown by 10.1 %.
Recycling rate is 60 %

Internal Accident Index

The already low accident index has slightly increased in comparison to 2001.



Investments

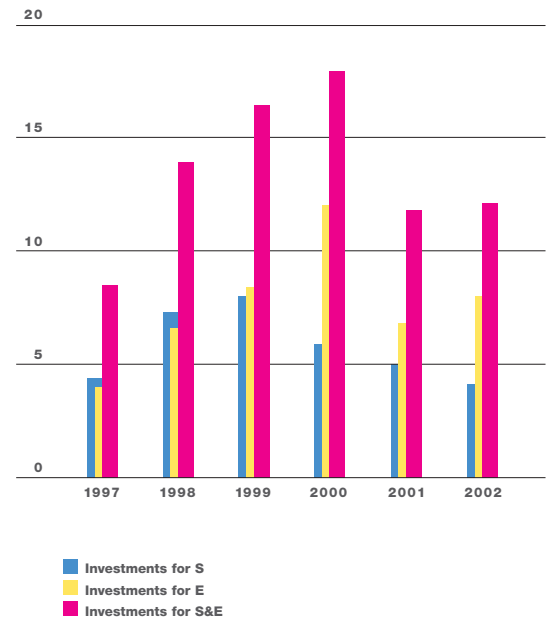
Investments include full expenses made for S&E specific pieces of equipment for fire detection, water/air treatment or fire water supply and the percentage of expenses for investments in relation with the operating facilities.

The overall S&E investments have been on the same order of magnitude as 2001. It represents about 13 % of the total investments in the Group. Most of them are related to the safety and environmental protection aspects in connection with new production equipment built in Vernier, San Celoni, Cincinnati and East Hanover.

Half a million Swiss francs have been spent on specific safety improvements in fire detection in various sites and in new instruments in the Vernier safety test facility.

On the environmental protection side, specific investments for a total of three-and-a-half million Swiss francs have been made in odour treatment in Cincinnati, in waste water treatment improvement in Cincinnati, Mount Olive and East Hanover and in waste treatment in San Celoni and East Hanover.

S&E Investments
(In million of Swiss francs)





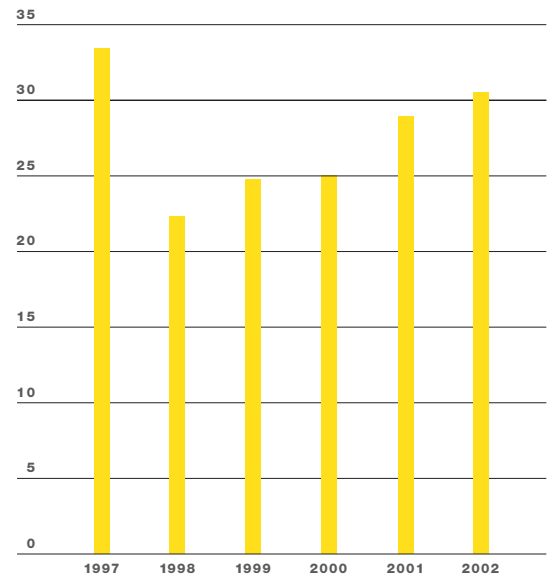
Expenditure

Expenditure mainly covers the expenses of the S&E services, the maintenance of the S&E equipment, the site remediations, the waste elimination costs and the training of employees on S&E matters, etc.

The overall expenditures have constantly increased since 1998. The structure of these expenses remains the same as the past years. For 2002, on a total of thirty million Swiss Francs, more than half is dedicated to running costs for waste water treatment, waste treatment and disposal. About seven million Swiss francs has been used to run the S&E infrastructure at the different sites to safeguard a high level of safety, health and environmental protection.

Within the Givaudan Group, a total of 90 persons spend more than 50 % of their working time in S&E activities.

S&E Expenditure
(In million of Swiss francs)





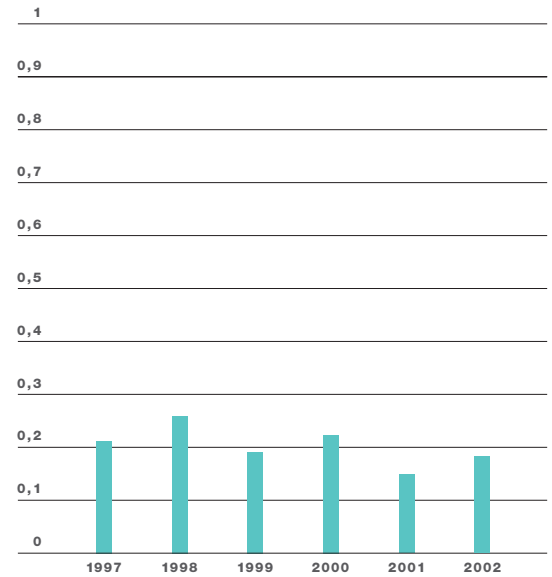
Safety

The Internal Accident Index (IAI) expresses the amount of workdays lost per employee and per year.

After the 2001 historical record of 0.149, the Internal Accident Index has slightly increased in 2002 to reach 0.176. This represents one hour and 24 minutes of work time lost per employee. Once again five sites have recorded zero accidents.

Similarly, the accident frequency has slightly increased to reach 15.3 accidents per 1000 employees.

Internal Accident Index (IAI)





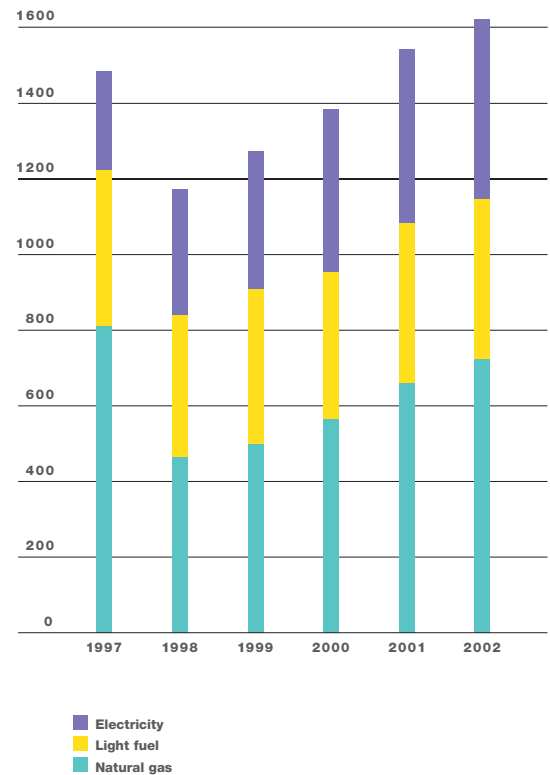
Energy

Energy mainly covers the consumption of electricity, light fuel and natural gas to produce chemicals and to manufacture mixtures of liquids and powders.

The energy consumption continues to increase as the production volume is also growing. With 4.9 %, the energy increase is lower than the corresponding production volume. Improvements and optimisation on steam production have been made by replacing boilers in Vernier, Cincinnati and Sao Paulo and burners in East Hanover.

During the past five years the overall energy consumption has increased by 38.2 % as the production volume has grown by 44.3 %. Looking at the different energy types, electricity consumption has increased by 44.2 %, natural gas by 55.7 % and light fuel by only 12.8 %. This shows an important transfer from light fuel to natural gas.

Energy consumption
(In terajoules)





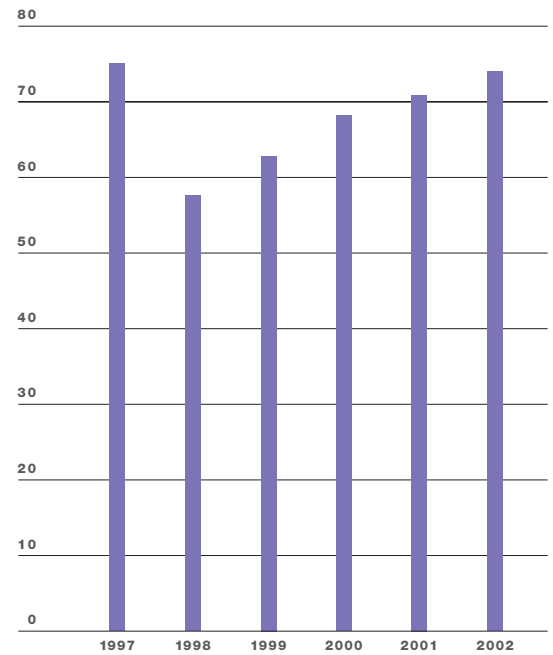
Air / CO₂ emissions

CO₂ emissions result from the combustion of fossil energy to generate steam necessary to produce flavors and fragrances and to heat the buildings.

CO₂ emissions continue to grow as the consumption of fossil energy is increasing.

During the past five years the fossil energy consumption has increased by 36.6 % and the CO₂ by 29.8 %. This is mainly due to the increasing proportion of natural gas used compared to the light fuel.

CO₂ emissions
(In thousand metric tons)



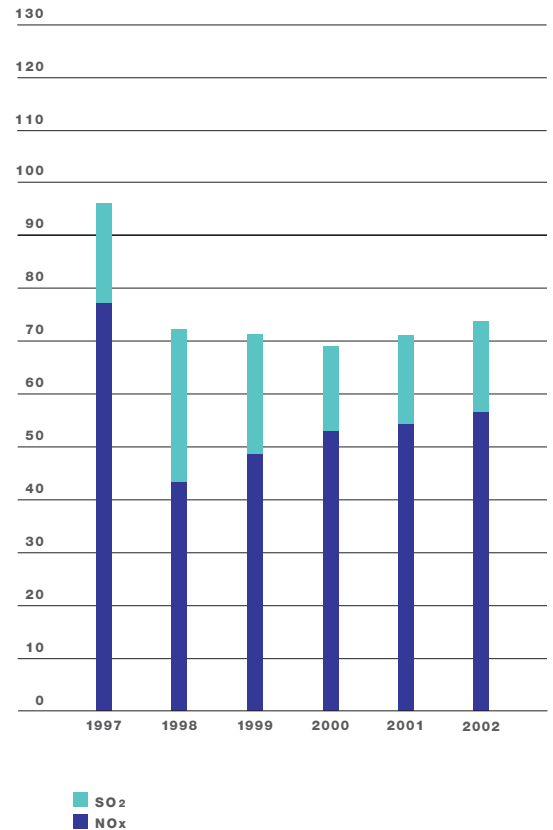


Air / Inorganic gas emissions

Inorganic gases are sulphur oxides and nitrogen oxides emitted by the combustion of fossil energy.

The NO_x emissions continue to increase along with fossil energy consumption. Since 2000, the SO₂ emissions are tending to stabilise due to the increasing use of fossil energy with low sulphur content.

Inorganic gas emissions
(In metric tons)





Air / VOCs emissions

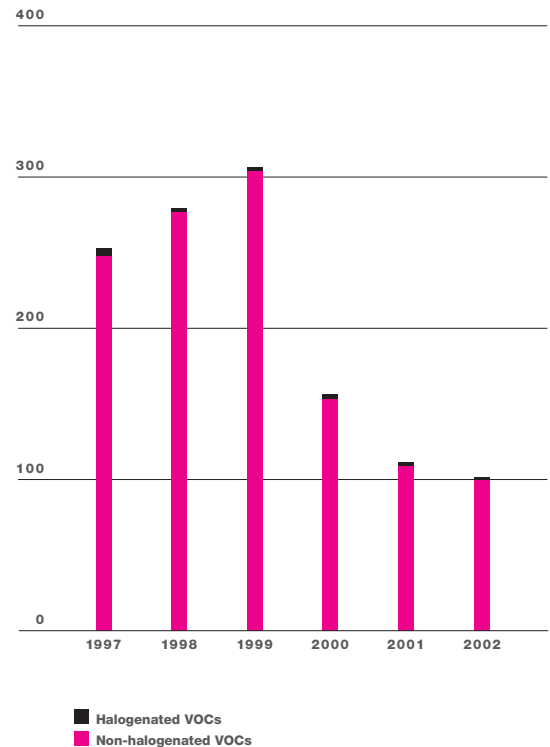
VOCs emissions have been divided into halogenated solvents (mainly methylene or ethylene chloride) and non-halogenated solvents such as aliphatic alcohols and toluene.

Both halogenated and non halogenated VOCs emissions continue for the three consecutive year to decrease.

The non-halogenated VOCs emissions have decreased by 8.3 % but are tending to stabilise as the overall production equipment has now reached a high level of efficiency in VOCs emission control.

The halogenated emissions represent only 0.6 % of the total emissions. Through the constant efforts made to improve the processes, the total elimination of the halogenated solvents has nearly been reached.

VOCs emissions
(In metric tons)





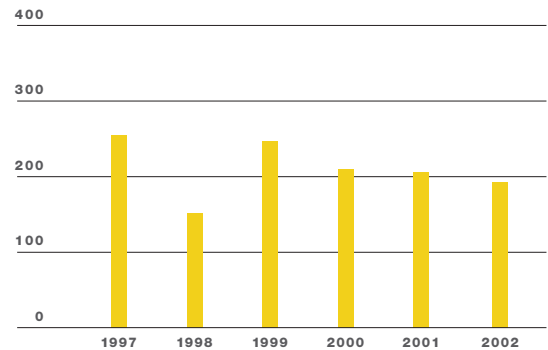
Water / Total organic carbon (TOC)

TOC expresses the amount of organic substances rejected into receiving waters after the waste water treatment plant.

In 2002, the total organic carbon rejected by the chemical plants of Vernier and Sant Celoni has slightly decreased by 5.4 % as the chemical production volume has grown by 10.7 %.

The treatment efficiency has also been improved significantly over the past five years. During this period the TOC (in tons) per ton chemicals produced has decreased from 2.1 in 1999 to 1.45 in 2002 due to major investments made in Vernier in 2001 to increase the treatment efficiency and the continuous optimisation efforts made in Sant Celoni.

Total organic carbon (TOC)
(In metric tons)



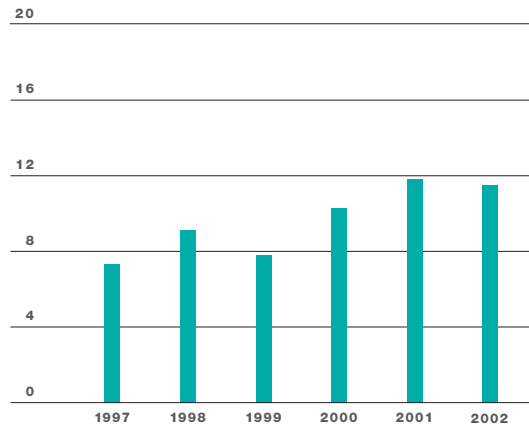


CFCs

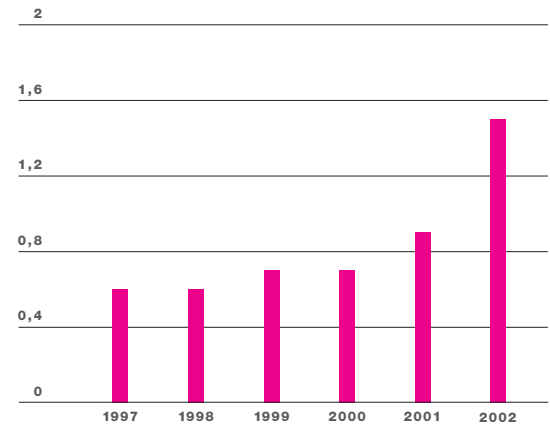
CFCs are only used in cooling or fixed fire extinguishing systems.

2002 CFCs consumption has strongly increased compared to the previous five years. This is due to the compensation of important losses in some major installations. These losses represent 13 % of the total CFCs inventory.

CFCs inventory
(In metric tons)



CFCs consumption
(In metric tons)



The CFCs inventory has tended to stabilise since two years ago. All new cooling systems installed are ammonia or HCFCs containing equipment.



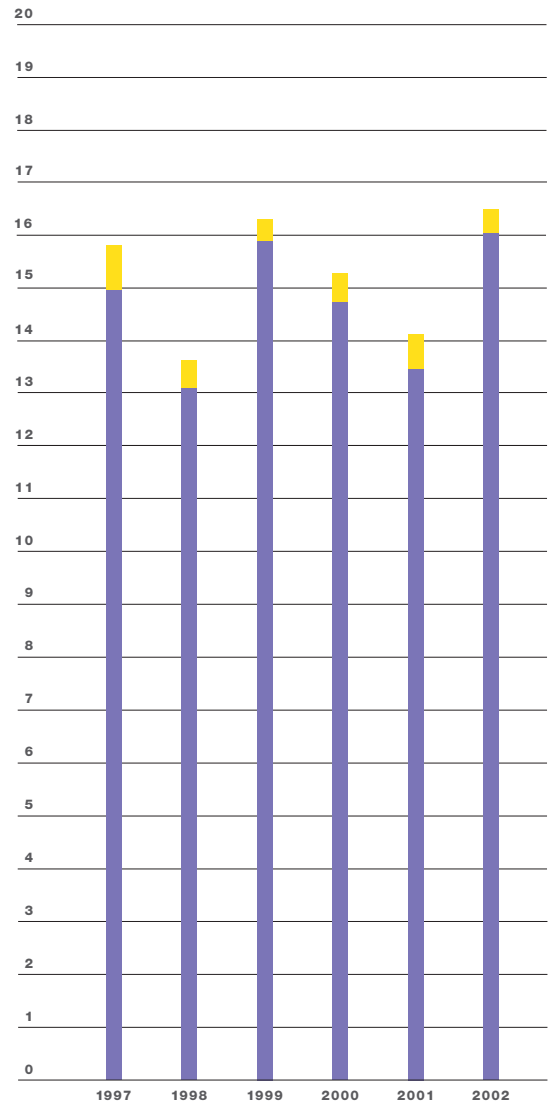
Hazardous waste

Hazardous waste mainly covers flammable solvents, distillation residues and mineral sludge from wastewater treatment plants.

After a constant decrease during three consecutive years, the 2002 hazardous waste elimination has grown by 17.6 %, mainly due to the incineration of an important solvent inventory at one major site.

The amount of hazardous waste landfilled remains constant in absolute value. This part is made up of mineral sludge of the waste water treatment plants.

Hazardous wastes
(In thousand metric tons)



■ Landfilled
■ Incinerated



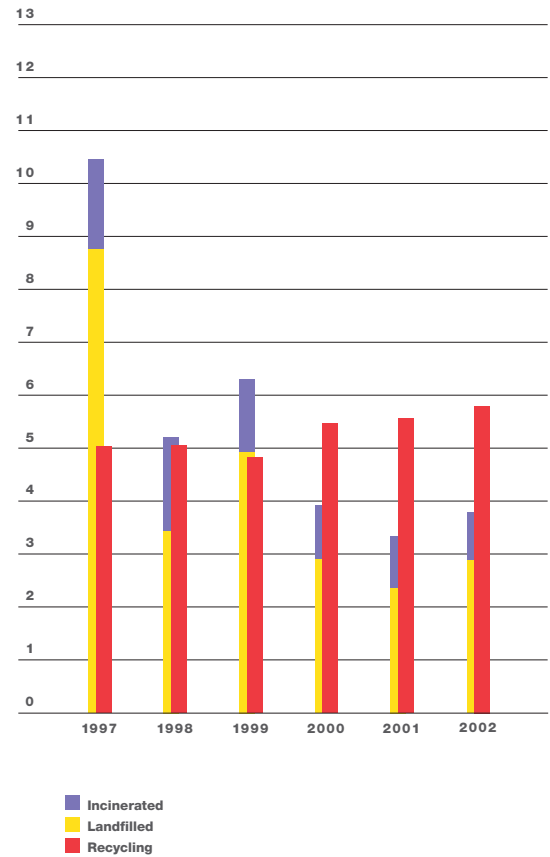
Non-hazardous waste

Non-hazardous waste is mainly packaging of all kind, vegetables, etc.

The overall quantity of non-hazardous waste eliminated has grown by about 10 %.

Among the total amount of waste eliminated, 60 % has been recycled. This is a little less than 2001 with 63 %.

Non-hazardous waste
(In thousand metric tons)





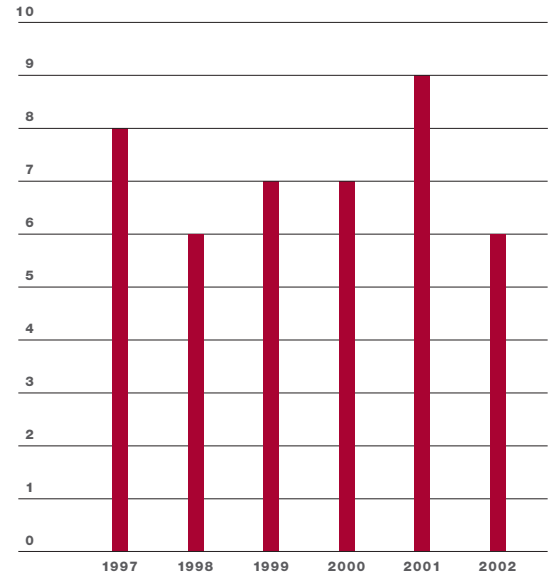
Auditing

Safety and environmental audits are performed on a regular basis in the 23 Givaudan production facilities.

As an important Givaudan evaluation tool, the auditing programme has continued with 6 audits in 2002. The sites audited were 2 in South America, 1 in North America and 3 in Europe.

These audits have shown a high level of safety and have allowed us to made recommendations mainly aimed at improving the fire protection of production building, warehouses and strategic activities.

Audits





Sites

participating in
the 2002 S&E Annual Report.





USA

- 1 Mount Olive (New Jersey)
- 2 East Hanover (New Jersey)
- 3 Lakeland (Florida)
- 4 Cincinnati (Ohio)
- 5 Devon (Kentucky)
- 6 Saint Louis (Missouri)

Mexico

- 7 Cuernavaca (Mexico)

South America

- 8 Munro (Argentina)
- 9 Sao Paulo (Brazil)

Asia

- 10 Bangalore (India)
- 11 Singapore (Singapore)
- 12 Jakarta (Indonesia)
- 13 Shanghai (China)
- 14 Fukuroi (Japan)

Oceania

- 15 Sydney (Australia)

Europe

- 16 Argenteuil (France)
- 17 Lyon (France)
- 18 Vernier (Switzerland)
- 19 Dübendorf (Switzerland)
- 20 Barneveld (Netherlands)
- 21 Dortmund (Germany)
- 22 Sant Celoni (Spain)
- 23 Milton Keynes (Great Britain)





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Givaudan SA

Corporate Communication
Corporate Safety
and Environmental Affairs
5, chemin de la Parfumerie
CH - 1214 Vernier
Tél: +41 22 780 91 11
<http://www.givaudan.com>

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