

eka

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2004



MAGOG PLANT

ACTIVITY REPORT

HEALTH, SAFETY
AND THE ENVIRONMENT





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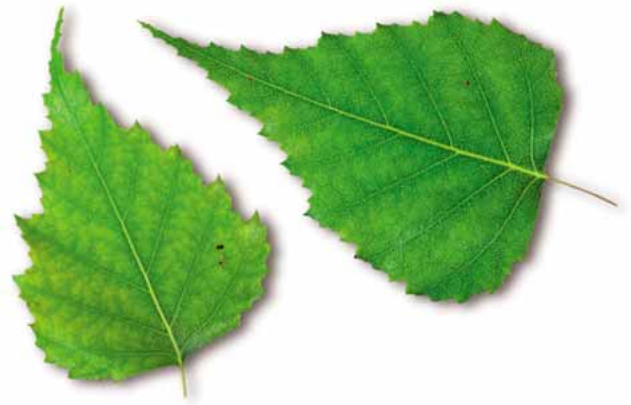
WHAT IS EKA CHEMICALS?

NATURE OF THE BUSINESS

Eka Chemicals Canada Inc. is part of the pulp and paper division that represents one of Akzo Nobel's many chemical product business activities. Eka Chemicals Magog is a sodium chlorate manufacturing plant. Sodium chlorate is a white crystal resembling table salt used in the pulp and paper industry. Paper mills use it instead of chlorine to meet current environmental standards during the bleaching process. The business also produces hydrogen, a by-product of the manufacture of sodium chlorate, most of which is sold to BOC Gaz.

LOCATION

The Magog factory is located in an industrial park near Magog, an industrial and resort town with 23 000 citizens. The factory is on a 52-acre lot about 2.5 kilometres east of downtown and can be reached from Highway 55.

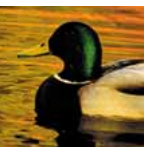


CONTRIBUTION TO ECONOMIC DEVELOPMENT

Number of employees:	More than 60
Pay and benefits:	More than \$5 million a year
Purchasing:	Electricity: more than \$30 million a year; Miscellaneous: more than \$15 million a year;
Taxes and services:	\$107 000

PRODUCTION CAPACITY

The business began operating in 1979 with an initial production capacity of 24 000 metric tons per year. This capacity rose to 34 000 metric tons in 1981, and in 1986 the factory was expanded, raising capacity to 92 000 metric tons. Today Eka Chemicals' production capacity is 157 000 metric tons; the business also produces 9 200 metric tons of hydrogen.





an Akzo Nobel company

**EKA CHEMICALS INC.
Safety, Health, Environmental and Security Policy**

**SAFELY MANUFACTURE AND PROVIDE SERVICES FOR PULP AND PAPER AND
SPECIALTY CHEMICALS, PROTECT THE ENVIRONMENT, UNDERSTAND AND
RESPOND TO PUBLIC CONCERNS**

- We are committed to meet and/or exceed applicable regulations, standards and other applicable requirements.
- We are committed to actively collaborate with governments and other relevant organizations to promote equitable and practical standards.
- We are committed to continually reducing the significant impact of our operations (including design and construction of production plants, manufacturing processes, and distribution) on:
 - Safety by preventing accidents and limiting the consequences of such to people, the environment, and property in connection with our own operations or operations carried out by our contractors.
 - Health by preventing harm to the health of our employees and other persons and creating a positive working climate with regard to physical, psychological, and social conditions.
 - The environment by preventing pollution through on-going improvement programs.
- We are committed to implementing and maintaining a risk based security management system.
- We are committed to expanding the concern for health, safety, environment, and security to our suppliers and our customers through a Product Stewardship Management System.
- We are committed to the Responsible Care® Guiding Principles and to continuous Responsible Care® improvement.
- We are committed to openness with stakeholders.
- We are committed to set and review goals and targets based on identified SHE aspects.
- We are committed to training all of our employees as stewards in the areas of Safety, Health, Environment, and Security.
- We endorse the Business Charter for Sustainable Development of the International Chamber of Commerce.

Approved by:



Mario Houde, President

January 21st 2005



PERFORMANCE IN 2004

The Eka Chemicals plant was established 25 years ago in Magog. In 2004 we set a record in sodium chlorate production thanks to our employees' hard work.

These same employees also received some training on safe practices. Over the course of the year, there were no accidents resulting in lost time nor days lost following an incident. The company is a member of a prevention mutual, along with twelve other firms that value safety.

As for the environmental aspect of our firm, we installed an automatic valve to quickly isolate the main effluent towards the river if a problem arises. This measure followed occurrences where the pH levels in the effluent were too high. Our investments in health, safety and environment came to \$571 000.

Eka Chemicals has always sat on the municipal-industrial joint committee which aims to develop an emergency action plan that takes into account the risks of industrial accidents and to keep the community informed. The community also takes part in this committee via the Tribune d'information communautaire (TIC, also known as the Citizens' Committee). The TIC is composed of citizens involved in and concerned about their environment and the safety of their community. If you wish to get involved, please refer to the information at the end of the brochure. Additionally, last November, Eka Chemicals did a trial run of its emergency plan so it would conform to the federal act on environmental emergencies.

GOALS FOR 2005

This year, Eka Chemicals will continue with its behavioural safety activities. Our goal is to have a year free from accidents resulting in time loss or requiring medical treatment. We will also continue to improve our performance on the environmental level, focusing on main effluent, in particular.

Additionally, we think we are in a position to meet RC 14001 standards. This standard covers health, safety and environment through Responsible Care™. In order to reach these goals, we plan to invest major resources over the course of 2005.

We thank our employees for making Eka Chemicals a responsible corporate citizen.



CYNTHIA MARTIN

Superintendent of Operations
Eka Chemicals Canada Inc.



HEALTH

- Renovation of maintenance offices.
- Purchase of equipment to improve health.
- Purchase of a device that would make it easier to open the salt wagon hatches.
- Installation of fans to reduce the temperature inside the factory.
- Continue to improve handling during barrel filling.

SAFETY

- Active involvement with the municipal-industrial joint committee in Magog (CMMIM) and its sub-committees.
- Trial run of our emergency action plan for our worst case scenario. This indoor administrative trial involved the municipal and governmental authorities as well as a member of the citizens' committee.
- Implementation of an awareness program on the impact of safe practices.
- New respiratory apparatuses and communication system for the fire brigade.
- Technological upgrade of our predictive maintenance method for equipment.
- Automatic system for grounding production lines.
- Installation of a fire-prevention system which can detect smoke on each production line.

ENVIRONMENT

- Automation of the valve closing mechanism for the main effluent conduit. This valve allows the flow of the main effluent to be stopped as it goes towards Rivière Magog in cases of high conductivity or when the pH level of the effluent is too high or low.
- Installation of gates at the sodium chlorate loading dock. Gates were installed to isolate the chlorate loading zone which is located under a shelter adjacent to the plant. Adding gates will reduce dust during sodium chlorate filling. This dust could be spread out over the field and then become mixed with rain water and later enter the main affluent. In addition, the doors help prevent noise from traveling beyond our site.
- Addition of a gaseous chlorhydric acid detector, pipelines, and a foam cone in the zone around the chlorhydric acid reservoir. These changes allow for gaseous chlorhydric acid to be detected, for sodium carbonate to be automatically added to neutralize the acidic content in the dyke and for reducing acidic fumes. This system could be used for a break in the chlorhydric acid tank or for a spill when the chlorhydric acid tank is being filled.
- We met all our requirements in terms of the new federal regulation on environmental emergencies. Environment Canada is responsible for the application of this new law through the Canadian Environmental Protection Act.



COMMUNITY AWARENESS ACTIVITIES

RESPONSIBLE CARE™

Responsible Care™ encapsulates different systems:

- Health
- Safety
- Environment

It also covers various aspects like the management of chemical product transportation, transport-related accidents and incidents, and risk-management for the operation of chemical factories.

We were inspected in 2003 by a team including representatives from the surrounding community, the chemical industry, the Association canadienne des fabricants de produits chimiques (ACFPC) and the general public to ensure that our management systems meet and surpass the requirements of the Canadian Chemical Producers' Association (CCPA).

In 2004, our specific Responsible Care™ activities were:

- Active participation on regional committees throughout Quebec: environment, transport, health, safety.
- Implementation of various improvements recommended in the re-audit report of 2003.

COMMUNITY AWARENESS ACTIVITIES

Eka Chemicals Magog is interested in remaining on good terms with the community. In view of this objective, the company adopted a transparency policy for the population, by revealing what the real and potential impacts of their activities were.

We acknowledge the population's right to information on the nature of our operations and that the public should be informed of the associated risks. To this effect, two communication tools are being used to facilitate dialogue and keep the plant and the community in contact. These tools are the Citizens' Committee (TIC), a committee formed of citizens, and the municipal-industrial joint committee in Magog (CMMIM).

To reach a larger audience, a Web site (www.magog.ekachem.com) has been created to inform and communicate directly with the community. We have also created voice mail for those wishing to communicate with the TIC through our telephone system: (819) 843-8772, extension 333.

EKA CHEMICALS MAGOG ACTIVITIES WITH THE TIC

- Presentation of the 2003 Eka Chemicals Magog annual report.
- Participation by one TIC member in testing our worst-case scenario emergency action plan.
- Participation by TIC members in various CMMIM committees.

EKA CHEMICALS MAGOG ACTIVITIES WITH THE CMMIM

- Participation at various CMMIM meetings.
- Participation in the CMMIM's emergency measures planning sub-committee.
- Participation in CMMIM's communication sub-committee.
- Participation in Sécurité publique du Québec's consultative meeting on the draft regulation pertaining to certain highly-dangerous substances.
- Participation in various columns in *Le Reflet*.

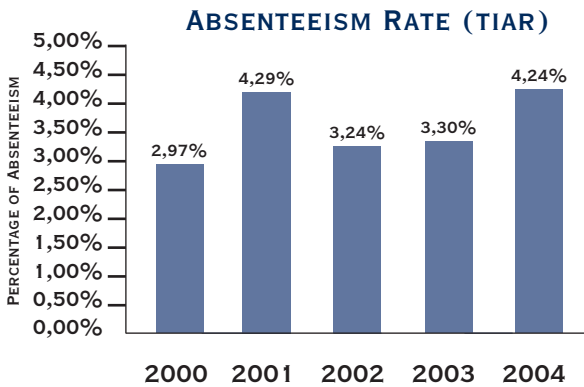
We have tested our worst-case scenario emergency action plan. Tested steps include all interactions between the business and the various municipal and government bodies.

HEALTH – PERFORMANCE

Throughout our history, Eka Chemicals has put preventative mechanisms in place to protect the health of its workers. The industrial hygiene program, the health and safety committee and the health and safety management system are but a few examples.

However, these initiatives are only fruitful with the staff's daily support and devotion to plant operations. Following a workplace accident, the CSST compensated an employee for a health problem. Since then, the employee has returned to his regular job.

The chart illustrates the percentage of absenteeism over the last five years. This reveals a slight increase compared to 2003.

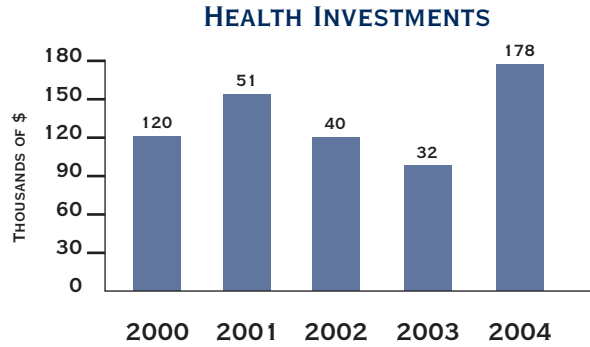


TIAR= The number of work-hours lost by an employee due to sickness or an accident, expressed as a percentage of the number of total normal hours worked.



HEALTH – INVESTMENTS

Eka Chemicals Magog has always been concerned about the working conditions and health of its employees. Significant investments are made each year for the purchase of equipment to improve working conditions. These funds are in addition to budgets set aside to monitor workers' health and to develop proper health practices.



List of health projects for 2004

- Renovation of maintenance offices.
- Purchase of equipment to improve health.
- Facilitate the opening of salt wagon hatches.
- Add ventilation facilities within the factory.
- Improve barrel-filling installations.

Improvement

- Office ergonomics.
- Preventive measures for health.
- Prevention of chronic injury.
- Prevention of heatstroke among staff.
- Prevention of chronic injury.



WORKPLACE ACCIDENTS

Management has developed a culture of safety among employees via incentives, training and its commitment to health and safety as outlined in the company's vision and its health and safety policy.

Eka Chemicals has taken safety to heart since its beginning. Stringent safety objectives are constantly re-examined in the spirit of continuous improvement.

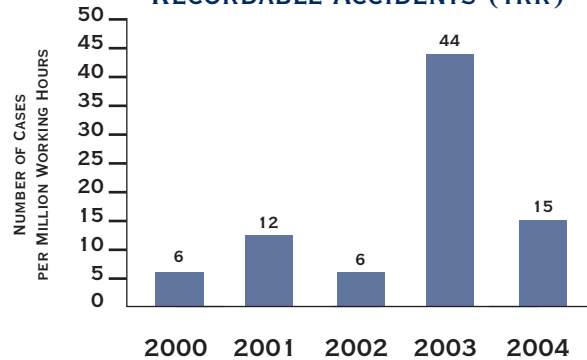
Measuring critical safety parameters helps us continually evaluate our performance. We can therefore compare our current and previous safety performance and also compare our performance with that of our industry peers.

Eka Chemicals continuously measures and analyses the following safety parameters:

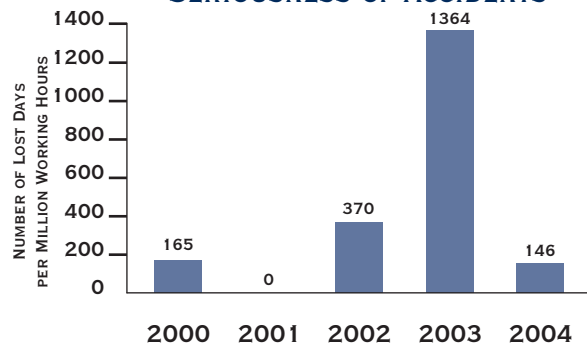
- workplace accidents causing lost time;
- workplace accidents with temporary re-assignments;
- workplace accidents requiring medical treatment;
- minor workplace accidents requiring first aid;
- incidents, quasi-accidents;
- severity and number of workplace accidents.

In 2004, employees of the Magog plant worked a total of 136 904 hours. We also had a better safety record than 2003. There was one accident with a loss of time. We experienced two accidents which required medical treatment. However, due to the relatively harmless nature of these accidents, they did not result in an absence from work.

RECORDABLE ACCIDENTS (TRR)

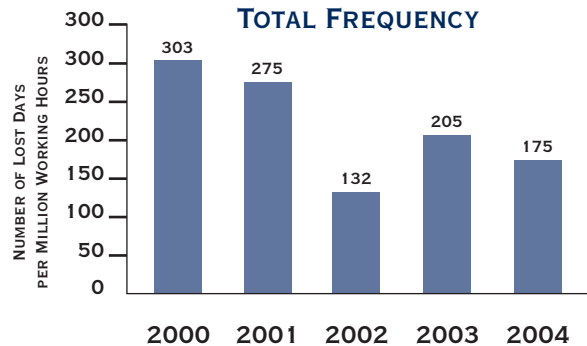


SERIOUSNESS OF ACCIDENTS



The third chart represents the total frequency of safety-related incidents. We noticed an improvement from last year. Also, you will notice the general tendency has been dropping since 2000, another improvement.

TOTAL FREQUENCY



PREVENTION MUTUAL GROUP

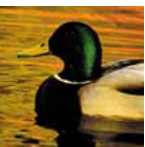
Since 1997 Eka Chemicals Canada Inc. has been an active member of a prevention mutual group that comprises various companies in the chemical industry. The mutual group promotes close communication between companies on the issue of occupational health and safety, while sharing a range of experience and expertise.

Each member organization has its own prevention program focused on its needs and a temporary re-assignment policy for its employees involved in accidents. These two elements help minimize the number of workplace accidents and limit their impact on the employee and the employer.



MANAGING ON-SITE RISKS

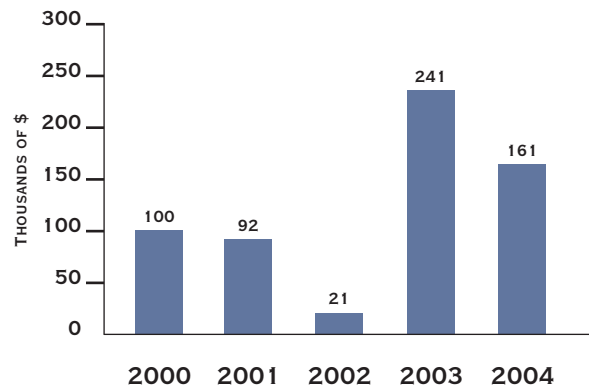
To reduce risks associated with manufacturing sodium chlorate, Eka Chemicals has developed a risk-management process. Multidisciplinary work groups with members from the production, maintenance and engineering departments analyze risks according to recognized methods. Their analyses deal mainly with changes to be made to processes, new projects, incidents at other plants, and finally on process and instrumentation diagrams. The risk-management work group follows up with recommendations to ensure employee and community safety and preserve the environment.



SAFETY – INVESTMENTS

Eka Chemicals of Magog has always been committed to safety. Each year considerable investments are made to purchase equipment to improve the safety of employees and the surrounding community. These investments are in addition to the regular and personnel training expenses to develop safety skills, and more fundamentally, a safety-oriented attitude in employees.

SAFETY INVESTMENTS



List of safety projects for 2004

- Awareness program on the impact of safe practices.
- Respiratory apparatuses and a communication system for the fire brigade.
- Technological improvement of the predictive maintenance method.
- Automatized grounding system for electrolysis lines.
- Smoke detector above the electrolysis lines.

Improvements

- Accident prevention.
- Better response in case of fire.
- Equipment breakage prevention.
- Accident prevention.
- Better response in case of fire.



ENVIRONMENT – PERFORMANCE

We examine our environmental performance based on standards provided by the ministère de l'Environnement (environment ministry) in the context of our authorization certificate, as well as our own internal standards. Given the quantity of information involved, we will present only the most important results here.

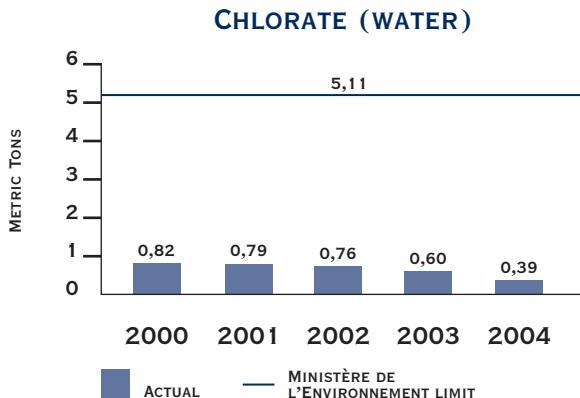
Results are presented in an annual report and so do not show specific periods where norms were surpassed. In 2004, we had seven incidents when the ministère de l'Environnement specifications were surpassed.

In every case, we surpassed the maximum pH specification for our final effluent. The maximum pH standard in our authorization certificate issued by the ministère de l'Environnement is 9.0. The pH of our final effluent exceeded 9.0 for 137 minutes, which is a total of the seven incidents. The first four overflows were caused by concrete residue drained outside the plant. The elevated pH levels came from basic composites used to make concrete; the other three overflows were linked to major storms that mixed slightly basic residues in with our final effluent.

WATER

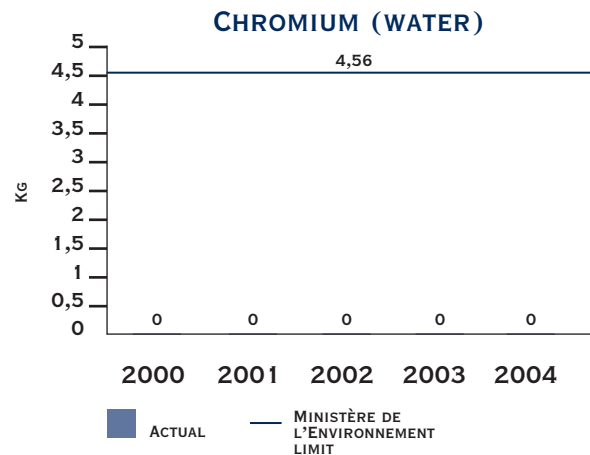
Chlorate in wastewater

Emission levels from 2000 to 2004 show a slight decrease over the last few years. Our waste levels are well below environment ministry limits. The chlorate degrades slowly, eventually becoming sodium chloride (table salt).



Chromium in the wastewater

Between 2000 and 2004, emission levels were essentially reduced to zero. Laboratory tests showed levels below the detection limit. Hexavalent chromium is one of the toxic substances named in the Canadian Environmental Protection Act (CEPA). We are proud to have eliminated potential emissions of hexavalent chromium from our final effluent.



AIR

Chlorine in hydrogen

Chlorine is an impurity present in the hydrogen we sell to BOC Gaz, which we release partly into the atmosphere. In high concentrations, chlorine is toxic to almost all life forms. The human sense of smell can detect its characteristic odour (in a swimming pool, for example) even in tiny quantities (one part per million). Our emission levels are lower than this. We participate in another federal program to reduce pollution: the National Pollutant Release Inventory (NPRI). Our emission levels are among the lowest in the world for sodium chlorate plants.

Our performance for 2004 is an improvement over 2003 and falls within normal variations of this parameter.

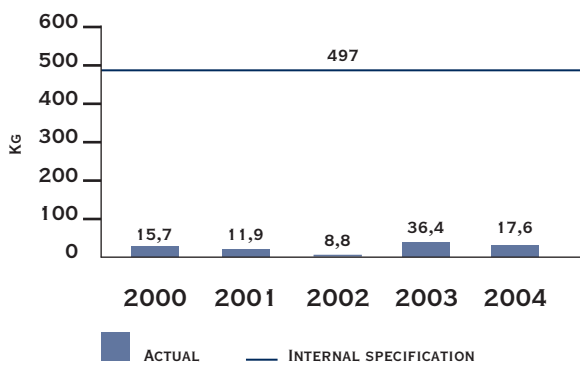


Sodium chlorate in the atmosphere

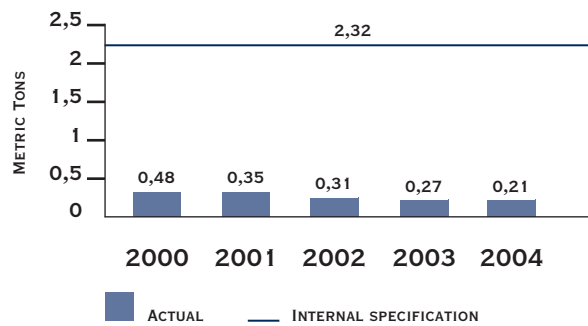
Excessive emissions of chlorate would be harmful to plant life, but we find no significant impact on vegetation around the industrial plant.

Emissions declined from 2000 to 2004 as a result of the performance optimization of one of our dust scrubbers and because of efficient internal tracking of the performance of the dust scrubbers.

CHLORINE (AIR)



CHLORATE (AIR)



WASTE

Brine sludge from salt

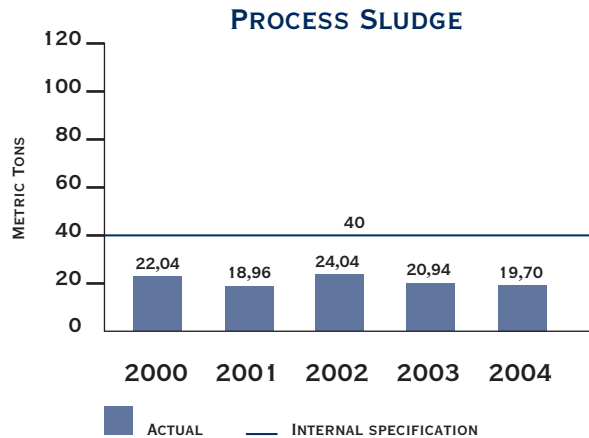
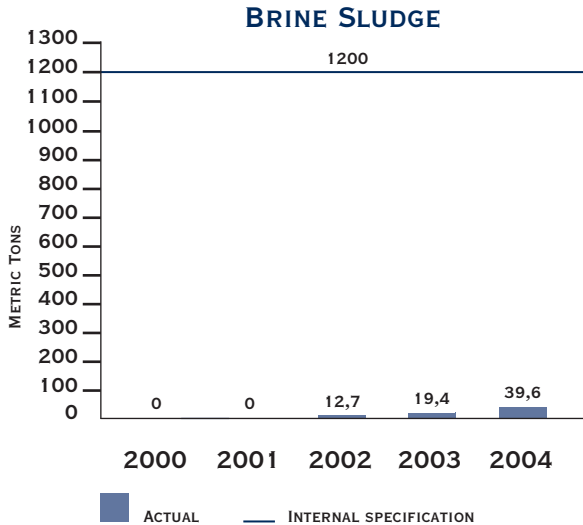
Manufacturing chlorate requires salt. We purify the salt we buy, producing brine sludge. This by-product is not toxic or dangerous and was buried with domestic garbage until April 1997. Since then, the sludge, which was considered waste, has been used in agriculture as a source of calcium and a means of controlling soil pH. One immediate positive result of the valorization program has been to extend the useful life of the Magog region's domestic-waste landfill site (lieu d'enfouissement sanitaire, or LES). A request to increase the landfill's capacity has attracted the attention of local news media. We had to send 3% of the sludge we generated, 39.6 metric tons, to a landfill in 2004. This sludge was not repurposed for agricultural use because of excessively high humidity. The rest of the sludge, 97%, was recycled.

Process sludge

Process sludge consists mainly of rust particles from production equipment exposed to corrosive solutions. This sludge is a dangerous material because it is contaminated with chlorate and chromium. The process sludge is shipped to Stablex, an elimination site near Montreal approved by the environment ministry.

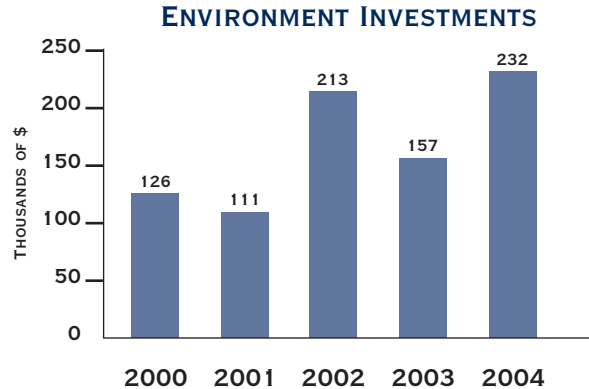
The amounts of process sludge produced from 2000 to 2004 show normal variations in our process because most of the sludge is produced when at least one of the electrolysis lines is shut down. The amount of sludge produced each year varies with the number of shutdowns.

Process sludge is part of our waste reduction program (NPRI). We have reached our goal, reducing our sludge production to less than 40 metric tons per year since 1995.



ENVIRONMENT – INVESTMENTS

Budgets are allotted to environmental projects focusing on safety and working conditions every year. Various environmental improvement projects are listed and classified by priority, based on prevailing circumstances that year. These improvement projects are derived from various sources of information, such as continuous risk analysis for existing processes and prior to undertaking for major new projects. The monies needed for the most significant projects determine the budget for the coming year.



List of environmental projects for 2004

Installation of doors for the loading dock.

Automated closing of the final effluent valve.

Use of water from the salt evaporator condensers to feed cooling tower No. 1.

Production modifications.

Restoring of plant floors.

Improvements

Elimination of a potential source of chlorate dust created when loading.

Better control over liquid effluent.

Reduction of process effluent levels.

Less electrical energy used.

Protection of the water table.



RESOURCE PERSONNEL

EKA CHEMICALS CANADA INC.

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Note: Numbers for safety in past years (per 200 000 hours) have been revised to reflect our calculation method, which measures per 1 000 000 hours.