2000

Givaudan

Safety and Environmental Protection: The Givaudan Group Report

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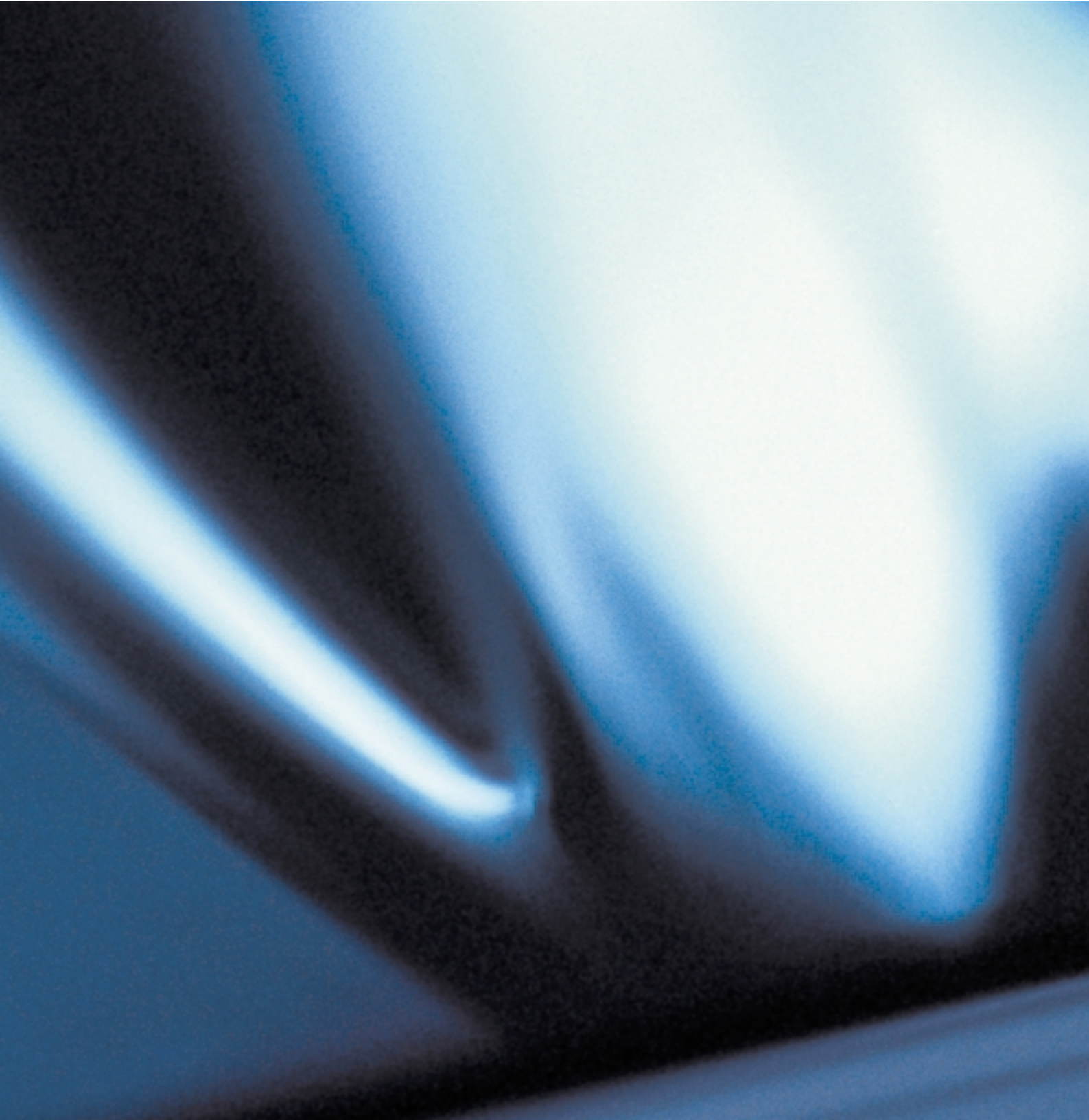
The Givaudan Group Report 2000



Foreword

Dr. Jurg Witmer
Chief Executive Officer

For the first time in Givaudan's short history as an independent company, we are publishing our own report on safety and environment. It reflects our S&E policy based on the concept of prevention applied since years to guarantee safe and healthy workplaces for our employees, to reduce our impact on the environment and to protect our business.

During the reported six years several strategic business decisions had significant effects in the implementation of our S&E policy. In 1997, the US-based Tastemaker group was acquired increasing the overall volume of production of the Group as well as its population. In the same year, the US chemical plant in Clifton was closed and the production partly transferred to Europe. In the last years several important sites were built or expanded, particularly in USA and in Asia.

Analysing the results of our S&E performance in the year 2000, I am proud to report that Givaudan continues to have a good track record. The progress already made during the previous five years was continued. The accident index remains very low and no occupational illness has been registered. The energy consumption, the emissions to the air or to the water and the waste generation are slightly increasing following the constant production rise. These positive results are the conjunction of various factors: the constant investments made in new equipment, in the regular upgrading of the existing ones, the integration of S&E precepts in all our activities and the active participation of our employees to integrate the S&E rules in their day to day work.

Givaudan has reached a high level in S&E, but this should not be taken for granted. The efforts made until now have to be pursued and intensified by focussing more on S&E issues in terms of risks. Risk management will increasingly become a strategic tool to identify and evaluate S&E risks and consequently to apply the appropriate measures. I am convinced that well-managed S&E risks will make a major contribution to our future success, and we will shape our future S&E policy accordingly.

Comparison of the 2000 with 1999 data

Production

Overall production of fragrances and flavours has grown by 17.4 %. Specifically the chemical production has increased by 2.3%.

Energy

Overall energy consumption has increased by 7.3 %. Fossil energy: 4.1%.

Carbon dioxide

Emissions of CO_2 have, parallel to the fossil energy, increased by 2.9%.

Inorganic gas

These are the gases emitted by the combustion of fossil energies. SO_2 emissions have decreased by 29 % due to the use of low sulphur content fuel and the NOx emissions are following the fossil energy growth.

VOC emissions

Total VOC emissions have decreased spectacularly by 48%.

CFC consumption

Consumption means the replacement due to leaks in the refrigerating systems. The consumption remains constant and about 10% of the inventory.

Wastewater

The Total organic carbon (TOC) coming out of the chemical plant wastewater treatment installations has decreased significantly by 15%.

Hazardous waste

The overall quantities of hazardous waste, mostly flammable solvents have decreased by 6.3%.
The part landfilled (3.5% of the total) remains very low.

Non-hazardous waste

Non-hazardous waste has decreased by 15.5%.
The year 2000 recycling rate is 58%.

Internal Accident Index

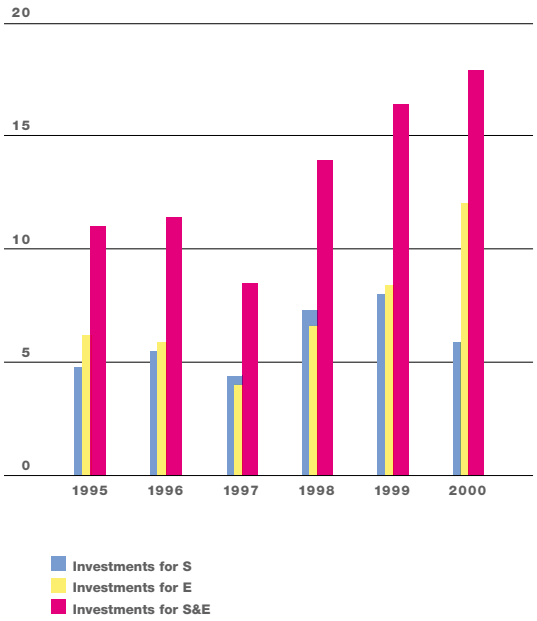
This index expresses the number of working days lost by each employee by year. Compared to last year, the index has slightly increased but remains in absolute very low.

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.

S&E investments have strongly increased during these last four years due to the construction of new production units in USA, India and China. Major S&E specific investments have been made in Vernier and Sant Celoni to expand the wastewater treatment plants, in Dübendorf to increase the capacity of biofiltration and in Cincinnati to improve the air emission treatment. These costs also reflect the ongoing investments made in upgrading production tools to ensure a high safety level.

S&E Investments
(In million of Swiss francs)

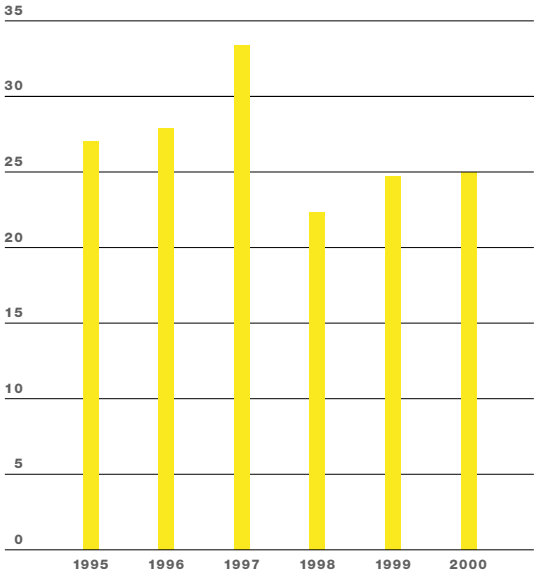


Expenditure

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.

Givaudan expenditure has been quite high in 1997 due to the reorganisation of the production installations within the Group. During the last two years, the expenses remain rather stable.

S&E Expenditure
(In million of Swiss francs)



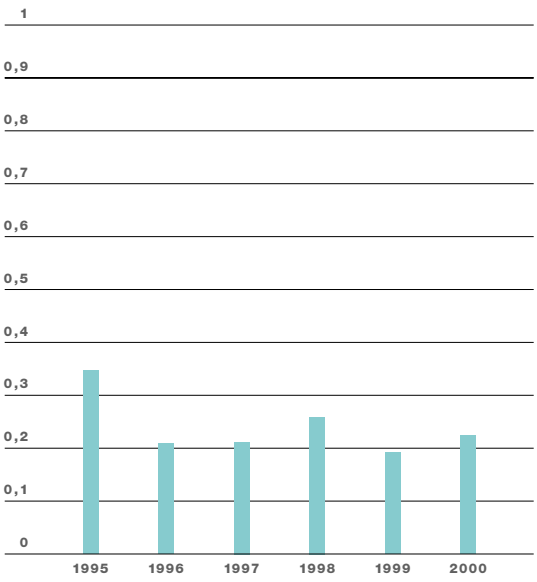
Safety

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

The 2000 IAI increased slightly but remains lower than the average of the past five years. Four sites have recorded zero accidents last year.

Accident frequency is 17.4 accidents for 1000 employees.

Internal Accident Index (IAI)



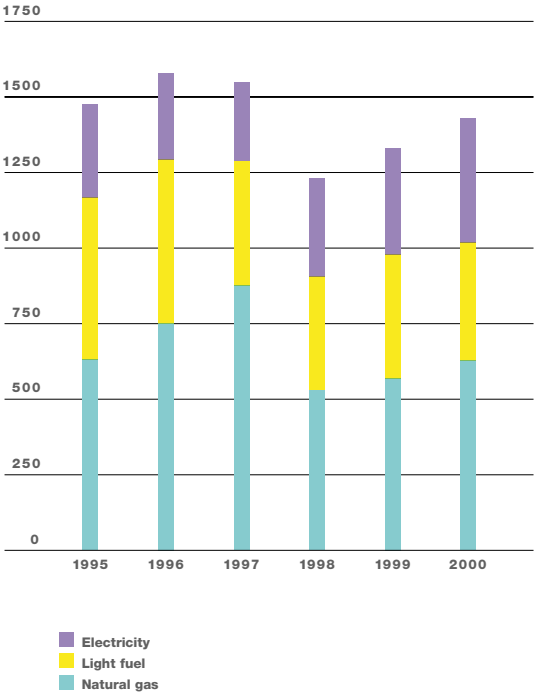
Energy

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 in 2000 has increased by 7.3 % as the volume of production has grown by 17.4%. This shows that the energy consumption issues are more and more integrated in the new projects and in the upgrading of existing equipment.

Consumption of natural gas is growing as the light fuel consumption is decreasing.

Energy consumption
(In terajoules)

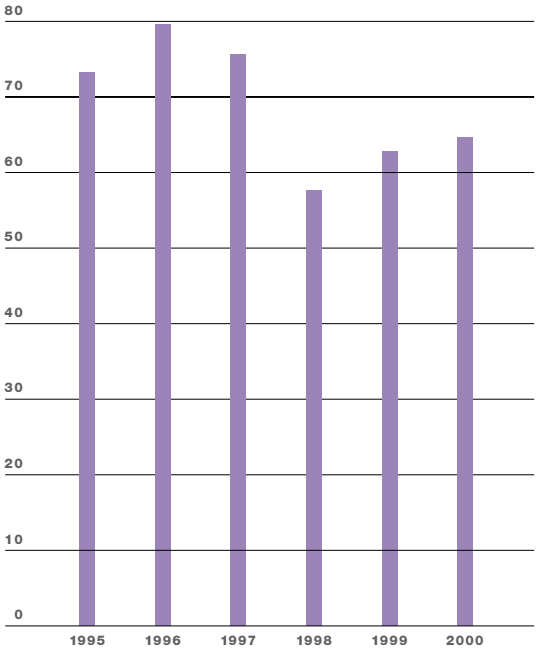


Air / CO2 emissions

CO_2 emissions result from the combustion of fossil energy to generate steam necessary to produce flavors and fragrances and to heat the buildings.

Emissions of carbon dioxide have slightly increased in 2000 by 2.9% parallel to the increase of fossil energies. Natural gas that emits less carbon dioxide is more and more used in Givaudan facilities.

CO2 emissions
(In metric tons)



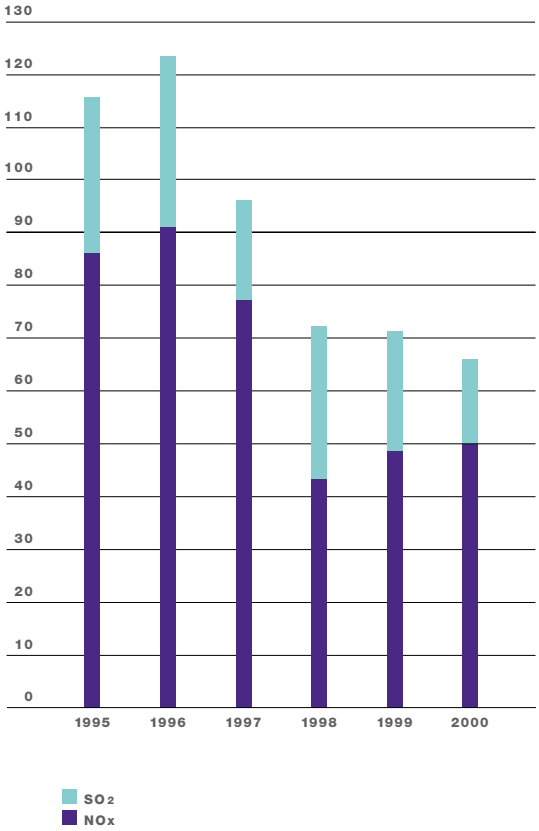
Air / Inorganic gas emissions

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

Sulphur dioxide has decreased during these past years due to the purchase of low sulphur content fuel available on the market.

Nitrogen oxide emissions are growing parallel to the fossil energy consumption.

Inorganic gas emissions
(In metric tons)



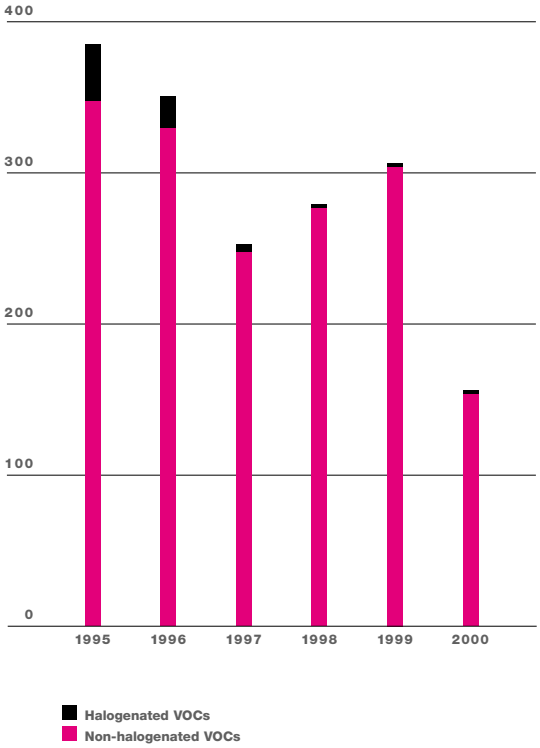
Air / VOC emissions

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

Halogenated emissions have been strongly reduced during the past five years. The main reason is their replacement by non-halogenated solvents.

Non-halogenated emissions are also decreasing due to the improvement of the measurement techniques and the trapping equipment.

VOC emissions
(In metric tons)



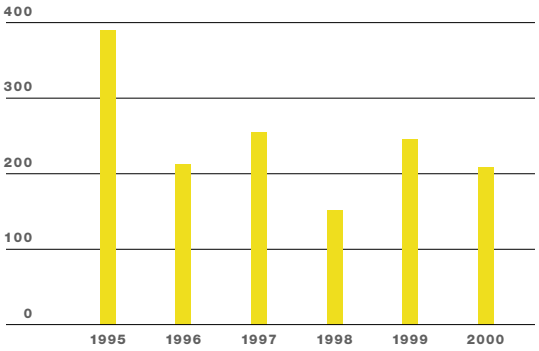
Water / Total organic carbon (TOC)

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

The TOC is fluctuating due to temporary overloads of the wastewater treatment plants.

Two plants are now under modification or expansion to improve the biodegradation capacity and efficiency. These modifications will be effective mid 2001.

Total organic carbon (TOC)
(In metric tons)



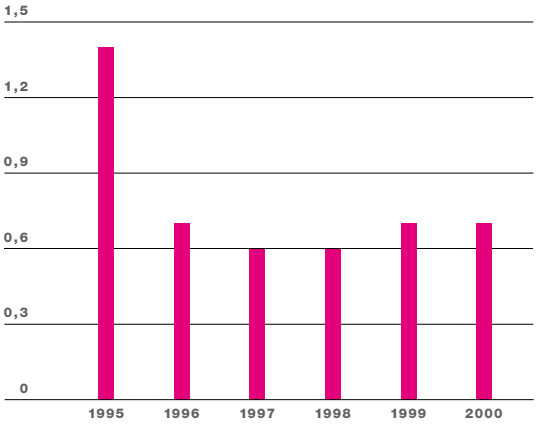
CFCs

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

The replacement of CFCs has been quite constant over the past five years. Givaudan policy is to systematically use equipment containing ammonia or HCFC instead of CFCs, but unfortunately such equipment is not always available in some countries.

Fire extinguishing systems containing halon are systematically replaced by systems containing carbon dioxide, nitrogen or a mixture of other gases.

CFCs consumption
(In metric tons)



Hazardous waste

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

The overall hazardous waste production has been rather constant during the last three years, as the production has increased by 21%.

More than 95 % of hazardous waste is incinerated in special ovens to recover the energy.

The landfilled part is less than 5 % and made up mostly of sludge from the wastewater treatment.

Hazardous wastes
(In thousand metric tons)

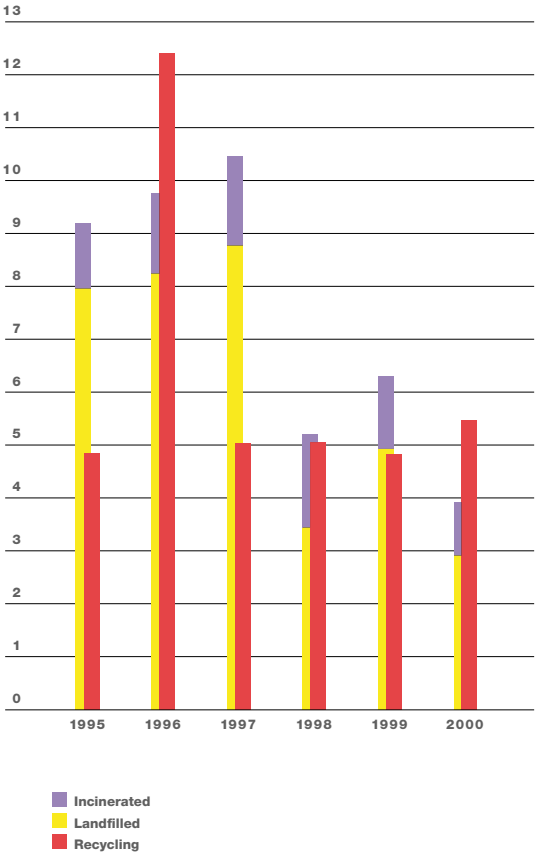
Non-hazardous waste

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

The overall waste has decreased since 1995. The large amount recycled in 1996 is due to the dismantling of a US site. The landfill part has declined significantly over the past six years. According to Givaudan policy landfilling has to be avoided whenever possible.

The 2000 recycling rate is with 58% the highest over the last three years.

Non-hazardous waste
(In thousand metric tons)



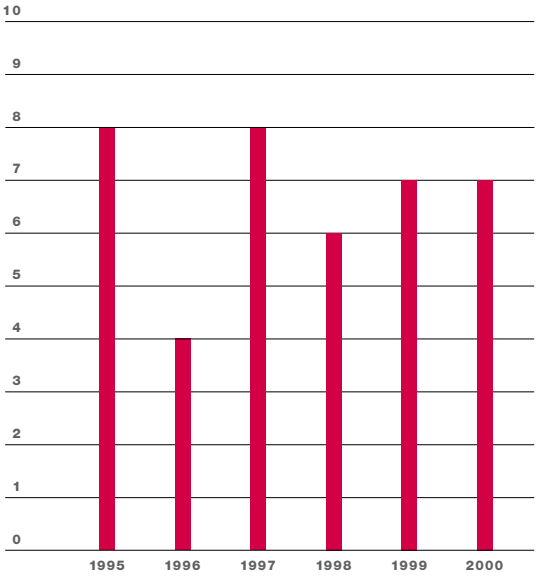
Auditing

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

These audits aim to maintain a high level of safety, hygiene and environmental protection in the Group. During the audits, all S&E aspects in relation with the operational activities are reviewed and evaluated to identify the level of protection of our employees, our environment and our business. Furthermore, the S&E audits are a support for individual companies to find adapted solutions to their local situation in line with the local regulations and the Givaudan S&E policy.

During the last six years, an average of 5 to 7 S&E audits per year has been performed around the world. The overall situation is good, mainly due to the strong commitment of the management and the employees to have a safe working place and to maintain very good relation with the authorities and the immediate neighbours.

Audits



Sites

**having participated in
the 2000 Givaudan Group 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

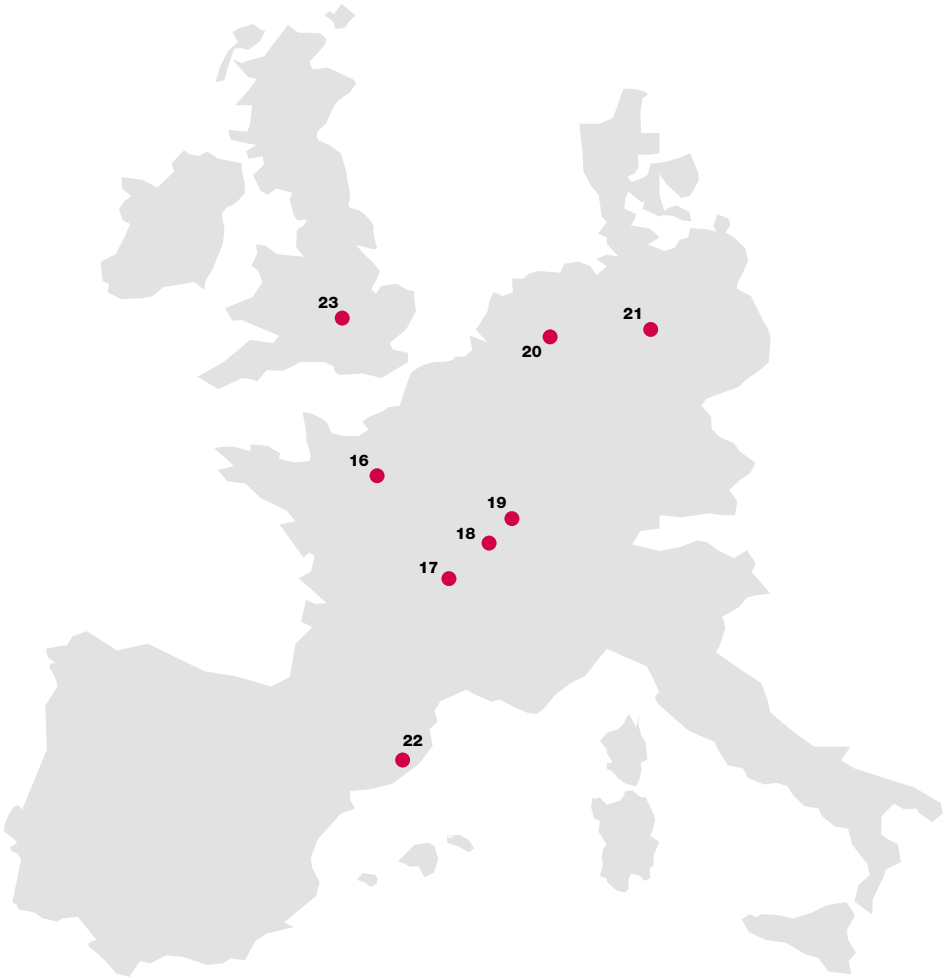
10 Bangalore (India)
11 Singapore (Singapore)
12 Jakarta (Indonesia)
13 Shanghaï (China)
14 Fukuroï (Japan)

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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