

HAZARDOUS SUBSTANCES AND THE RIGHT
TO KNOW

A ONE-DAY SYMPOSIUM

October 26, 1983

Dear Delegate:

I am pleased to welcome you today to our one day symposium, "Hazardous Substances and the Right to Know," presented by the Canadian Environmental Law Research Foundation.

The luncheon menu today is:

Cream of Water Cress Soup

Chicken Crepes

Buttered Green Beans

Baby Carrots

Apple Pie a la Mode

Coffee or Tea

Should you have any dietary restrictions please see me or other staff members at the registration table during the mid-morning coffee break.

MESSAGE CENTRE

Please have telephone messages left at the hotel message centre. Ask the caller to specify that the message should be taken to the registration desk outside of the Royal Sutton Ballroom. We will post all messages on the bulletin board next to the registration table.

Should you have any questions please do not hesitate to see me during the course of the day.

Yours sincerely,

Phyllis Rottenberg
Phyllis Rottenberg
Program Co-ordinator

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HAZARDOUS SUBSTANCES AND THE RIGHT TO KNOW

9:00	Introductory Remarks:	Mr. Doug Macdonald Canadian Environmental Law Research Foundation
		Ms. Lynn Arlett Insight Educational Services Ltd.

Mr. John Jackson, author of a report on right to know legislation commissioned by the Toronto Board of Health, will provide a summary of political pressures in the United States which have resulted in the passage of disclosure legislation and the comparable pressures which are being brought to bear today in Canada.

Mr. Michael Nash, author of the Canadian Occupational Health and Safety Law Handbook, will discuss access to information under existing Canadian occupational health legislation and potential legislative changes.

Dr. Edward Gibson, Director of Occupational and Environmental Health, Dofasco Inc., will discuss the way in which his company has dealt with the question of providing information while maintaining the confidentiality of trade secrets.

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10:55 Questions

11:00 Right to Know and the Company Physician

Dr. Mastromatteo, Director of Occupational Health, Inco Ltd., will discuss the role of the company physician in the provision of information on hazardous substances.

11:25 Questions

11:30 International Developments and the Canadian Centre

Dr. Gordon Atherley, President of the Canadian Centre for Occupational Health and Safety, will discuss international trends and the work being done in this area by the Canadian Centre.

11:55 Questions

12:00 LUNCH

The Right to Know in the Community

1:00 Political Pressures in Canada

Ms. Joanna Kidd, a staff member of Pollution Probe and member of the Toxic Substances Coalition, will present the Coalition's position, demanding full access to information on hazardous substances, and will describe the political campaign which the Coalition recently initiated in Toronto.

1:20 Questions

1:25 The Firefighter's Need for Information

Chief Bernard Bonser, Toronto Fire Department, will present the firefighter's need for information concerning hazardous substances found at the scene of a fire.

1:45 Questions

1:50 Right to Know as a Public Health Issue

Alderman Anne Johnston, Chairman of the Toronto Board of Health, will outline the work being done by the Board to consider potential disclosure legislation.

2:10 Questions

2:15 The Junction Triangle - A Case Study

Mr. John Shepherd, Vice-President, Nacan Products Limited, will discuss the way in which his company has responded to requests for information from the surrounding community.

2:35 Questions

2:40 COFFEE

PANEL DISCUSSION - TRADE SECRETS AND THE RIGHT TO KNOW

3:00 Initial presentation by Panel Members

Members of the panel include:

Mr. Ronald Atkey, Partner, Osler, Hoskin and Harcourt

Mr. Edward Waddell, Director, Occupational Health and Safety, Ontario Federation of Labour

Mr. Colin Isaacs, Executive Director, Pollution Probe

Ms. Heather Mitchell, Barrister and Solicitor

Mr. William Neff, Director, Technical Affairs, Canadian Chemical Producer's Association

Panel Moderator will be Mr. Doug Macdonald

3:50 Panel Discussion

Following presentation of the different positions, the discussion will attempt to identify areas of common ground which can provide a basis for attempts to increase access to information while maintaining trade secret confidentiality.

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During the course of the discussion members of the audience are encouraged to provide written questions which, as much as possible, will be directed to panel members by the moderator.

5:00

Closing Remarks

Mr. Doug Macdonald

BIOGRAPHICAL INFORMATION

GORDON ATHERLEY

Dr. Atherley holds a Degree in Medicine from the University of Manchester and is a Fellow of the Faculties of Occupational Medicine, Royal College of Physicians, for both Ireland and the United Kingdom. He has taught at the University of Toronto, University of Aston in Birmingham and in 1979 was the Chief Occupational Medical Officer for the Government of Saskatchewan.

Dr. Atherley has published over fifty scientific papers and is the author of Occupational Health and Safety Concepts, London, 1978. He is currently President of the Canadian Centre for Occupational Health and Safety.

RONALD ATKEY

Mr. Atkey holds an LL.B from the University of Windsor, has completed a Masters Degree in Law at Yale University and was appointed Queen's Counsel in 1979.

Mr. Atkey was a member of the House of Commons from 1972 to 1974, during which time he spoke frequently on the need for freedom of information and deregulation, and, served as Minister of Employment and Immigration in the Conservative government of 1979. Mr. Atkey is a partner in the law firm of Osler, Hoskin and Harcourt and is Chairman of the International Freedom of Information Institute.

BERNARD BONSER

Chief Bonser has served with the Toronto Fire Department since 1946 and has held the position of Chief since his appointment in 1977. He is a Past President of the Canadian Association of Fire Chiefs, a member of the Fire Service Advisory Committee of the National Research Council and a representative of the Canadian Association of Fire Chiefs on legislation concerning the transport of dangerous goods.

EDWARD GIBSON

Dr. Gibson is a graduate of the University of Toronto and served as Medical Officer with the Royal Canadian Air Force from 1955 to 1959. He served as Medical Officer of Health for the City of Welland, Ontario before joining Dofasco Inc., where he has been Director of Occupational and Environmental Health since 1977.

Among a large number of memberships, Dr. Gibson is President of the Canadian Council of Occupational Medicine and is the author of a number of research papers in the area of occupational health.

COLIN ISAACS

Mr. Isaacs holds a Degree in Chemistry from the Imperial College, London and has an extensive background in university administration. He served as an Alderman on the Council of the City of Stoney Creek from 1976 to 1979 and was a member of the Ontario Legislature from 1979 to 1981.

Since February of 1982 Mr. Isaacs has served as the Executive Director of Pollution Probe.

JOHN JACKSON

Mr. Jackson is a graduate of the University of Windsor and has done graduate work at the University of California, Berkley. He is co-author of the book Chemical Nightmare: The Unnecessary Legacy of Toxic Wastes.

Mr. Jackson has taught political science at the University of Windsor, served as a member of the Windsor Occupational Safety and Health Council and authored a report on right to know legislation for the City of Toronto Board of Health.

ANNE JOHNSTON

Ms. Johnston is a graduate of the London School of Occupational Therapy and since 1973 has served as a member of the Toronto and Metropolitan Toronto Councils. She has been a member of a large number of boards and commissions in Toronto, is involved with many organizations at the community level and is currently the Chairman of the Toronto Board of Health.

JOANNA KIDD

Ms. Kidd holds a Bachelor of Science degree from the University of Toronto and spent five years engaged in epidemiological research at the same university. She has a background in free-lance journalism and is currently a staff member of Pollution Probe and a member of the Toxic Substances Coalition.

ERNEST MASTROMATTEO

Dr. Mastromatteo is a graduate of the University of Toronto and prior to 1974 was Director of the Occupational Health Protection Branch, Ontario Ministry of Health. In that year he became Chief of the Occupational Safety and Health Branch of the International Labour Organization. In 1976 he was appointed Director of Occupational Health, Inco. Ltd.

Dr. Mastromatteo has taught at the University of Toronto, served as a consultant on occupational diseases for the Ontario Workmen's Compensation Board and has published approximately thirty-five papers on different occupational health topics.

HEATHER MITCHELL

Ms. Mitchell holds an LL.B. from the University of Toronto, has served in a variety of capacities with the government of Canada and during the period 1974 to 1977 and acted as Counsel to the Canadian Environmental Law Association. Since then she has been a Research Fellow at the International Council of Environmental Law, Bonn, taught at the University of Toronto and served as a consultant to the Commission on Freedom of Information and Individual Privacy.

Ms. Mitchell is the author of a number of briefs and articles on different aspects of environmental law and access to information.

MICHAEL NASH

Mr. Nash is a partner in the Hamilton law firm of Fazakas, Nash and is the author of Canadian Occupational Health and Safety Law Handbook, published by the Canadian Environmental Law Research Foundation, of which he is an Honourary Director. His interest in the subject of access to information on hazardous substances was first kindled in law school and since that time he has authored a number of briefs and articles on the subject, as well as other aspects of occupational health and environmental law.

WILLIAM NEFF

Mr. Neff holds a degree in Chemical Engineering from the University of Saskatchewan. He has spent eight years working in a number of positions with the chemical and petroleum industries and has spent considerable time working with both the Ontario Ministry of the Environment and Environment Canada. He is presently Director of Technical Affairs with the Canadian Chemical Producers Association.

JOHN SHEPHERD

Mr. Shepherd holds a degree in Chemical Engineering from McGill University and a Masters in Business Administration from Harvard University. Since 1958 he has held a succession of positions at Nacan, a company which manufactures adhesives, starches and specialty chemicals. He is currently responsible for corporate engineering and environmental, occupational health and safety matters.

EDWARD WADDELL

Mr. Waddell served overseas with the Canadian army during the second world war and since then has held a variety of positions with Canadian labour organizations. He has served with the Canadian Congress of Labour, Oil, Chemical and Atomic Workers and, since 1973, the Ontario Federation of Labour, where he is currently Director of Occupational Health and Safety. He is a member of the Ontario Ministry of Labour Advisory Council on Occupational Health and Safety and the Canadian Labour Congress National Committee on Occupational Health and Safety.

HAZARDOUS SUBSTANCES AND THE RIGHT-TO-KNOW

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THE RIGHT-TO-KNOW MOVEMENT

John Jackson

THE RIGHT-TO-KNOW MOVEMENT

In January 1981, a coalition of approximately 40 community, environmental and labour groups in Philadelphia celebrated their success in having City Council pass right to know legislation. This was the first legislation in North America to assert that both workers and community residents have the right to know what hazardous substances are being handled and released in their workplaces and communities.

The legislative package adopted by Philadelphia's City Council requires every business to disclose which substances on a list of toxic chemicals they use, manufacture, store or discharge into the air. This data, along with information on the health effects of each chemical, is kept on file in City Hall and is available to the public.

The public's right to know had not previously been automatically recognized in Philadelphia. Similarly, it has not been recognized elsewhere in North America. The initiators of the bill -- a loose coalition of worker, environmental and community organizations -- spent almost two years talking with residents, politicians and industry people about the need for right to know and ways to achieve it. When City Council finally held public hearings on the issue, health experts, economists, federal government officials, consumer group representatives and unemployed workers joined with the initiators of the bill to emphasize the need for right to know. The two-year campaign

culminated in a unanimous council vote to enforce right to know.

Philadelphia is not the only community in which the right to know is being demanded and recognized. Cincinnati, Ohio has passed similar legislation. Eleven California cities, including Sacramento, San Jose and Santa Monica, also have right to know legislation. Numerous other cities, counties and states across the United States are investigating the same possibility.

In Canada, at least two municipalities have made similar initiatives. A committee set up by Windsor City Council is investigating the possibility of a municipal disclosure by-law. Toronto's Board of Health is also examining this possibility.

This growing demand is the product of frustration and fear. The right to know is an assertion of our rights as community members to have full access to information that may be critical to protect the health of ourselves, our neighbours and our co-workers.

The frustration and fear are products of not being warned of occurrences in our communities that may be potentially dangerous.

The movement in Windsor is a prime example of this situation. In 1981, the Canadian government ordered a company to remove an herbicide called Cobex from the market because the tests asserting that it was safe to use were shown to be based on work by a lab that was guilty of slipshod and fraudulent lab practices. These practices included underestimating the effect of a chemical by replacing dead mice with live ones and not recording the deaths.

The pesticide was suspected of being carcinogenic.

The Cobex was gathered from across Canada and shipped to Windsor for passage back to the U.S. Many of the drums holding the pesticide were damaged as they were shunted across the country; this resulted in yellow dust leaking from some of the drums and coating the outsides of trucks. When a U.S. customs agent passed out from the fumes from one of the trucks, entry into the U.S. was forbidden until the substance was repackaged.

The damaged containers full of a suspected cancer-causing herbicide were then taken to a Windsor warehouse located in a residential neighbourhood. Workers were concerned that proper storage and handling precautions were not being taken with the Cobex. When their concerns leaked into the community, public pressure resulted in more stringent supervision of the repackaging by the Ministry of Labour and the Ministry of the Environment. People in the community asked the following question: If the public had not found out and as a result had not demanded better precautions, would the operation have been completed safely? The general feeling was that the chances for safety were better when there was public involvement.

Three months later, a fire broke out in a warehouse in another part of Windsor. Unknown to the municipal firefighters who responded to the alarm, hazardous chemicals were stored on the premises. The firefighters entered to fight the flames unaware of the chemicals inside -- chemicals that could severely

harm themselves as well as the neighbourhood residents if they were released. Some of these chemicals did escape, but fortunately, no known injuries occurred.

Two months later, a barge carrying railway cars took on water through a hole in its side as it was crossing the river between Windsor and Detroit. Seventy-eight drums filled with ethyloxazoline were on the cars that sank. Experts said that leaks from the drums would have killed all fish in the vicinity. Fortunately, the contents of the rail cars were retrieved without damage occurring.

When these incidents became publicly known, many people in Windsor asked questions about what hazardous substances they were encountering in their community daily. The intensity of the feeling was heightened by the problems that many individuals in the community regularly have with obtaining information about the substances that they work with. The Windsor Occupational Safety and Health Council documented many health problems workers encountered. These included workers standing over vats of chemicals without being given proper warning about the material or adequate protective respiratory, apparatus. In other cases, hazardous properties were used in cleaning machinery. The workers were never informed about what the substances were or their hazardous properties. These are almost daily occurrences in the factories of Windsor.

Windsor City Council's members reacted to the obvious concern in their community by setting up a committee to investigate the

situation. As its first task, the committee hired people to conduct a survey to find out how widespread hazardous substances are in the City. Five months later, the committee concluded that hazardous substances are widely present throughout the City -- not just in chemical companies or in large factories, but in almost every industry in the City. They found that most industries have some type of material requiring special precautions in its handling for the welfare of workers within the plant, for the welfare of municipal employees who may come into contact with it in an emergency situation, and for the welfare of people who live in the neighbourhood of the factory. The surveyors discovered that no one knows the quantities or distribution of hazardous substances in the city. Two-thirds of the companies interviewed during the survey said that they believed there was a strong need for greater access to information.

The most distressing findings were the significant limitations in the information given by those companies surveyed. Some examples of those limitations are:

- * Some people listed only one or two items as hazardous in their factory, while obvious from the character of their operation that there must be many other hazardous items in their premises.
- * Many said that they had no idea what a hazardous substance was.
- * Many substances were identified by trade name rather than by their chemical name. Trade name information is almost useless, since it makes it very difficult to

define the hazards that may be posed.

- * Two companies, while assuring the interviewers that all was well with the handling of substances at their plant, gave horror stories about the ways hazardous materials are handled by other companies in the City.
- * Some companies did not have material safety data sheets. These are the forms that the manufacturer is supposed to supply telling the hazards associated with a substance and the precautions to be taken in handling it. This seemed to be a particularly common problem where the head office was not located in Windsor and the information was, therefore, kept elsewhere.
- * Many small companies did not themselves know the names of the substances they were using. It became clear that the right to know about the contents and hazardous properties of materials is not just necessary for workers and community residents, but also for many owners and operators of plants.

As a result of the disturbing results of this survey, Windsor City Council asked its committee to investigate ways by which mechanisms could be provided to require the disclosure of the presence of hazardous substances. The committee has just completed drafting a possible by-law.

The situation in Windsor is not unusual. The frustration with lack of information and the demand for it is becoming strong all across this country.

When we are denied information, we are often told that it is not important for us to have it. The industry that is handling hazardous substances will take all necessary handling precautions we are told. But experience tells us that such complete faith is not warranted.

At a major rubber manufacturing plant in Kitchener, a worker became concerned about a new process being tested by the company. Of particular concern was one of the chemicals the company was introducing. Although there was a label on the chemical's container it did not warn workers about its hazards. The worker recognized the material as extremely hazardous because of his previous experience with the chemical as an auto body repairman. When the workers complained about the material, they were informed that the same substance is used at the Company's U.S. plant and workers there had not complained about it. Therefore, the company said that there was no need to worry.

Further investigation by the union, however, revealed that the substance was toluene diisocyanate and was extremely hazardous. As a result of this information, the workers pressured the company not to use the chemical. The company stopped its planned use of the chemical.

Sometimes we are told that we are right, industry should be required to release its information -- but only to government agencies. Allow the government to make the judgements and protect us from dangers. But the protecting hands of government are often as negligent as those of industry.

Let me give you just one example. A woman in Tiny Township, northwest of Barrie, thought that she was suddenly developing arthritis. Her joints were swelling and stiffening and she was drowsy and sleeping much more than usual. Her dog developed similar symptoms. One day she received notice from the Ministry of the Environment advising her and her family to boil their well water before drinking it. They said that the water contained a substance called trichlorethylene. She was concerned about what all this meant so she did further investigation on her own. Her discoveries made her angry with the Ministry of the Environment because she had trusted it to take care of her. The levels of trichlorethylene in her well were over fifteen times higher than MOE guidelines for drinking water. She also found that the Ministry had known of these unsafe levels three months before informing her. The final blow to her faith came when a scientist informed her that the MOE's suggestion to boil the water would not solve the problem. As a result of this news, she demanded further action from the Ministry; the government then provided her with another source of drinking water. When she went for a medical examination, she was informed that the symptoms she was experiencing were a classic case of trichlorethylene exposure.

She discovered that a large quantity of trichlorethylene had been dumped at a landfill located less than a half mile from her house. Prior to this discovery she had been completely unaware that liquid industrial wastes were being deposited at the dump.

The Ministry of the Environment, however, was aware of the dumping.

With knowledge about the materials entering the landfill, which right to know would have given her, she would have been more likely to realize the source of her health problems and stopped using the contaminated water sooner. In addition, if she had known what was being dumped at the site, she would have been likely to pressure the government and the site owners to take actions to prevent the contamination. This is just one example of how, with the right to know, community members could prevent many unnecessary environmental and human health problems.

In an occupational health example, after instructions from the Ministry of Education, the Windsor school board ordered one of its maintenance employees to inspect each of its schools for asbestos. He was instructed to take test samples of materials that might contain asbestos such as ceiling tiles and furnace wrappings. He was given no protective equipment and was not warned of the extreme dangers of asbestos until two and a half months after starting to handle the substance. The warnings came from other union members when they discovered what he might be handling. Right to know legislation would have required that he be fully informed immediately of the dangers of the substance.

Access to information must be recognized as a basic right.

People have the right to know which hazardous substances they may encounter in their workplaces and in their communities. Fulfilment of this right requires that government legislate full public access to the following pieces of information:

- 1) Knowledge of which hazardous substances are used, stored and produced in each factory, warehouse and commercial operation in the community.
- 2) Knowledge of which hazardous substances are emitted from each enterprise into the air, water and land;
- 3) Knowledge of which hazardous substances are transported through the community, and
- 4) Knowledge prior to the substance being used, stored, produced, emitted or transported. It is not enough to tell us after we have been working with it for six months or after it has been leaking into a sewer for several months that the material is present and I should be careful. I need to know before it enters my community so I can have a say on how it is introduced to my community and make sure that proper precautions are taken.

Adequate public availability of the information listed above requires two mechanisms:

Firstly, a listing of all hazardous substances present should be required both within the specific workplace and at some central location or locations within the community. This listing should include trade names, chemical names of all substances in the item, handling precautions, possible hazards and results of tests on the substance.

In addition, labels should be clearly visible on all

containers holding hazardous substances within the workplace and on transportation vehicles. These labels should include the chemical names, handling precautions and possible hazards associated with the material.

The right to know is being demanded by growing numbers of people across North America. This demand is the result of the public's determination to assume responsibility for the protection of themselves rather than leaving such responsibility in the hands of others. The right to know is the essential beginning step in taking actions to responsibly take care of our own communities.

HAZARDOUS SUBSTANCES AND THE RIGHT-TO-KNOW

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TRADE SECRETS IN OCCUPATIONAL HEALTH AND SAFETY LAW

Michael Izumi Nash

Trade Secrets in Occupational
Health and Safety Law

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Trade Secrets in Occupational Health and Safety Law

1. Introduction

The issue involved in a discussion of trade secrets in occupational health and safety law is the competition between two legitimate interests: the employers' interest in keeping valuable information out of the hands of competitors, and the workers' interest in knowing what health and safety risks are being encountered at work. This particular competition is a recent phenomenon. Historically, the legitimacy of the employers' right to keep trade secrets was recognized and given legal sanction long before the workers' right to know was even imagined by employers or legislators.

An appreciation of the present state of balance between the interests of employers and workers requires an examination of the legal protections accorded to trade secrets and an examination of the modes by which the workers' right to know has been given expression by law. An appreciation of how to accommodate these competing interests in practice requires a consideration of the extent to which it could be possible to protect trade secrets while at the same time extending to workers the necessary information to permit independent verification of the risks to which they are exposed.

2. Trade Secrets

(a) Definition

The term "trade secret" is often used with little thought as to what it really implies. To be a secret, it must be known only to the owner and those to whom it must be confided in order to be used by the owner. The moment someone else discovers the idea, whether by accident or by acquiring it in any lawful way, it is no longer a secret and the discoverer can use it as he or she sees fit.¹ Just about any trade secret could be patented, and if validly patented is protected by statute for seventeen years² against all other possible users, whether those users discovered the idea by accident or not. The patenting process is one that is time-consuming and can be expensive, but on the other hand, if the idea is one that is really valuable for its owner, the patent process is the obvious route to protect the secret. It might reasonably be thought that the owner of a "trade secret" which is not patented nor being patented is probably either taking a great risk or does not have anything of significant value.

(b) Common law protection

Common law protection of trade secrets centres on the employee-employer relationship. In the jargon of the common law, the servant owes the master a duty of loyalty. That loyalty is breached when the master, having employed the servant in a confidential capacity, is harmed by the servant's disclosure or use of confidential information, of which the trade secret is perhaps the most obvious example. Any servant who

causes such harm may properly be disciplined or discharged at common law,³ and that common law doctrine has found acceptance in the arbitral jurisprudence as well.⁴ Moreover, if the breach is anticipated, or if the breach can be stopped to prevent further loss, an injunction restraining disclosure or use can be issued.⁵ If the employer wishes to sue for damages, that action can also be taken⁵ but the practical problem is that many servants would not have enough money to pay the judgment nor be insured for that purpose.

(c) Statutory protection

(i) Occupational Health and Safety Statutes

Every statute which establishes an inspectorate whose mandate is wholly or partially the protection of the occupational health and safety of the workforce has a confidentiality section.⁶ While the specific wording changes from statute to statute, the general thrust of each such section is to:

- prevent the inspector from being compelled by subpoena to divulge anything discovered in the course of employment;
- prevent the inspector from revealing to anyone confidential information, including trade secrets, except for the purposes of the statute and the regulations;
- prevent anyone else involved in the administration of the statute, for example, health and safety committee members or representatives, from revealing to anyone confidential information, including trade secrets, ex-

cept for the purposes of the statute and regulations. Breach of these sections by a worker or an inspector could be punished by prosecution, for which the penalty would be a fine, suspended sentence, or some form of discharge.⁷

The crucial words in the prohibition sections are: "except for the purposes of the Act and the regulations." These words are capable of differing interpretations by reasonable people, but one reasonable interpretation is that the purpose of health and safety statutes is the promotion of health and safety by the internal responsibility system. The internal responsibility system is the model of all modern health and safety statutes and posits the desirability and efficacy of a regime in which informed partners--management and labour--work out their problems together with assistance and refereeing from government. Like the model for the free enterprise economy itself, the internal responsibility system requires for its functioning equally and sufficiently informed actors on both sides. Adequate sharing of information is a sine qua non of the system. As long as the information is used within the workplace or shared only with those advising the participants in the workplace, then it would seem that what would otherwise be "secret" could be disclosed. What is really prohibited, according to this argument, is indiscriminate or malicious disclosure of confidential information.

The contrary interpretation would be that the only authorized disclosures of trade secrets would be those specifically and unequivocally mandated in the statute itself.

This interpretation, if followed consistently, would paralyse administration of the statute. There is no section for example requiring inspectors to communicate information to the Directors of their governmental branches, but if inspectors could not inform their superiors of their findings where trade secrets were involved, one wonders how the Directors could monitor their staff's functioning, consider recommendations for prosecutions, or decide appeals.

(ii) Access to Information Acts

Canada, New Brunswick and Nova Scotia now have general laws on freedom of information, all of which are designed to give access to government records subject to specific exceptions. One such exception is for trade secrets of third parties,⁸ which in the context of this discussion would be employers. The exception for trade secrets does not however make unavailable what is otherwise available under the occupational health and safety statutes. Nor does the exception protect--in the federal jurisdiction--trade secrets contained in the results of "environmental or product" testing, or any trade secrets whose disclosure would be in the public interest in terms of health and safety where the public interest clearly outweighs any potential financial loss to the employer.⁹

The result of the first exception in favour of environmental and product testing results is that test results which would have been confidential under the Canada Labour Code¹⁰ are now

available, assuming that such tests are "environmental or product" tests. The result of the second exception in favour of the public's interest in health and safety is that an independent body can perform a balance of the competing interests after hearing from both sides, a procedure which was formerly not available.

3. The Right to Know

(a) Inspectors

Governmental inspectors are no new phenomenon in themselves. The first inspectors made their appearance in the late nineteenth century in Canada. What is new is the expansion of their mandate. Whereas in prior decades safety was virtually the sole target of inspectional activity, since the flowering of the environmental movement health has become a major concern. Health concerns are inherently more likely to involve revelation of trade secrets than safety concerns. There is little likelihood a competitor would profit from knowing about a company's poor record for machine guarding, but a competitor could profit from knowing what that company was using to make a more resilient or durable synthetic fibre, even if it did cause nasal cancer.

The precise powers of inspectors are somewhat different in each statute, but in general their powers include the following:

- to be accompanied by another expert e.g. hygienist, engineer, doctor, chemist;
- to look at any relevant company records or documents,

and to make copies, or take the originals;

-to ask questions of and get answers from anyone at the worksite;

-to take samples of anything for analysis.¹¹

In exercising these powers the inspector may stumble across something that is a valued secret of the employer and also a cause of anxiety for the workers, particularly if the workers have alerted the inspector to the source or suspected source of their anxiety.

The process of inspection itself may reveal the trade secret. The inspector will usually be accompanied by representatives of management and labour, who are both equally free to observe and ask questions. In several jurisdictions including Ontario and the federal jurisdiction, when the inspection is over, the inspector will discuss his or her findings with both management and labour, and if there are orders written, will post them in a spot where they are likely to come to the attention of workers. The inspector may also respond personally to any worker who has lodged a complaint.¹²

So far however, the risk of exposure of an important trade secret is relatively small. Such identification of chemical or biological agents as is required in the inspection process for remedial purposes will not often be specific enough to reveal a secret of great importance. For example, an inspector may find it sufficient to order the installation of a ventilation hood sufficient to reach a certain capacity in order to reduce exposure to fumes without necessarily

revealing that the process requiring ventilation involves a recently discovered and highly specialized chemical compound. Indeed, it would be surprising if the inspector even realized what the compound was.

The more likely route by which the new and secret chemical compound would come to light would be by the use of the inspector's power to take samples for analysis. If labour is aware an analysis is being performed, there will naturally be curiosity to know what was found. Once the substance is properly identified, the concerned workers will want to inform their consultants or doctors.

Though the workers will argue that the test results must be disclosed, it is possible that the inspector may take a restrictive view and not permit disclosure involving a trade secret. The first avenue for redress is to the Director of the relevant government office. Ontario law specifically provides for this kind of review,¹³ but the absence of a legal requirement in other jurisdictions would not prevent an administrative review.

If an administrative review by superior officers did not produce disclosure, workers under the federal jurisdiction or the provincial jurisdictions of Nova Scotia or New Brunswick could use the access to information legislation discussed above. If that too proved unsuccessful or if that remedy were unavailable, judicial review would be possible, and although costly could in an appropriate case produce the desired result. At issue would be the fairness of requiring a worker to remain

ignorant about the nature of an actual or potential health hazard. As long as the risk were substantial and not simply speculative or hypothetical, the court could probably be persuaded to intervene. Moreover, the court would be in a position to fashion a remedy that protected both parties. In somewhat analogous cases in other contexts, courts have been able to order disclosure on terms protecting trade secrets.¹⁴ In a group of cases involving U. S. companies and their unions, the court ordered all material disclosed which was not already alleged by the companies to involve trade secrets, with the parties to conduct further bargaining on how to handle the trade secrets. If they were unsuccessful in reaching a compromise the court reserved the jurisdiction to direct what the terms of disclosure would be. In a Canadian civil litigation case, the Court gave directions as to whom specifically the trade secrets could be divulged.

(b) Labelling

(i) Transportation of Dangerous Goods Act

The federal Transportation of Dangerous Goods Act, which was proclaimed in force November 1, 1980 for interprovincial rail, air, ship, pipeline or highway traffic will, when regulations are eventually adopted, be a very important source of information for workers. The labels required in transit will disclose, among other things, the prescribed shipping name¹⁵ of the materials. In the case of chemicals, this name will identify the generic name, such as acetaldehyde ammonia or acetone cyanohydrin. Armed with even the generic name, a con-

cerned worker can consult the standard reference books to find out the related health risks and precautions.¹⁶ The fact that the goods might not be in their labelled containers during a given exposure should not be an insuperable problem to identification. With any degree of labour solidarity the label data should be obtainable from the workers in the shipping department, receiving department, or carrier company.

There is no provision in the Transportation of Dangerous Goods Act nor the proposed regulations which would exempt a manufacturer from attaching a required label on the grounds of trade secrecy. To the extent that generic identification of dangerous goods, and in some cases technical identification of those goods, might be a trade secret, there does not appear to be any accomodation to the manufacturers' interest at all.

(ii) Provincial requirements

The federal government anticipates that its Transportation of Dangerous Goods project will be met with complementary provincial legislation to regulate intra-provincial transit. Certainly the present situation is a patchwork of inconsistent or non-existent legal requirements. In Ontario for example, still the most industrialized province in the country, there is no requirement that dangerous substances in industrial establishments have any particular label. Yet in Ontario mines, containers of agents likely to affect the health or safety of workers must be labelled "in clear legible print to identify the agent and the label shall state the precautions to be taken..."¹⁷

Similarly, on Ontario construction sites, containers of combustible, corrosive or toxic substances shall be "clearly labelled to identify

- (i) the substance,
- (ii) the hazards that are involved in the use of the substance,
- (iii) the uses to which the substance shall not be put,
- (iv) the precautions to be taken in the handling, use, storage, and disposal of the substance."¹⁸

Saskatchewan¹⁹ and Newfoundland²⁰ have labelling requirements for all economic sectors virtually identical to that prescribed for Ontario mines. Quebec takes a slightly different approach. Rather than require the label to simply "identify" the substance, suppliers are obliged to show the "chemical composition", which would ordinarily involve a more detailed description than a generic name would yield. On the other hand, the relevant section goes on to say: "There is no obligation to reveal manufacturing secrets"²¹. Presumably if the composition itself were a secret, then a generic name would suffice. British Columbia takes a different approach again; rather than have an overall labelling standard, several categories of substances are identified for labelling: substances in pressurized containers, flammable, unstable, highly reactive or corrosive substances, carbon tetrachloride, benzene and listed carcinogens.²²

(iii) Toxic Substances Control Act (U. S.)

The U. S. Toxic Substances Control Act²³ requires that the Administrator of the Environmental Protection Agency compile, keep current, and publish a list of chemical substances in use in the United States. The first publication appeared in May 1979 and listed 43,641 entries by "preferred name" and Chemical Abstract Service (CAS) Registry Number. A preferred name is the name assigned by the CAS or if none exists, the name assigned by the EPA, or alternatively the name by which the substance is known to chemists. The CAS Number ties the substance to a chemical composition formula. With such detailed listing, it was clear that some trade secrets might get out. Consequently the EPA developed a procedure by which users could persuade the EPA that a particular substance involved a trade secret; if the users succeeded, EPA assigned a generic name so as to mask the specific composition.

The EPA Inventory and supplements may have some utility for Canadian workers trying to gain information. For example, if a worker were employed by a transnational corporation using the same chemical processes in the U. S. and Canada, that worker could determine whether the U. S. EPA had deemed the composition of a particular substance was worthy of trade secret protection. Further, since the Inventory lists substances by reference to preferred names and CAS Registry Numbers, knowledge of the preferred name gleaned from the label or other sources could lead to the CAS Registry Number and hence to the chemical composition and even the molecular formula.

Ontario workers can benefit from the fact that the Inventory and Supplement of June 1980 have been lodged with all important libraries in the province. Other workers would have to obtain their own copies from the EPA, try to borrow it through inter-library loan, or call up their Ontario friends.²⁴

(c) Pre-market notification

(i) Ontario

Under section 21 of Ontario's Occupational Health and Safety Act, anyone proposing to manufacture, distribute or supply a new biological or chemical agent for commercial or industrial use must submit to a Director in the Ministry of Labour a notice specifying certain data. The notice must name the ingredients and state the composition and properties of the substance. Clearly, if obeyed, the manufacturers, distributors and suppliers will be furnishing trade secrets to the Director. If workers want that information and cannot get it from the employer, they might be able to get it from the Director. As discussed above, the Director has the authority to release data containing trade secrets, and if he or she does not, judicial review is available.

However, reliance on section 21 may be frustrating. Since the section does not require any notice to the workforce or the public that the manufacturer, distributor or supplier is making the required submission, there is no independent method of verifying whether a substance has been reported, or indeed whether a new substance has been introduced. Further, since

there is no reporting requirement on users, if the manufacturer, distributor or supplier is based out-of-province there may not have been any report to the Director even though the substance is new.

(ii) Quebec, Saskatchewan, Newfoundland and New Brunswick

Whereas Ontario's pre-market notice scheme does not put the workforce on notice of new substances being introduced, the schemes in Quebec,²⁵ Saskatchewan,²⁶ Newfoundland,²⁷ and New Brunswick²⁸ do. Each requires that an inventory of all chemical substances in the workplace be kept current by the employer at all times and available to the workers. The substances have to be identified by generic names, which is not optimal from the workers' point of view but certainly provides a means of access to medical information while revealing few trade secrets.

The schemes in these provinces have certain weaknesses. Except in Quebec, there is no requirement of a report to government, which means that in the absence of employee complaints, inspectors may not be alerted to the sufficiency or deficiency of the inventories. Even in Quebec, the reporting requirement is on suppliers, not on users, so the likelihood of the inspector being alerted to a discrepancy between actual introduction of a substance and its being recorded in the inventory depends solely on employee complaints and the inspector's powers of observation. Also, since so many chemicals are imported, employers may not be in a position

to know the information the law demands be put in the inventory. Employers are legally bound to ask suppliers for the data, but governments have not yet devised a means to compel out-of-province suppliers to comply.

(d) Technological change provisions

The labour relations statutes of Canada,²⁹ British Columbia,³⁰ Manitoba,³¹ and Saskatchewan³² all provide that employers must give notice to the union ninety days in advance of introducing a "technological change". A technological change, according to the Canada Labour Code means:

- (a) the introduction by an employer into his work... equipment or material of a different nature or kind than that previously utilized by him... and
- (b) a change in the manner in which the employer carries on the work...that is directly related to the introduction of that equipment or material.³³

The notice that must be given has to include a description of the nature of the change, and a prediction as to the kind of effect that the change will have on employees. It would be difficult for an employer to fully comply with the section without revealing a trade secret, if one were involved.

Following the giving of the notice, the union may serve a notice upon the employer³⁴ requiring that the employer enter into collective bargaining concerning the change. The parties are then supposed to work out if and how the change will be introduced. Except in British Columbia, if there is no agreement, the parties are left to the usual weapons of last resort: the strike and lock-out. In British Columbia, the matter must

be settled by arbitration.

One limitation on the triggering of the technological change provisions is that they only become effective where a change would affect a "significant number" of employees. Whether a change involving the introduction of a new chemical substance would affect a substantial number of workers would have to be assessed in each case, but the typical situation probably would not qualify.

However, in the situation where a significant number of employees were affected by a technological change, the law would weigh very heavily on the side of disclosure, including disclosure of trade secrets if necessary. The essence of bargaining is that the issue be clearly understood and that is impossible if the union is unaware of crucial details of the change. If disclosure were not forthcoming, it could be compelled, probably on terms protecting the further spread of the trade secret, on application to the Labour Relations Board. Alternatively, the employees could use whatever collective bargaining strength they could credibly muster to bring about an accommodation.

(e) Committees and Representatives

Joint labour-management occupational health and safety committees are now a common feature of Canadian law. Only Nova Scotia and Prince Edward Island have no legislation requiring the establishment of committees. Four jurisdictions--Canada,³⁵ Alberta,³⁶ Manitoba,³⁷ and Newfoundland³⁸--require such committees only where the workplace has been specifically

designated by the Minister of Labour or by the Governor-in-Council. Six jurisdictions take a more mathematical approach as illustrated in this table:

<u>Jurisdiction</u>	<u>Criteria for Establishing Committees</u>
British Columbia	Twenty employees if high hazard industry ("A" or "B" hazard) but fifty if low hazard industry ("C" hazard). (<u>Industrial Health and Safety Regulations, B.C.Reg. 585/77, s 4.02</u>). For all mines, the criterion is twenty employees. (<u>Mines Act, S.B.C. 1980, c. 28, s. 23</u>)
New Brunswick	Twenty employees. (<u>Occupational Safety Code Regulations, N.B.Reg. 77-1, s. 3(6); Mining Regulation, N.B.Reg. 77-58, s. 286(1)</u>)
Northwest Territories	Ten employees. (<u>General Safety Regulations, N.W.T. Reg. 271-77, ss. 5, 8, 9.</u>) For mines, the criterion is twenty-five employees. (<u>Mining Safety Ordinance, R.O. N.W.T. 1974, c. M-13, s. 10</u>)
Ontario	Twenty or more employees, or if workplace contains a designated substance or a specified toxic substance. (<u>Occupational Health and Safety Act, R.S.O. 1980, c. 32, s. 8(2)</u>)
Saskatchewan	Ten employees. (<u>Occupational Health and Safety Act, R.S.S. 1978, c. 0-1, s. 24(1)</u>)
Yukon	Twenty employees. (<u>Accident Prevention Regulations, C.O. 1963/1, s. 21</u>)

Quebec takes a unique approach to committee formation. Committees are required only where all three of the following criteria are met:³⁹

1. The workplace must have at least twenty employees.
2. The workplace must be in a category identified by regulation, presumably identified as a high-risk category.
3. A notice to establish a committee must be received by the employer from:
 - (a) the union, or if there is no union,
 - (b) 10% of the employees, or four employees, whichever is greater, or
 - (c) le Commission de la sante et de la securite au travail.

Quebec's position puts primary emphasis on the risk factors of the workplace and secondary emphasis on the degree of interest among the workforce in having a committee established.

Four provinces--Manitoba,⁴⁰ Newfoundland,⁴¹ Ontario⁴² and Quebec⁴³--have an additional tier in the legislative structure: the health and safety representative, chosen by the employees. The representative's basic job is to act as labour's watchdog on occupational health and safety. In Quebec the representative functions in conjunction with the committee; in the other three provinces, the representative does the committee's job on certain worksites where there is no committee.

The principal functions of both committees and representatives are:

1. development and monitoring of safety and health programmes;

2. disposition of complaints from workers;
3. teaching, training and communicating information on health and safety.

It can readily be seen that none of these goals can be effectively pursued if sensitive health issues are met with refusals by management to reveal what it considers are trade secrets.

Committees and representatives functioning harmoniously with management will normally receive all information relevant to health and safety as a matter of routine. Certainly it should be the goal of every committee and representative to have both management and labour passing along every piece of pertinent data immediately and without question. Where that kind of harmony does not exist, then recourse must be had to collective bargaining or legal means to obtain the necessary information.

Three provinces--Manitoba,⁴⁴ Newfoundland,⁴⁵ and Ontario⁴⁶--require simply that the employer co-operate with the committee or representative. If the employer were not supplying information which was objectively necessary for the committee or representative to function in an intelligent fashion, then that could be seen as a breach of the duty to co-operate, punishable on prosecution. The practical problem for the employees is naturally the difficulty of knowing when a person actually has information that he or she has not revealed, and then being able to prove it in court.

The Canada Labour Code appears to grant to committees a far reaching power to obtain management-held data. The committee has authority to request

from an employer or any other person acting on his behalf such information as the committee considers necessary to identify existing or potential hazards⁴⁷ with respect to materials, processes or equipment.

The Code then makes it an offence punishable on summary conviction for an employer to fail or neglect to furnish the information requested.⁴⁸ There is no explicit protection for trade secrets. The unfortunate catch with this provision is that in situations of real conflict between management and labour, the law may be useless. If all the worker members want certain information that all the management members agree should be withheld, then unless the workers at the meeting happen to outnumber the management delegates, the committee is hamstrung; it cannot initiate the request for information.

Quebec⁴⁹ and Saskatchewan⁵⁰ are the only provinces to impose a clearly worded positive duty on management to forward all data relevant to occupational health and safety irrespective of a request from the committee. Saskatchewan's provision on the subject requires that:

Every employer shall ensure that the worker representatives on the committee or, where there is no committee, the workers are kept fully informed of any information in the employer's possession concerning the work environment and the occupational health and safety of workers at that place of employment, including the general results of any environmental or biological monitoring....

The only limitation on what the employer must reveal

to the committee and the representative is that the information must be relevant to occupational health and safety. In practice, employers may be reluctant to divulge information containing what are alleged to be trade secrets. The statute does not specifically protect trade secrets from the committee. However, as we saw above, each statute does have a general confidentiality section which forbids disclosure of trade secrets by anyone who received them in the performance of duties under the statute. A reasonable interpretation is that management is bound to reveal information relevant to health and safety to the committee or representative whether it is a trade secret or not. The employer could however claim the remedies that might be available to it under its power to discipline or discharge, or the employer could sue or seek an injunction, provided either the employer had made clear that the information was secret, or the information was so obviously secret that no reasonable person could have thought otherwise.

4. Conclusion: Practical compromises

In terms of brute strength, the employers have the edge in protecting trade secrets; they after all control the information, and the refusal to divulge it is a practical veto which can be overturned only by concerted employee action or legal challenge. In terms of new legislation, employees may now have the legal edge in prying those secrets loose if they have the resources and drive to pursue their legal rights. But recourse to law should not be

the first option; it is in general a waste of effort and time that could better be spent trying to solve health and safety problems.

Employers can help avoid the kind of stalemates that lead to legal action by recognizing the legitimacy of the new rights to information as methods of permitting labour's involvement in occupational health and safety. There are several ways to communicate secret information while protecting the employer's own arsenal of deterrence or remedy:

1. The secret can be patented and then disclosed; anyone who infringes the patent does so at his or her legal peril.
2. The secret can be divulged to the health and safety committee, the representative, the union bargaining committee or the inspectorate on the express warning that the information is a trade secret and cannot be communicated to others apart from the administration of occupational health and safety in the workplace.
3. In some circumstances, the employer can assess whether the particular information really is such a valuable secret, or if it is whether the revelation of what is necessary for health and safety purposes would in fact compromise the employer's competitive position. There may be cases for example where chemical or biological substances are not labelled for fear of divulging a trade secret when in fact even if the contents were precisely identified, no one would be likely to string

together the other information necessary to turn that limited knowledge into a commercially useful fact.

4. The employer can add to its protection by contract. Individual contracts of employment and collective agreements can and do contain clauses protecting trade secrets. The appearance of such clauses in the contract may have its own symbolic or deterrent effect even without actual recourse to the clauses.

Unions and non-unionized workforces can reduce management anxiety and thereby facilitate the flow of information by demonstrating in action responsible use of information and by being prepared to give necessary guarantees orally or in writing that trade secrets will not be passed to anyone except under defined circumstances. Such circumstances might include disclosure to: expert consultants for independent analysis or advice; personal physicians of affected workers in actual or potential workers' compensation cases; or government inspectors for purposes of verification and enforcement. Labour after all also has an interest in protecting genuine trade secrets, since if substantial harm is done to the employer, jobs may be lost, or the money available for wage bargaining may be reduced.

Where each party can recognize and accomodate the legitimate concerns of the other, both will be farther ahead.

5. Footnotes

¹Crain Ltd. v Ashton, [1949] O.R. 303, aff'd 1950 O.R. 62

²Patent Act, R.S.C. 1970, c. P-4, ss 2, 48

³R. v Fuller, ex parte Earles, [1968] 2 O.R. 564

⁴De Havilland Aircraft of Canada Ltd. (1972), 24 L.A.C. 9 (Johnston); this case involved confidential information other than a trade secret, but the principle is the same.

⁵International Tools Ltd v Kollar, [1968] 1 O.R. 669

⁶E.g.: Occupational Health and Safety Act, R.S.O. 1980, c. 321 as amended, s. 34:

(1) Except for the purposes of the Act and the regulations or as required by law,

(a) an inspector, a person accompanying an inspector or a person who, at the request of an inspector, makes an examination, test or inquiry, shall not publish, disclose or communicate to any person any information, material, statement, report or result of any examination, test or inquiry acquired, furnished, obtained, made or received under the powers conferred under this Act or the regulations;

(b) no person shall publish, disclose or communicate to any person any secret manufacturing process or trade secret acquired, furnished, obtained, made or received under the provisions of this Act or the regulations;

....

Canada Labour Code, R.S.C. 1970, c. L-1, as amended, s. 93:

(2) No safety officer who is admitted into any place in pursuance of the powers conferred by section 91 shall disclose to any person any information obtained by him therein with regard to any process or trade secret except for the purposes of this Part or as required by law.

(3) No person, except for the purposes of this Part or for the purposes of a prosecution under this Part, shall publish or disclose the results of any particular analysis, examination, testing, inquiry or sampling made or taken by or at the request of a safety officer pursuant to section 91.

....

Transportation of Dangerous Goods Act, S.C. 1980, c. 36,
s. 23:

(1) The Minister may, by registered mail, send a written notice to any manufacturer or distributor requesting the disclosure of information relating to the formula, composition or chemical ingredients of any product, substance or organism and such other information as the Minister deems necessary for the proper enforcement of this Act.

(2) Every person who receives a notice under subsection (1) shall disclose to the Minister, within the time and in the manner specified in the notice, any information described in subsection (1) that is requested in the notice and in the possession of that person.

(3) Subject to subsection (4), information disclosed to the Minister pursuant to this section and information of a similar nature obtained pursuant to paragraph 14 (2) (b) or an inquiry under section 20 is privileged and notwithstanding any other Act or law, no person shall be required, in connection with any legal proceedings other than legal proceedings relating to the administration or enforcement of this Act, to produce any statement or other writing containing any such information or to give evidence relating to any such information.

(4) The privilege provided by subsection (3) does not apply to information referred to in that subsection

(a) to the extent that it relates only to the dangerous properties of any product, substance or organism without revealing the formula, composition or chemical ingredients thereof; or

(b) to the extent that it is required to be disclosed or communicated for the purposes of an emergency involving the health or safety of any person or the public.

(5) No person to whom any privileged information has been provided shall knowingly, without the consent in writing of the person by whom the information was provided,

(a) communicate or allow to be communicated to any person, or

(b) allow any other person to inspect or have access to

any such information except for the purposes of the administration or enforcement of this Act.

....

⁷The author is not aware of any prosecution under an occupational health and safety statute that has resulted in

incarceration, nor of any case at all of a prosecution under the confidentiality sections. Inspectors who breach these provisions are disciplined or discharged by the government.

⁸ Access to Information Act, S.C. 1980-81-82, c. 111, Sch I, s. 20 (1); Right to Information Act, S.N.B. 1978, c. R-10.3, s. 6 (c); Freedom of Information Act, S.N.S. 1977, c. 10, s 4 (b); the entire federal confidentiality section is as follows:

(1) Subject to this section, the head of a government institution shall refuse to disclose any record requested under this Act that contains

- (a) trade secrets of a third party;
- (b) financial, commercial, scientific or technical information that is confidential information supplied to a government institution by a third party and is treated consistently in a confidential manner by the third party;
- (c) information the disclosure of which could reasonably be expected to result in material financial loss or gain to, or could reasonably be expected to prejudice the competitive position of, a third party; or
- (d) information the disclosure of which could reasonably be expected to interfere with contractual or other negotiations of a third party.

(2) The head of a government institution shall not, pursuant to subsection (1), refuse to disclose a part of a record if that part contains the results of product or environmental testing carried out by or on behalf of a government institution unless the testing was done as a service to a person, a group of persons or an organization other than a government institution and for a fee.

(3) Where the head of a government institution discloses a record requested under this Act, or a part thereof, that contains the results of product or environmental testing, the head of the institution shall at the same time as the record or part thereof is disclosed provide the person who requested the record with a written explanation of the methods used in conducting the tests.

(4) For the purposes of this section, the results of product or environmental testing do not include the results of preliminary testing conducted for the purposes of developing methods of testing.

(5) The head of a government institution may disclose any record that contains information described in subsection (1) with the consent of the third party to whom the information relates.

(6) The head of a government institution may disclose

any record requested under this Act, or any part thereof, that contains information described in paragraph (1) (b), (c) or (d) if such disclosure would be in the public interest as it relates to public health, public safety or protection of the environment and, if such public interest in disclosure clearly outweighs in importance any financial loss or gain to, prejudice to the competitive position of or interference with contractual or other negotiations of a third party.

⁹s. 20 (2), (6)

¹⁰s. 93 (2)

¹¹E.g. Occupational Health and Safety Act, R.S.O. 1980, c. 321 as amended, s. 28; Canada Labour Code, R.S.C. 1970, c. L-1, as amended, s. 91.

¹²E.g. Occupational Health and Safety Act, R.S.O. 1980, c. 321 as amended, ss 28 (3), (4), 29 (1), (5), (6); Canada Labour Code, R.S.C. 1970, c. L-1 as amended, ss 84.1 (3) (c), (f), (j), 96. Only in New Brunswick however is it a legal requirement that the inspector respond to individual complainants: Occupational Safety Code Regulations, N.B.Reg. 77-1, s. 3 (4).

¹³Occupational Health and Safety Act, R.S.O. 1980, c. 321 as amended, s. 34 (3)

¹⁴Minnesota Mining and Manufacturing Co. v Oil, Chemical and Atomic Workers Union, Locals 6-418 and 6-75, 1982 O.S.H.D. #26,012; Borden, Inc. v International Chemical Workers Union, Local 733, 1982 O.S.H.D. #26,013; Colgate Palmolive Co. v Oil, Chemical and Atomic Workers, Local 5-114, 1982 O.S.H.D. #26,014; Grant v Monsanto Canada Ltd and United Grain Growers (1979), 101 D.L.R. (3d) 594.

¹⁵Notice of Regulations Respecting Dangerous Goods and the Handling, Offering for Transport and Transporting of Dangerous Goods, Canada Gazette, Part I, Appendix, June 19, 1982, ss 61, 65.

¹⁶E.g. United States Department of Health and Human Services and Department of Labor, NIOSH/OSHA, Occupational Health Guidelines for Chemical Hazards (Washington: 1981); United Steelworkers of America, Hazard Alert (Toronto: 1979).

¹⁷Regulations for Mines and Mining Plants, R.R.O. 1980, Reg. 694, s. 281

- ¹⁸ Regulations for Construction Projects, R.R.O. 1980, Reg. 691, s. 47.
- ¹⁹ Occupational Health and General Regulations, R.R.S. 1981, c. O-1, Reg. 1, s. 74
- ²⁰ Occupational Health and Safety Regulations, 1979, N. Reg. 104/79, s. 25 (2) (c)
- ²¹ An act respecting occupational health and safety, R.S.Q. c. S-2.1, s. 67
- ²² Industrial Health and Safety Regulations, B.C.Reg. 585/77 as amended, ss. 12.17, 12.19, 12.23, 12.03
- ²³ 15 U.S.C. 2601, et seq., P.L. 94-469; October 12, 1976, s. 8 (b)
- ²⁴ U.S. Environmental Protection Agency, Office of Toxic Substances, Toxic Substances Control Act (TCSA), Chemical Substance Inventory, May 1979, and Cumulative Supplement, June 1980 (Washington) available at libraries listed in Ontario Ministry of Labour announcement dated January 5, 1981.
- ²⁵ An act respecting occupational health and safety, R.S.Q. c. S-2.1, s. 67. As of September 13, 1983 the regulations to make the inventory scheme effective have not been brought into effect.
- ²⁶ Occupational Health and General Regulations, R.R.S. 1981, c. O-1, Reg. 1, s. 67
- ²⁷ Occupational Health and Safety Regulations, N. Reg. 104/79, s. 25
- ²⁸ Occupational Health and Safety Act, S.N.B. 1983, c. O-0.2, s. 42 not proclaimed as of September 13, 1983.
- ²⁹ Canada Labour Code, R.S.C. 1970, c. L-1, as amended ss. 149-153, 180
- ³⁰ Labour Code, R.S.B.C. 1979, c. 212 as amended ss 74-78
- ³¹ Labour Relations Act, C.C.S.M., c. L 10, ss 72-75

³²Trade Union Act, R.S.S. 1978 as amended, c. T-17, s. 43

³³S. 149 (1)

³⁴In the federal jurisdiction, the union requires leave of the Canada Labour Relations Board; in B.C., the union requires an order of an arbitration board giving leave to commence bargaining.

³⁵Canada Labour Code, R.S.C. 1970, c. L-1, s. 84.1 (1)

³⁶Occupational Health and Safety Act, R.S.A. 1980 as amended c. 0-2, s. 25

³⁷Workplace Safety and Health Act, C.C.S.M., c. W 210, s. 40

³⁸Occupational Health and Safety Act, S.N. 1978, c. 23 as amended s. 35

³⁹An act respecting occupational health and safety, R.S.Q. c. S-2.1, ss 68, 69

⁴⁰Workplace Safety and Health Act, C.C.S.M., c. W 210, s. 41

⁴¹Occupational Health and Safety Act, S.N. 1978, c. 23 as amended ss. 39-42.

⁴²Occupational Health and Safety Act, R.S.O. 1980, c. 321 as amended s. 7

⁴³An act respecting occupational health and safety, R.S.Q. c. S-2.1, 87-90

⁴⁴Workplace Safety and Health Act, C.C.S.M., c. W 210, s. 4 (2) (e)

⁴⁵Occupational Health and Safety Act, S.N. 1978, c. 23 as amended s. 5 (f).

⁴⁶Occupational Health and Safety Act, R.S.O. 1980, c. 231, as amended s. 14 (2) (d)

⁴⁷S. 84.1 (4) (k) and (l)

⁴⁸S. 97 (1) (e)

⁴⁹An act respecting occupational health and safety, R.S.Q. c. S-2.1, as amended, s. 51 (13) and (14)

⁵⁰Occupational Health and General Regulations, R.R.S. 1981,
c. 0-1, Reg. 1, s. 28 (2)

HAZARDOUS SUBSTANCES AND THE RIGHT-TO-KNOW

A One Day Symposium

October 26, 1983

**INTERNATIONAL DEVELOPMENTS AND TRENDS,
CONFIDENTIALITY OF DATA AND CHEMICAL CONTROLS;
IMPLICATIONS FOR CANADA**

Gordon Atherley and Bill Louch
Canadian Centre for Occupational
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If the OECD Report on the Confidentiality of Data and Chemical Controls (Organization for Economic Co-Operation and Development, OECD Publications, France) is typical of international trends, the whole development is inhibited by an extreme nervousness about trade secrets in the chemical industry, sovereignty of jurisdictions, and lack of clarity in the definition of confidentiality. The implications for Canada are that the OECD pattern represents a step backwards from the new approach pioneered in Canada by the Canadian Centre for Occupational Health and Safety (CCOHS).

Confidentiality is an abstract noun used as though it meant something concrete; confidentiality needs to be defined, perhaps along these lines:

Essentially confidential data -- that which really must be kept confidential in the legitimate interests of individuals or corporations (and here we should compare the individual and the corporation with respects to rights to privacy).

Effectively confidential data -- data which are effectively confidential because they are difficult to get at even though there is nothing essentially confidential about them.

Confidentiality by impenetrability -- data which have nothing confidential about them but which simply need explaining.

Progress will come from a clear definition of what really should be essential data, means for improving access and intelligibility for the remainder, and a climate of opinion which favours keeping the essentially confidential data to the irreducible minimum.

Data which are essentially confidential can be treated as such by means of proper procedures which allow the vital occupational health and safety information to emerge without breaking secrets; data which are not essentially confidential but which masquerade as such should be exposed.

Many present systems, as is clear from the OECD Report, rely on the traffic of confidential information between industry and government. There are several drawbacks with this arrangement: government may be unable to distinguish between essentially confidential data and the rest and, in consequence, treat all as essentially confidential, with the result that the public is denied access to information that should never have been confidential in the first place. There is also the difficulty which arises out of the credibility of government as a source of interpreted information: under a confidential system, the government would not disclose data but simply make comments on the safety or otherwise of the substance. Governments have policies on scientific matters, which means that what the public would get under such systems would be a statement of policy on the risks from substance X, rather than the scientific data on substance X from which they could make their own judgements.

Governments carry out a form of 'cost benefit' analysis, at least in an informal sense, in setting policies on chemicals. It is often difficult for an individual or a particular segment of Canadian society without access to the full range of information available to weigh the scientific and social aspects so as to come to an informed judgement on a particular chemical.

There has been considerable recent concern about a widely used fungicide, Captan. From the outside, it appears that National Health and Welfare harboured and may continue to harbour doubts about the safety of this chemical.

Agriculture Canada, the agency responsible for pesticide regulation in Canada, responded to these concerns by restricting the way in which the product may be used, but these restrictions fall well short of a total ban. While we are not suggesting that a total ban would be our choice from our own weighing of the costs and benefits, we are saying that, without full disclosure and access to the information, no one is in a position to make a judgement. You can be sure that those in whose interest it is to see the chemical used are well aware of the existing data.

When these kinds of questions arise, too often, only some of the interest groups in our society have access to the confidential information with which to bolster their particular points of view. Those without access to the information are left having to rely on government decision making. The concern of course is that some interests are in a position to exert undue influence.

Similar trade offs are made almost every time an exposure limit is set for any workplace chemical. Those 'in the know' are able to argue from their perspective. Workers or employers without this information are simply unable to contribute to the quasi-scientific standard setting process.

While workers are learning how to find information on individual chemicals, the problem presented by the lack of ingredient data available on workplace mixtures remains a major problem, one that is being tackled at CCOHS. Employers, too, face this problem daily. We have heard from numerous employers who say that they are using proprietary products and want to make sure that they are adequately protecting the workers, but they do not know what the proprietary product is. Some government office may have the composition on file, but what good does it do if the information is confidential?

According to your point of view, confidential disclosure to governments might be regarded as non-disclosure.

The CCOHS model, based on trust and tripartitism, needs no shield of confidentiality, and helps define that which is essentially confidential. It gives Canadians access to ingredient information on tradenames products, thus allowing them, their representatives, and their advisors to weigh up all the scientific information, and not simply that which the possessors of the confidential information are prepared to disclose. CCOHS has given Canada a pioneering start in information disclosure, and with the necessary will, coordination, and effort, Canada might give a leading example to the OECD. Otherwise, there is a risk that the progress made in Canada might be inhibited.

Throughout the OECD Report, and many writings on occupational health and safety generally, there is the broad economic assumption that good occupational health and safety represents an economic penalty on production.

In particular, the assumption is refined to imply that excessive disclosure of chemical data represents an economic penalty. This economic doctrine has never been explored, and there are signs that it may be at times false. The problem here is that the scientific community has for so long accepted this assumption as one of the givens that no one ever stops to question it; it should be questioned.

Other Factors

(1) Dominance of multinationals in the chemical business.

The majors are free to move production units around the world to areas where restrictions are less severe.

(2) Small size of the Canadian market.

In world terms, Canada is a very small market. If 'costs of doing business' in Canada are too great the chemical may simply not be sold in Canada. Even now there is virtually no development of materials such as pesticides for some unique Canadian problems (such as spruce budworm) because the size of the market does not warrant the development, testing, and plant construction costs.

(3) Trade implications.

There are limits to the requirements Canada can put on offshore producers which would act as a barrier to trade; we think of the General Agreement on Tariffs and Trade (GATT) by way of example.

This is an international problem and must be tackled internationally as a counterbalance to the multinational aspects of the industry.

(4) Nature of the Canadian chemical business.

The Canadian chemical producer industry is largely a formulator rather than a 'true' producer. Various purchased chemicals are blended to produce a product for a particular purpose. Where the original bulk producer relies on the economics of scale to maintain a competitive position, the formulator relies on a knowledge of a particular market for his business. Canadian products are often relatively simple; the business opportunities arise because the market is small, and because the analytical costs which would be incurred mean that customers prefer to buy rather than formulate products for themselves.

Disclosure is worrisome to industry; it prefers where possible not to disclose. Disclosure is probably more severe a problem for small producers and formulators. The majors' strength is in marketing of materials, and they have in place national and international marketing systems; they are much less vulnerable to disclosure than small formulators.

(5) The role of market forces.

As demands for disclosure increase, users will turn more and more to chemicals for which ingredient information is available. Even now, purchasing departments have the option of not buying materials for which ingredient information is not available. As pressure mounts on employers, suppliers who are unwilling or unable to disclose may suffer. There will not be much change in the quantities of chemicals used but there could well be some redistribution of markets.

(6) Disclosure versus testing.

These two issues of disclosure and testing are frequently lumped together. This is a really unfortunate linking because it impedes progress on the disclosure issue.

If disclosure of ingredient information leads to demands for toxicity testing, then industry is likely to fight the proposal tooth and nail. Most 'pure' chemicals have not been tested, and any move which will require wholesale toxicity testing will be very expensive. For the pesticide industry, it is estimated that the costs of bringing a new chemical on the market are in the order of \$10-12 million of which perhaps fifty percent is the cost of environmental, health and efficacy testing. If these costs are extrapolated to formulated mixtures, the economic costs are staggering. Many companies (such as BASF, International Paints, Dow) produce thousands of trade name products each. It is clearly impossible to spend \$5 million or so testing each trade name product.

The federal government's Canadian Workplace Hazardous Materials Information System will probably require testing for physical properties (such as boiling point, flash point). Even the costs of this rudimentary testing will be high when multiplied by the hundreds of thousands of tradename products on the market. The database system now established by CCOHS, called CIOL (Chemical Information On-Line) is ideally suited as the public access information store for this system; it is also by far the cheapest alternative available. It could be extended to meet the needs of the pesticides and forestry chemicals 'super power' recently proposed by Federal Environment Minister, Charles Caccia.

Since CCOHS has no legislated authority, we are making available only what the manufacturers wish to disclose. The impressive amounts of data made available to us demonstrate an acknowledgement on the part of the Canadian chemical industry that they have to provide information, and that an independent public-access body, such as CCOHS, is a good place to do the disclosing in.

CONCLUSION

The public should press for public disclosure through systems, such as that of CCOHS, which give them the 'right to roam' through the scientific information on substances likely to appear in the workplace, in the general environment, in foodstuffs, and in drinking water. They should not be satisfied with confidential systems whereby information passes secretly between industry and government, though they should be prepared to accept that there will be a kernel of information which corporations should have the right to keep to themselves. Under those circumstances, a trustworthy system should be created for disclosing the health and safety data and at the same time preserving privacy. It should be recognized by everyone concerned that data which are essentially confidential represent a tiny fraction of the total, and that essentially confidential data are the exception rather than the rule. If the cost of public access is a small kernel of privacy for the corporations, that would be a good bargain; the present trend towards secret disclosure by industry to government together with the highly selective transfer of eviscerated information between governments represents a poor bargain.

HAZARDOUS SUBSTANCES AND THE RIGHT-TO-KNOW

A One Day Symposium

October 26, 1983

POLITICAL PRESSURES IN CANADA

Joanna Kidd

CELRF Symposium on Hazardous Substances

and the Right to Know

The Toxics Coalition is a loose alliance of individuals from different backgrounds, containing people from law, labour, environmental and citizen groups, and public health professionals. The core of the Coalition is a multi-disciplinary group that has been meeting for the past year to exchange information and talk about all facets of toxic substances.

The Coalition grew out of a perceived need for action to protect workers and ordinary citizens from exposure to hazardous substances, and was spawned at the Toxic Substances Conference that was held in October of 1982 at Queen's Park. Two of the workshops held at that conference were: Health vs. the Economy: Protecting the environment during hard times, and Working Together: How can Labour, Environment and Community groups support one another? The third workshop held that day concerned the topic of access to information on toxic chemicals. In the aftermath of that conference, two things became abundantly clear. One -- a multidisciplinary approach was needed to conduct an effective campaign to begin to deal with toxics in the home, community and workplace, and two -- there was a general feeling that right-to-know legislation was a good target, and that the time was ripe to push for such legislation.

It became the stand of the Toxics Coalition that control of hazardous substances in manufacturing, industrial and consumer use

is essentially a local concern, in that specific individuals in more or less defined locales are affected. The Coalition started from the premise that in order to make informed decisions on risk from toxic substances to which he was exposed, an individual had to have specific knowledge of the nature of those substances. The Coalition learned that municipal right-to-know bylaws for toxic substances existed in the cities of Philadelphia, Cincinnati and Santa Monica. It was recognized that under the Public Health Act, and under the as-yet-unproclaimed Health Protection and Promotion Act, a municipality (in the guise of the medical officer of health) had a duty to "inspect premises for the purpose of preventing, eliminating and decreasing the effects of health hazards," that, in fact, medical officers of health do have some responsibilities in the areas of environmental and occupational health. Moreover, it was learned that the Toronto Board of Health had already taken the step of commissioning a report (in 1981) on a municipal right-to-know bylaw. Accordingly, the Coalition decided that it would undertake a campaign for such a bylaw in the City of Toronto, on the understanding that such a campaign would likely spread to other cities in Ontario, like Windsor which had just begun to consider a right-to-know bylaw for toxic substances.

The first step in the campaign was to develop a brief to the Toronto Board of Health on "right-to-know." The report previously commissioned by the Board was to be a nuts and bolts report outlining what a municipal right-to-know bylaw would look like, what getting it passed would involve, what the precedents and problems were. The brief developed by the Toxics Coalition

and presented to the Board on October 11th focussed directly on why such a bylaw is needed in Toronto.

As the Coalition members began collecting information it became apparent why a multi-disciplinary approach was of such value. Environmentalists, while cognizant of community problems like the Junction Triangle, knew almost nothing of occupational aspects of exposure to toxic substances; neither group knew much about the Public Health Act, and what that meant in terms of controlling toxic substances. The document was written, critiqued, and re-written three or four times until it was felt that the final result was a factual, comprehensive and compelling rationale for the institution of municipal right-to-know bylaw for the City of Toronto.

The claim that industry has an unquestioned "right" to protect trade secrets clashes directly with what many people would consider to be an equally valid "right" -- the right of the individual to be as fully informed as possible regarding dangers encountered during the course of day to day life. The Toxics Coalition, in its brief to the Toronto Board of Health stated that "industry's right to protect proprietary information must be respected to the fullest extent possible, but that it must never take precedence over the individual's right to be fully informed of the dangers associated with the use of hazardous substances in the workplace and the community."

The Toxics Coalition, in its brief, went on to talk about the inadequacies of the Occupational Health and Safety Act. The brief elaborated on the failures of the act -- the types of workers not covered by the Act, the lack of mandatory health and safety committees for employers employing fewer than 20 workers, the lack of specifications for quality of chemical data provided to workers. The brief gave examples of where the Occupational Health and Safety Act has failed, and then went on to talk about toxic substances in the community.

Today's average citizen is exposed to a myriad of synthetic chemicals. Unlike the worker who may be exposed to relatively high doses of specific chemicals in the workplace, the citizen is exposed to trace amounts of many chemicals in the air he breathes, the water he drinks and the food he eats. In most cases, he has no idea of the chemicals involved or their human health implications. In the home, common substances like caulking, paints, solvents, commercial preparations for cleaning, polishing and disinfecting contain organic solvents like phenols, ketones, alcohols, aldehydes and petroleum distillates. Food contains a bewildering array of synthetic additives -- colouring agents, texturing, sequestering, anti-caking, starch-modifying and other agents, preservatives, flavours and flavour enhancers. Out of the approximately 350 additives used in Canada, at least 36 are thought to cause some adverse health effects. Pesticide residues on fruit and vegetables are poorly monitored at best. These kind of problems are, unfortunately

problems that can only be dealt with by provincial and federal labelling laws. It is those exposures from manufacturing operations in urban centres that can be controlled by a municipal right-to-know bylaw.

One such example in Metro is the Continuous Colour Coat manufacturing plant located in Rexdale. Local residents first complained of pollution problems connected with the plant in 1966, but it was not until ten years later, in 1976, that the Ontario Ministry of the Environment first imposed abatement procedures. These pollution control orders were extended, and were not made mandatory until 1979. Even at that time, statements by government officials indicated that they did not have access to information concerning the chemicals used at the plant.

A better known example of problems associated with toxic chemicals in the community is the Junction Triangle. The Junction Triangle is an area in north-west Toronto containing some 5,500 people as well as 20 industries, 5 of which are listed by the Ministry of the Environment as being among the worst polluters in Toronto. In this case, residents began to complain about pollution problems in 1975. In 1983, although reduced somewhat, those problems still exist.

Surveys initiated by local residents have revealed a higher than average number of throat and eye irritations, allergies and respiratory disease in the area. Tests carried out by the Ministry of the Environment showed higher than acceptable levels for all eighteen chemicals for which testing was done. The local

citizens clamoured for action, politicians and bureaucrats promised results, yet spills continued to happen. After an employee of one company poured 800 gallons of vinyl acetate into the sewer system causing the temporary closure of three schools and the hospital treatment of three citizens, Mayor Art Eggleton created the Junction Triangle Action Task Force. In a report to City Council on December 7, 1982, Mayor Eggleton revealed that, in response to Task Force requests, two of the area companies had provided lists of chemicals used in the plants to the Ministries of Labour and Environment. Four others -- Glidden, Inmont, Nacan and Viceroy refused to do so in the absence of guarantees of confidentiality. At the present time, the Province of Ontario and the City of Toronto are conducting a joint study of the health of residents in the Junction Triangle area. However, complete information concerning the toxic substances utilised in the area is still not known by the City, and that information which is known, is not obtainable by the citizens who live there.

The Toxics Coalition urged the Toronto Board of Health to recommend that a municipal right-to-know bylaw on toxic substances be passed. If and when the Board passes such a motion and sends it on to City Council, the Toxics Coalition will be there to push for this important piece of legislation. Although there are other aspects of toxics to consider -- improved labelling and transportation, to name just two -- the Coalition believes that municipal right-to-know is an important first step in reducing exposure to hazardous substances.

HAZARDOUS SUBSTANCES AND THE RIGHT-TO-KNOW

A One Day Symposium

October 26, 1983

**HAZARDOUS SUBSTANCES & THE RIGHT TO KNOW:
THE PUBLIC HEALTH PERSPECTIVE**

Alderman Anne Johnston
Chairman
Toronto Board of Health

Linda Rosenbaum

HAZARDOUS SUBSTANCES & THE RIGHT TO KNOW:
THE PUBLIC HEALTH PERSPECTIVE

I don't think most of us have ever stopped to think of the actual numbers of chemicals we come in contact with on a daily basis, and what kind of harm many of them may do to us--not always evident, and not always right away. Though chemicals obviously have improved the quality of life in some ways, we still must reckon with the risks we run, or may run by using them. We are already aware of the health risks associated with some chemical exposures in the workplace--dangerous drug reactions, poisonings and chemical burns, to name a few. But more and more evidence is accumulating about other long-and short-term effects on our health from chemicals we have intentionally or unintentionally added to our natural environment. The Local Board of Health believes that it is imperative that we act now to PREVENT possible harm to the public from chronic, uncontrolled, and often unknown chemical exposures in our air, water, food, homes, workplace and consumer products. We believe that the extent to which chemicals now pervade both our bodies and the environment is a matter of urgent concern, and that is why we are actively involved in addressing the problems of use, over-use and abuse of chemicals in our society. A right to know, toxics substances by-law, fits just perfectly with such objectives.

But before I go any further, I'd like to take some time for us to stop and think of the actual numbers of chemicals we come in contact with on an average day. We get up in the morning, go to the bathroom where we shower, spritz, and spray, with all those

wonderful modern products. Toothpaste, a little deodorant under the arms (sometimes sprayed so we take a little internally for good measure as well as by skin contact), a little shampoo on the scalp (some of which does get absorbed, by the way), a little hair conditioner, aftershave for the gents, soap, shaving cream and all sorts of lovely face gook which we pile on; make-up, perfume, maybe even synthetic vitamins. We could keep busy in there for hours.

Then a little breakfast before we pop off for work--nice toast made from bread, with preservatives of course, to keep it fresh longer. A good progressive step if we're concerned about shelf life, but for human life, I'm not so sure. How about some egg beaters, those artificial eggs, that great breakthrough for people with high cholestoral; margarine, for the same purpose with about 10 ingredients listed on the package--(butter just has three--cream, salt and colour!). Orange juice from fruit sprayed with pesticides, coffee with cream from cows grazing on grass contaminated by who knows what. Then off to work, where some of us, after breathing the outdoor, downtown fumes to get there, come into contact with and breathe in the worst imaginable stuff; it may be a secretary using liquid paper, that strong smelling liquid used to cover typing errors, for other people--such as an artist--paints and solvents or a factory worker breathing in a whole chemical pea soup. Then there's the usual sandwich at lunch, whose bread has been put through a bleaching process to make it white the way we like it, and luncheon meat with nitrates, a salad

with a few pesticide residues, a glass of water from Lake Ontario containing just a few chemical compounds, cherry pie with bright red colouring, a few cigarettes during the day with added flavourings;.....a couple of aspirin for that awful headache,.....

A little household cleaning with scouring powder, javex, dishwashing liquid, room fresheners; laundry detergent, bleach, special stain removers.....

Some of us live in houses insulated with urea formaldehyde , use household pesticides, have pesticides residues in much of our food, drink chlorinated water, eat contaminated meat from animals shot up with drugs to make us "better meat" or "poultry".....

So this gives you some idea of how prevalent these chemicals are in our lives. But I won't feel comfortable that I've made the kind of impact on you that I want to until I read to you some pretty astounding statistics:

There are:

15,000 drug substances licensed in Canada;

1,500 flavours permitted to be added to food in Canada.

1,500! (who needs 1,500?);

300 food additives permitted in Canada (not flavourings);

103 pesticide residues permitted to be on food:

30,000 varieties of pesticides sold in North America;

32 million tonnes of industrial wastes generated annually in Canada. 1 million tonnes of these are toxic;

80 million gallons of liquid industrial wastes generated annually in Ontario. 8-16 million gallons of these are hazardous.

In the City of Toronto in 1980, 120 hazardous materials incidents like spills, explosions, fires and leaks were reported;

We already know of 400 organic compounds found in the Great Lakes ecosystem, 300+ contaminants in herring gull eggs in lake Ontario;

15,000 toxic substances in the workplace, 1,500 of them are suspected carcinogens and, there are 25,000 industrial workplaces in Metro Toronto with only 25 Ministry of Labour occupational health and safety inspectors for Metro Toronto.....

AND WHO CAN WONDER WHY, AS CHAIRMAN OF THE TORONTO LOCAL BOARD OF HEALTH, I'M WORRIED ABOUT THE HEALTH EFFECTS OF ALL OF THESE?

We must not underestimate the impact of chemicals on our lives. Our cells function through chemical processes. Everything we take into our bodies affects these processes. For this reason, chemicals, both natural and man-made have a great impact on our health.

I would like to make clear that often, only minute quantities of chemicals are needed to alter or impair our cellular functions. A person's daily need for Vitamin B12 is one part per billion, expressed in terms of body weight; it takes less than 2 parts DES per billion to induce malignant tumors in mice; the lethal dose of dioxin is expressed in parts per trillion. A worker inhaling a concentration of one part per billion of a substance will in a 7-hour work day inhale roughly 0.3 billion billion molecules of the substance. (To make sense of the figures, one part per billion is equivalent to one inch in 16,000 miles, one minute in 2000 years or one cent in 10 million \$). We call this phenomena "the enormity of tinyness". [From "The Chemical Society" draft report by Trevor Hancock and Doug Saunders.]

Many of the chemicals in our environment today are different from anything man or nature has ever faced before. We do not know what the long-term implications for our health and species survival may be, but we do already know reasons for concern.

Exposures to toxic substances are linked to a variety of health problems. The immediate effects of high levels exposures for a short time include burns, rashes, nausea, loss of eyesight and fatal poisoning. Prolonged exposure to low doses of some chemicals can cause chronic lung disease, heart disease (from cadmium or carbon monoxide), sterility (from dibromochloropropane--DBCP), and kidney, liver, brain, nerve, and other damage. Exposure to industrial solvents can cause depression; carbon disulfide workers are associated with a higher suicide rate than the general population. Vinyl chloride gas is linked to a rare liver cancer, to a brain cancer, and possibly to lung cancer. DES, when taken by pregnant women to prevent miscarriages, led to increased risk of vaginal cancer in their daughters and abnormal sexual organs in their sons. By the way, DES has never been tested for the effects it might have on pregnant women or their offspring before doctors began prescribing it for these women. Then we've got acetone, ammonia, methyl ethyl ketone, oxalic acid, phenol, and trichlorethylene, each with a favoured human organ to target and cause harm.

Surface and groundwater supplies are contaminated by leaching from the municipal and industrial waste sites; (Lake Ontario a prime example). Food additives, drugs and consumer products can also cause significant hazards. Sodium nitrites and nitrates are preservatives in cured meats. Through bodily processes they convert to a form of nitrosamines, many of which are carcinogenic. There is some evidence that food additives cause hyperactivity in

some children. Pesticide residues are found in mothers' milk,.....the list goes on.

But many toxic substances-related illnesses, diseases and environmental impacts are difficult to detect, often their manifestations are not immediately visible. Such is the case for cancers, immune suppressive and many neurological, behavioural, and reproductive disorders. Synergistic and cumulative interactions through multiple environmental insults by various routes of exposure can lead to serious illness, disease, and environmental degradation. Because of evidence that toxic substances contribute substantially to human disease and illness, and that they seriously damage the environment, it is essential that hazards be anticipated and averted and that exposure be reduced or eliminated. If we know where the toxic substances are, we can best protect ourselves. Preventive action is possible without interfering with the most essential and beneficial uses of chemicals and products.

Although most chemicals are believed not to cause cancer. as of 1977, 26 chemicals and industrial processes were identified as carcinogenic or likely to be carcinogenic in humans, and of 1500 chemicals selected and sufficiently tested, 600-800 have shown substantial positive evidence of carcinogenicity in animals.

Less is known about the origins of human birth defects. Causes of more than 80 percent have not been identified. Birth defects have resulted from exposure to thalidomide, carbon monoxide and other

toxic substances in addition to methyl mercury and DES. On the basis of animal evidence, other substances could account for some birth defects that are currently unattributable to any cause.

Of course, of the hazards to human health arising from toxic substances, cancer is the leading concern. Acute toxic effects (such as brain and nerve damage from lead and mercury), mutations, birth defects and other health hazards are also of serious concern, but cancer captures the most public attention because it is prevalent, often irreversible, poorly understood, frequently frightening to us, and a disease that often involves considerable pain and suffering.

Toxic substances are only one set of the suspected external causes of cancer, along with smoking and diet (which may involve toxic substances), physical agents such as ionizing radiation, natural factors such as the sun's rays, possibly viruses, and so on.

Determining which environmental factors are more or less significant in raising cancer incidence and mortality rates is not simple, especially because many factors appear to interact. There is substantial argument over the relative contributions of cigarette smoking, radiation, manufactured chemicals, air and water pollutants, dietary contaminants and constituents, and other kinds of exposure and over their additive and interactive effects.

Cigarette smoking, for example is known to be a major cause of cancer, perhaps accounting for as many as 20-25 percent of all

cancers. It is associated with cancers of the lung, larynx, esophagus, bladder, kidney and pancreas. There is an inference that of the so-called life-style factors, smoking may be the most important. However, it is inappropriate to suggest that all lung cancer is caused by smoking.

Recent studies of the effects of air pollution on lung cancers illustrate the complexity of understanding the multiple causes of cancers. In general, industrialized, densely populated metropolitan areas have higher cancer mortality rates than rural areas, especially for lung cancer. One reason for the difference may be that cigarette smoking is more common in urban areas. Some urban workers with lung cancer may also have been exposed to carcinogens in the workplace. But occupational exposures probably account for the excess risk only in some urban areas. The excess cancer risk is also correlated with air pollution acting in conjunction with cigarette smoking. In Great Britain, lung cancer rates declined first in areas where clean air laws were applied.

Like smoking, diet is a very important contributor to cancer. According to some estimate, diet is a factor between 25-50% of all cancers. The actual causal agents may be specific substances in food, methods of preparation that promote or cause cancer, carcinogenic residues, contaminants, or additives; or diet may operate as a promoter or co-carcinogen with other causes--smoking or occupational exposures, for example.

Once the environmental factors contributing to cancer risks are identified, prevention would seem to be the next step. What proportion of cancers that could be prevented is unclear.

Some known factors are difficult to control, like sunlight and other background radiation. Some are personal habits (cigarette smoking, diet and use of alcohol). Others can be controlled through direct government regulation of exposure, as we have for asbestos, some specific industrial chemicals, drugs, several air and water pollutants, and some consumer products and food additives.

So far, only a small proportion of carcinogens has been regulated specifically, partly because of the controversy over what constitutes acceptable principles and criteria for identifying and assessing the risks posed by carcinogens, and partly because of administrative difficulties in dealing with each carcinogen on a case by case basis, partly because of lack of political will.

We here in Toronto must maintain a constant vigil over the use of chemicals because we do not believe methods now exist for determining a "safe" threshold level of exposure to carcinogens nor are methods now available for quantifying the estimated human risks from a given exposure to a potential carcinogen. We have only a rough approximation of the actual risk to our population. Our population is still exposed to many chemicals that are carcinogenic and mutagenic.

Yet, there is an assumption made by the public, and a reasonable one at that, that if a chemical makes its way into to the marketplace and into the workplace, be it a pesticide, a food additive or a new "wonder drug", they assume that it has been sufficiently tested: it can be considered safe. Nothing brought how wrong that assumption is to our attention better than the recent IBT scandal. We saw 100 chemicals come to market based on falsified safety data. And when we realized the paucity of evidence attesting to these chemicals' safety--was there any move to remove them from the hands of the public until we could be better assured they were safe? Of course not. And here we had the public using the fungicide Captan, one of the most controversial chemicals on the IBT list, while there existed NO single study, out of 10 original ones submitted by Chevron, IBT's manufacturer, not considered to be fraudulent.

But, I must remind you, for most chemicals we are exposed to, there is little or no health data available to even determine risk.

Right here in our city, we have workers who have absolutely no idea of what they're breathing in, getting on their hands, spilling on their workclothes. And if by chance they do know, there's no guarantee they'll know if it's hazardous. If we had here in Toronto a right-to-know by-law, we could at least give them rights to this basic knowledge. And with the Material Safety Data sheet, manufacturers and producers would be required to make

the Department of Public Health aware of certain toxic substances on their premises, workers in Toronto would have access to information on the dangers associated with substances and what remedial measures are required if release or exposure occurs. We would ask that these safety data sheets be posted in the workplace so there is free and unobstructed access to this significant information.

Toronto has other concerns where a right-to-know by-law could help our citizens. We have an area of the city called the Junction Triangle, a small residential area that shares its neighbourhood with about 20 industries. Five of these--Glidden Paint Company, ITT Grinell, Anchor Cap and Closure, National Starch and Seiberling Rubber have been on the Ministry of Environment's list of 37 major polluting companies in Toronto. For obvious reasons, the residents are concerned about the effects of this pollution on their health. Resident complaints range from excessive numbers of sore throats and colds, burning sensations in the eyes, allergies, respiratory symptoms and bronchitides, etc. Smells come from industrial solvents and other chemicals not easy to identify or quantify and of course, because it is not now permissible, the DPH had no list of chemicals being used in the factories. Eventually tests by the Ministry of the Environment, found benzenes, xylenes and toluenes in the neighbouring area. Xylene is a very toxic substance and benzene a known carcinogen. The Ministry calls the pollution, "nuisance levels", not dangerous, but of course, whether in fact there is any safe level for a carcinogen is of

constant debate. Long-term effects are yet unknown, and residents of course, worry about cancer and birth defects.

Eventually it took a series of rather grandiose chemical spills over a three-month period that closed schools and sent several people to hospital to get the kind of attention the people needed. This past year, our mayor set up a task force composed of local aldermen and officials from the City, Metro and the Ontario Government. Four charges under the Environmental Protection Act have been laid against Nacan Products Ltd., an adhesives manufacturer, over the biggest spill. The company has admitted dumping up to 4,000 litres (900 gallons) of toxic chemicals into the sewers that day, but blamed one of its workers for the problem.

For years, the residents have wanted to know what was being used, produced, or stored in their neighbourhood, whether it's harmful, whether the industries must be moved out, or whether a cleanup is possible. Without information, the kind a right-to-know by-law could offer them, their hands, like ours have been tied, and responsible decision-making impossible.

Responding to other kinds of emergencies involving a hazardous substance spill--an overturned truck carrying a toxic and flammable liquid, for example, in which the liquid has spilled on or next to a highway. or derailment, like that in Mississauga, is rarely a simple matter. Government officials, often with company representatives, must make decisions about how best to protect the

public health and the environment: whether to evacuate the area, how to contain the spill, how to clean it up, and where and how to dispose of the material permanently. Pressure to make these decisions rapidly and accurately is intense, but the potential for disagreement and confusion may be even greater if it's unclear what chemicals are being worked with. A few weeks ago, David Scott from Toronto Residents' Action Committee made a presentation to our Local Board of Health giving us some ghastly information about the Mississauga train crash and he explained to us that only one substance, cyanide, out of the thousands of toxic chemicals transported across North America must be labelled as such on the outside of train boxcars, so that in case of an accident, fire and health officials have some idea of what they're dealing with. Only 1 substance?

* * *

Now that I've given you some ideas of what the health concerns are for us in a municipal department of public health, and have delineated some very specific things we know about the relationship between chemicals and health, I need to impress on you HOW MUCH WE DON'T KNOW, and some of the obstacles we are continuously grappling with when trying to estimate the risks our citizens face when breathing our air, drinking our water, eating our foods, working in our factories.

1. There is an estimated 60,000 chemicals in use. There is a lack of health information on the adverse effects of all but a SMALL MINORITY of these.
2. There is a fatal lack of studies on the synergistic interaction of several chemicals working together. Think again back to that typical day we thought about at the beginning of my speech when you hear this. Does anybody know what happens when you mix javex with ammonia for example? Big trouble. And when exposure to cigarette smoke is combined with exposure to asbestos, a much greater number of cancers are produced than by either carcinogen alone or adding the separate sums of both. But we're still in the dark about most combinations.
3. There is an inability of current scientific methods to assess the significance of subclinical effects on our health--i.e., those not immediately detectable upon physical examination--what are the cumulative effects--what's going on that we can't immediately see.
4. The inability to assess risks associated with long-term exposure to low levels of chemicals--the latency period for occupational cancers for instance can be 20-30 years.
5. And we're still dependent on data supplied by private industry (like IBT) in assessing the safety of chemicals now in use. To make it worse, in Canada we still rely on American data

even though we have little or no right to audit research practices, laboratory testings, etc.

THE POINT IS, WE JUST DON'T HAVE A GOOD ENOUGH IDEA JUST WHAT THESE THINGS ARE DOING TO US, IN THE SHORT RUN AND CERTAINLY IN THE LONG RUN--AND IF WE JUST DON'T NEED TO HAVE SOME OF THESE CHEMICALS AROUND--THEN LET'S GET RID OF THEM.....AND IF THEY ARE GOING TO BE AROUND BECAUSE THERE IS SOME SUBSTANTIAL BENEFIT (BUT WHO'S DECIDING THAT WITHOUT ACCESS TO INFORMATION?), THEN THE PEOPLE OF TORONTO MUST HAVE THE RIGHT TO KNOW WHAT THEY'RE COMING IN CONTACT WITH, AND IF IT ISN'T GOOD FOR THEM, THEN THEY SHOULD HAVE THE ABILITY TO EXERCISE THEIR RIGHT TO PROTECT THEMSELVES FROM IT. AND THEY CAN ONLY DO THAT WITH INFORMATION.

It is clear to us here in Toronto now that a hazardous substances disclosure by-law would be an appropriate, much needed piece of municipal legislation. In a report prepared by John Jackson for the Department of Public Health that went to the Local Board of Health on Tuesday, October 11, the outline for such a by-law was submitted, and I can assure you, will be further discussed in the months ahead. Already there are other municipal precedents such as Philadelphia, Cincinnati and 11 other municipalities in California, as well as 10 states in the U.S. Windsor is presently studying the potential for such a by-law in their city.

The objective for this legislation in Toronto would be to increase our knowledge of substances used, stored, produced and disposed of here; what is emitted into the air and water. Postings of this

information would be made where appropriate in the workplace and community, and would include trade names, chemical names, handling precautions, possible hazards and safety test results. Only 13 chemicals to date are required to be reported, according to the Environmental Contamination Act, and only 50 companies in Toronto have to comply. Because of the strong confidentiality provision for industry, no compilation of information for the public or decisionmakers is available. The Fire Department information is limited and not available to public or City departments.

Obviously, we need better control of what's going on inside our industries, and workers need better information on what they're working with. The Provincial legislation, Occupational Health and Safety Act clearly does not provide them with this right.

In our by-law, we would ask that industrial and commercial enterprises complete a disclosure form and return to our City Clerk. Once a year the Clerk would send a form and the companies would be required to return the form within X days. The form shall list substances to be reported. Such a list shall be determined by the Local Board of Health and hearings would be conducted for public input. Substances on the list could be added or deleted. The Department of Public Health should recommend the list, with other input. Such lists already have been developed by Environment Canada, Health and Welfare, NIOSH, the EPA, etc. The companies will have to fill out a section on disposal, what and

where, as well as intermediate "produced" products. A Material Safety Data Sheet for each designated substance would be required, containing 1) nature of substance, 2) precautionary and protective measures, and 3) remedial actions in case of exposure.

Departments of fire, public health, buildings and inspections shall have the right to inspect. Documents will be available to the public. Guidelines will be respected in regard to formulae, but will allow access to important information. Fines will be recommended for infractions.

However, since the City has no jurisdiction over transportation, I strongly urge the province to develop a Right To Know coverage for transportation through our municipalities, and I urge the Federal Government to enact such legislation in regard to rail transport, as well as to require labelling for transport vehicles and containers of industrial chemicals.

* * *

Clearly, the Public Health Movement in the 1980's is focusing on many of these man-made threats to our health. It is actively aware that the health of our citizens is dependent upon an environment which provides clean air, uncontaminated food and water, and safe workplaces. Now that we have come close to eradicating many of the communicable diseases that have plagued us for centuries, we can begin to broaden our base of priorities and attempt to tackle many of the present and future problems of a society whose use of chemicals is rampant.

Chemical contamination of our bodies happens all the time. We breathe polluted air, drink impure water, and eat foods that contain additives, preservatives, and pesticide residues. To attempt to remain "pure" seems an impossible task. As soon as you think that you have learned to avoid chemical contamination from one source, you discover you are getting it from another source you cannot control. Some of us are exposed in the workplace. Many of us take medicines and/or drink alcohol and/or smoke. We cannot know for certain what effect all these substances have on our bodies. With each of them we must weigh the potential risks against the real or imagined benefits. Presently, our laws do not ensure citizens with access to information concerning the chemical hazards to which they are personally exposed. Such knowledge would permit citizens to participate more effectively in regulatory proceedings and to make more informed personal decisions.

Many health problems related to chemicals take years to develop. Cancers are one example. Common sense tell us that we should, to the greatest possible extent, minimize our exposure to chemicals BEFORE we find out whether and how they are harmful. Prevention, it is said, is the better part of cure, and knowledge, the key to all.

HAZARDOUS SUBSTANCES AND THE RIGHT-TO-KNOW

A One Day Symposium

October 26, 1983

THE FIREFIGHTERS NEED FOR INFORMATION

Chief Bernard Bonser
Toronto Fire Department

"HAZARDOUS SUBSTANCES AND THE RIGHT TO KNOW"

THE ROLE OF THE FIRE FIGHTER IN ALL URBAN AREAS, IS THAT OF A FIRST RESPONDER IN MOST EMERGENCY SITUATIONS WHERE LIVES OR PROPERTIES ARE ENDANGERED.

THEY ARE PART OF AN EMERGENCY RESPONSE TEAM THAT IS EXPECTED TO, NOT ONLY PROTECT LIVES, BUT ALSO TO STABILIZE THE INCIDENT THEREBY REDUCING ITS IMPACT AND EFFECT ON THE COMMUNITY. PREPLANNING AND DATA RESOURCES ARE AN IMPORTANT ELEMENT OF CONTROLLING THESE INCIDENTS, THEREFORE, THE "RIGHT TO KNOW" IS ESSENTIAL FOR AN EFFECTIVE AND SAFE OPERATION.

THERE ARE TWO ISSUES OF SAFETY TO BE CONSIDERED IN THIS MATTER. ONE IS SAFETY OF THE PUBLIC AND THE OTHER IS THE SAFETY OF THE WORKER. LABOUR, WORKMEN'S COMPENSATION, AND OCCUPATIONAL HEALTH AND SAFETY LEGISLATION USUALLY IS ENACTED TO PROTECT THE WORKER IN THEIR PLACE OF EMPLOYMENT. THE SAFETY OF THE FIRE FIGHTER IS A MORE COMPLEX PROBLEM DUE TO THE ENVIRONMENT THAT THEY ARE REQUIRED TO PERFORM MUCH OF THEIR WORK IN. STATISTICS REVEAL THAT 40 TO 50% OF ALL FIRE FIGHTERS ARE INJURED EACH YEAR IN THE COURSE OF THEIR DUTIES. TO MINIMIZE THE RISK TO FIRE FIGHTERS EXPOSED TO FIRES, EXPLOSIONS, LEAKS, SPILLS, OR AIR EMISSIONS INVOLVING TOXIC CHEMICALS AND HAZARDOUS SUBSTANCES, INFORMATION ON THE PRODUCT INVOLVED IS ESSENTIAL. THE REVELATION THAT HAZARDOUS SUBSTANCES ARE INVOLVED IN THE INCIDENT AFTER PERSONNEL HAVE BEEN EXPOSED CAN CREATE LONG TERM HEALTH RISKS.

A CASE HISTORY OF HOW PRIOR INFORMATION ON THE TRANSPORTATION, STORAGE, AND USE OF HAZARDOUS SUBSTANCES WAS BENEFICIAL, IS EXEMPLIFIED IN AN INCIDENT THAT OCCURRED ON MARCH 5th, 1982. ON THIS DATE, A SERIOUS FIRE INVOLVED A WAREHOUSE WHERE DRUMS OF NITROCELLULOSE WERE STORED. THE SERIES OF EVENTS THAT LED TO THIS INCIDENT, REINFORCES THE ARGUMENT THAT LAWS TO PROTECT THE PUBLIC MUST BE JUDGED PARTLY ON THE RISK INVOLVED.

CONTINUED

THE PRODUCT WAS FIRST DISCOVERED IN ANOTHER WAREHOUSE AND REMOVED WHEN THE FIRE DEPARTMENT INFORMED THE BUILDING OWNER THAT THE DRUMS OF NITROCELLULOSE WERE IMPROPERLY STORED AND POSSIBLY UNSTABLE. THE WAREHOUSING COMPANY RESPONSIBLE FOR THE PRODUCT WOULD NOT ACKNOWLEDGE THAT THE DRUMS WERE DANGEROUS, AND MERELY MOVED THEM TO ANOTHER LOCATION.

THE FIRE DEPARTMENT ATTEMPTED TO HAVE THE PRODUCT REMOVED TO A PROPER STORAGE FACILITY, BUT WERE UNSUCCESSFUL. THE INFORMATION ON THE PRODUCT AND ITS STORAGE WAS PLACED ON MICROFICHE SO THAT IN THE EVENT OF A FIRE OR OTHER EMERGENCY, ALL RESPONDING FIRE VEHICLES TO THIS ADDRESS COULD BE ALERTED TO THE RISK INVOLVED, AND PREDETERMINED PLANS OF ACTION COULD BE INITIATED.

THE ALARM WAS RECEIVED AT 1521 HOURS, ON MARCH 5th, 1982, AND WHEN THE FIRST FIRE FIGHTING VEHICLES ARRIVED ON THE SCENE TWO MINUTES LATER, THEY FOUND THE FRONT OF THE BUILDING FULLY INVOLVED IN FIRE. THE ADDRESS OF THE BUILDING WAS CONFIRMED BY FIRE FIGHTERS ON THE SCENE AND ADDITIONAL ASSISTANCE WAS REQUESTED. ALL INCOMING FIRE CREWS WERE INFORMED OF THE NITROCELLULOSE STORAGE AND WITH THE ASSISTANCE OF THE POLICE DEPARTMENT, AN EVACUATION PERIMETER WAS ESTABLISHED FOR THE SAFETY OF THE PUBLIC. SOME 15 VEHICLES AND 65 FIRE FIGHTERS WERE REQUIRED TO CONTAIN THE FIRE TO THE BUILDING OF ORIGIN, AND THERE WERE NO INJURIES TO CITIZENS OR FIRE FIGHTERS BECAUSE OF THE PLAN OF ATTACK THAT WAS IMPLEMENTED. WITHOUT PRIOR KNOWLEDGE OF THIS HAZARDOUS PRODUCT STORAGE TO PERMIT TIME FOR THE DEVELOPMENT OF AN ACTION PLAN THE RESULTS MAY HAVE BEEN DISASTEROUS.

WE BELIEVE THAT THE FIRE SERVICE CAN MAKE A VALID CASE FOR THE NEED TO KNOW THE TYPES AND CLASSIFICATIONS OF HAZARDOUS PRODUCTS THAT THEY MAY BE REQUIRED TO DEAL WITH UNDER EMERGENCY SITUATIONS. THE TORONTO FIRE DEPARTMENT HAS DEVELOPED A HAZARDOUS MATERIAL ACTION PLAN AND PERHAPS AN EXPLANATION OF HOW THE PROGRAM OPERATES WILL EXPLAIN WHY WE REQUIRE SOME BASIC INFORMATION ON THE PRODUCT.

CONTINUED

THE PLAN IS BROKEN INTO SEVERAL SEGMENTS: INFORMATION, EQUIPMENT, SAFETY AND TRAINING.

FIRE FIGHTERS ARE NOT CHEMISTS, AND THEREFORE, HAVE TO PLACE A GREAT DEAL OF RELIANCE ON INFORMATION SYSTEMS TO GUIDE THEIR ACTIONS. THERE ARE MANY SETS OF REFERENCE BOOKS AVAILABLE TO US BUT TO SPEED UP OUR ACCESS TO THIS INFORMATION, WE TOOK 1000 OF THE MOST COMMON CHEMICALS, EXTRACTED THE FIRST STRIKE DATA THAT WE NEED TO KNOW IMMEDIATELY, AND PLACED IT ON MICROFICHE. THIS INFORMATION ESTABLISHES PROCEDURES FOR PERSONAL AND PUBLIC SAFETY, WHAT EXTINGUISHING AGENTS AND METHODS TO EMPLOY, EVACUATION GUIDELINES, FLASH POINTS, FIRST AID MEASURES, DECONTAMINATION LEVELS, AND OTHER PERTINENT DATA. THIS INFORMATION IS RETAINED AT OUR COMMUNICATIONS CENTRE, AND IS ALSO CARRIED ON OUR MOBILE COMMAND VEHICLE WHICH HAS A MICROFICHE READER AND ATTENDS ALL MAJOR HAZARDOUS MATERIAL EMERGENCIES. WE EMPHASIZE THAT IDENTIFICATION OF THE PRODUCT INVOLVED IS OF PARAMOUNT IMPORTANCE. ONCE WE HAVE A CHEMICAL NAME, U.N. NUMBER, OR SOME OTHER MEANS OF IDENTIFYING THE SUBSTANCE, OUR DISPATCHERS CAN ACCESS THEIR MICROFICHE AND GIVE DIRECTION TO THE PERSONNEL AT THE SCENE OF THE INCIDENT.

AFTER INITIAL RESPONSE INFORMATION HAS BEEN PROVIDED, DISPATCHERS CAN REFER TO OTHER REFERENCE BOOKS AND SECURE FURTHER DATA, WHICH IS THEN RADIOED TO THE SCENE. FOR THOSE PRODUCTS THAT WE HAVE NO LISTING OR REQUIRE ADDITIONAL INFORMATION ON, WE CONTACT CANUTEC IN OTTAWA. THEY HAVE PROVEN VERY HELPFUL IN EITHER PROVIDING US INFORMATION DIRECTLY OR IN REFERING US TO SOMEONE WHO CAN BE OF ASSISTANCE.

PERSONAL SAFETY OF THE FIRE FIGHTER IS ONE OF OUR PRIME CONCERNS WHEN DEALING WITH HAZARDOUS MATERIALS, THEREFORE, WE HAVE ESTABLISHED THREE LEVELS OF PERSONAL PROTECTION.

CONTINUED

THE LOWEST LEVEL IS THE REGULAR FIRE FIGHTING CLOTHING PLUS RUBBER GLOVES AND SELF CONTAINED, POSITIVE PRESSURE, BREATHING APPARATUS.

THE NEXT LEVEL PROVIDES FOR ISOLATING ALL SKIN CONTACT WITH THE ATMOSPHERE, TO PROTECT US FROM VAPOURS AND FUMES WHICH MIGHT BE ABSORBED THROUGH THE SKIN. WE DO THIS BY ADDING TO OUR REGULAR TURNOUT GEAR A SPECIAL HOOD TO COVER THE NECK, THROAT, AND HEAD; LONG GOVES WHICH COVER THE EXPOSED WRISTS, AND IMPERMEABLE PANTS WHICH PROTECT THE GROIN AREA. WE WERE NOT ABLE TO SECURE HOODS THAT ADEQUATELY MET OUR REQUIREMENTS, THEREFORE, WE DEVELOPED OUR OWN IN CONJUNCTION WITH THE CANADIAN ARMED FORCES' CHEMICAL AND BIOLOGICAL WARFARE PERSONNEL. THEY HAVE PROVEN SATISFACTORY AND ARE NOW BEING USED IN MANY OTHER JURISDICTIONS.

THE HIGHEST LEVEL OF PROTECTION AVAILABLE TO US IS THE SPECIAL ONE-PIECE BUTYL RUBBER CHEMICAL SUIT, FOR USE IN VERY TOXIC OR CORROSIVE HAZARDS WHERE WE NEED TO BE TOTALLY ENCAPSULATED.

OUR SPECIAL FOAM-MAKING PUMPERS AND OTHER FOAM STOCKS HAVE BEEN DISTRIBUTED IN LOCATIONS WHERE WE BELIEVE THE DEMAND FOR THIS TYPE OF EXTINGUISHING AGENT WOULD BE THE GREATEST, ADJACENT TO MAJOR TRANSPORTATION CORRIDORS AND HEAVY INDUSTRIAL AREAS.

WE HAVE ESTABLISHED AN EXTENSIVE MULTI-LEVEL TRAINING PROGRAM. EVERY ONE OF OUR 1200 OPERATIONAL FIRE FIGHTERS RECEIVE A BASIC COURSE WHICH INTRODUCES THEM TO THE SUBJECT OF HAZARDOUS MATERIALS EMERGENCY ACTION, DESCRIBED TACTICAL PROCEDURES, SPECIAL EQUIPMENT NEEDS, AND SAFETY REQUIREMENTS. THIS IS FOLLOWED UP ON A REGULAR BASIS WITH TRAINING FILMS, LECTURES, AND SLIDE PRESENTATIONS BOTH IN THE STATIONS AND AT THE TORONTO FIRE ACADEMY.

CONTINUED

FIVE OF OUR VEHICLES ARE DESIGNATED AS SPECIAL HAZARDOUS MATERIALS RESPONSE TEAMS SO THE 100 MEN WHO MAN THESE FIRE VEHICLES RECEIVE ADDITIONAL IN-DEPTH TRAINING, BOTH AT THE FIRE ACADEMY AND BY VISITING INDUSTRIES INVOLVED IN SHIPPING AND MANUFACTURING CHEMICALS. AS THEY CARRY SPECIAL EQUIPMENT FOR DEALING WITH CHEMICAL EMERGENCIES WHICH IS NOT FOUND ON OTHER VEHICLES, THEY RECEIVED ADVANCED TRAINING IN THE USE OF THIS EQUIPMENT.

LASTLY, OUR OFFICERS WHO FIND THEMSELVES IN THE ROLE OF INCIDENT COMMANDERS RECEIVED COMMAND AND CONTROL TRAINING AT BOTH THE STRATEGIC AND TACTICAL LEVELS.

A NUMBER OF PROCEDURES HAVE BEEN IMPLEMENTED IN OUR DEPARTMENT TO DEAL WITH HAZARDOUS MATERIALS INCIDENTS MORE EFFECTIVELY.

FIRSTLY, IN ADDITION TO THE REGULAR FIRE RESPONSE OF TWO PUMPERS, AN AERIAL AND A DISTRICT CHIEF, IN THE CASE OF A CHEMICAL INCIDENT WE DISPATCH A FOAM PUMPER, A RESCUE SQUAD, AND OUR MOBILE COMMAND VEHICLE. THESE EXTRA UNITS CARRY THE SPECIALIZED EQUIPMENT NEEDED FOR HAZARDOUS GOODS EMERGENCIES, AND RESPOND CITY-WIDE.

SECONDLY, A STRUCTURED SIZE-UP METHODOLOGY WAS ADOPTED. THIS INVOLVES AN EVALUATION PROCESS OF ALL FACTORS AT AN INCIDENT SUCH AS ITS STAGE, CONTAINER CONDITION, LIFE AND PROPERTY EXPOSURES, WEATHER, NATURE OF THE MATERIAL, AND SO ON. A SERIES OF ALTERNATIVE OPTIONS ARE THEN EXAMINED, THE BEST OPTION IS IMPLEMENTED, AND A CONSTANT MONITORING IS DONE AS TO WHETHER THE INCIDENT STABILIZES, INTENSIFIES, OR CHANGES IN ANY OTHER WAY. THE RESULTS OF THIS MONITORING ARE USED AS FEEDBACK TO DECIDE WHETHER DIFFERENT TACTICS ARE NEEDED. IT IS , ESSENTIALLY, A "CLOSED LOOP" APPROACH WHICH ENDS WHEN THE INCIDENT IS TERMINATED.

CONTINUED

THE NEXT PROCEDURE WE IMPLEMENTED INVOLVES DECONTAMINATION. THREE LEVELS OF DECONTAMINATION HAVE BEEN DEFINED, AND THE HAZARDS OF THE SUBSTANCE INVOLVED DETERMINES WHICH LEVEL IS APPLICABLE.

LEVEL A INVOLVES CLEANING OF ALL FIRE FIGHTING GEAR AND PERSONAL HYGIENE.

LEVEL B IS A WASH-DOWN BEFORE LEAVING THE SCENE, CLEANING OF FIRE FIGHTING GEAR, SHOWERING, AND INDUSTRIAL LAUNDERING OF PERSONAL CLOTHING WORN UNDER THE FIREGEAR.

LEVEL C IS THE HIGHEST LEVEL, FOR THE MOST DANGEROUS PRODUCTS. AFTER THE ON-SCENE WASHDOWN, ALL CLOTHING WORN BY OUR CREWS ARE SEALED INTO PLASTIC BAGS AND SUBSEQUENTLY DESTROYED. THIS IS THEN FOLLOWED BY SHOWERING AND AN EXTENSIVE MEDICAL CHECK-UP AT THE NEAREST HOSPITAL.

WHEN IT COMES TO OUR EQUIPMENT REQUIREMENTS, WE HAVE FOUND THAT THERE IS NO PROBLEM THAT MONEY CAN'T SOLVE. UNFORTUNATELY, FIRE DEPARTMENTS ARE SUBJECT TO THE SAME RESTRAINT AS OTHERS, AND THERE IS NO BOTTOMLESS WELL OF FUNDS. WE, THEREFORE, HAVE TO BE INOVATIVE AND WE CAN ONLY ACQUIRE NEW EQUIPMENT GRADUALLY. OFTEN WE HAVE TO IMPROVISE WITH EXISTING EQUIPMENT OR MODIFY THEM TO MAKE A SPECIAL TOOL THAT WE MIGHT NEED FOR LEAK OF SPILL CONTROL. AS FAR AS INSTRUMENTATION IS CONCERNED, WE CARRY VAPOUR DETECTORS, pH PAPER, WINDSPEED AND DIRECTION INDICATORS, RADIATION MONITORS, AND FOR THOSE CASES WHERE DISCRETION IS THE BETTER PART OF VALOUR, BINOCULARS.

DURING THE PAST FEW YEARS OUR FIRE FIGHTERS HAVE BEEN GOING OUT TO COMMERCIAL BUILDINGS TO PERFORM INSPECTIONS AND TO COLLECT INFORMATION UNDER OUR PRE-FIRE PLANNING PROGRAM. THE DATA IS PUT ONTO MICROFICHE, SHOWING FLOOR PLANS, OCCUPANCIES, UTILITIES, AND SO ON. THE MICROFICHE IS USED AT THE SCENE OF THE FIRE, EITHER ON THE MOBILE COMMAND VEHICLE OR BY USING AN ATTACHE-CASE MICROFICHE VIEWER. ONE BENEFIT GAINED FROM THIS PROGRAM IS THAT ANY HAZARDOUS MATERIALS FOUND ON THE PREMISES ARE RECORDED, SO THAT WE ARE AWARE OF THEIR PRESENCE.

CONTINUED

IN ADDITION, OUR REGULAR FIRE PREVENTION INSPECTORS' VISITS OFTEN TURN UP THESE MATERIALS AND THIS INFORMATION IS ALSO RECORDED. IN THE NEAR FUTURE, THE TORONTO FIRE DEPARTMENT WILL BE INSTALLING A COMPUTER-AIDED DISPATCHING SYSTEM AND ALL INFORMATION ON THE PRESENCE OF HAZARDOUS MATERIALS WILL BE HELD IN THE COMPUTER. THIS WAY, THE RESPONDING FIRE FIGHTERS CAN BE MADE AWARE OF THE TYPE AND LOCATION OF CHEMICALS BEFORE THEY EVER LEAVE THEIR STATION.

INFORMATION IS ALSO OBTAINED FROM LARGE USERS OF CHEMICALS BY OUR STAFF OFFICERS. THERE IS, HOWEVER, SOME RELUCTANCE BY A NUMBER OF COMPANIES TO PROVIDE THIS ON A VOLUNTARY BASIS, THE REASON GIVEN BEING THE PRESERVATION OF TRADE SECRETS AND PROPRIETARY FORMULAS.

ON THE OTHER HAND, MANY OWNERS ARE WILLING TO ASSIST US. IN TORONTO, WE HAVE STARTED A PILOT PROGRAM OF MARKING STORAGE LOCATIONS, LOOSELY BASED ON THE VEHICLE PLACARDS NOW BECOMING MANDATORY. THE UNITED NATIONS NUMBERS IDENTIFYING THE SUBSTANCE AND ITS CLASSIFICATION ARE POSTED AT THE STORAGE LOCATION, AND FIRE FIGHTERS ARE NOT ONLY ALERTED TO THE PRESENCE OF THESE GOODS, BUT ALSO TO THEIR IDENTITY. THIS IS A VOLUNTARY PROGRAM, AND WE ARE GETTING AN EXCELLENT RESPONSE FROM INDUSTRY ON IMPLEMENTING IT.

THE FIRE SERVICE IS ALSO INVOLVED IN LOBBYING OUR GOVERNMENTS FOR MORE LEGISLATIVE CONTROLS. WE HAVE PROVIDED INPUT TO THE FORMULATION OF THE FEDERAL TRANSPORTATION OF DANGEROUS GOODS ACT, TO THE RTC TO UPGRADE THE DOCUMENTATION CARRIED ON FREIGHT TRAINS, TO THE PROVINCIAL GOVERNMENT ON THE SECTIONS IN THE FIRE CODE GOVERNING HAZARDOUS MATERIALS, AND THE MUNICIPAL GOVERNMENT IN AREAS SUCH AS WAREHOUSING AND TRUCK ROUTES.

THERE ARE OBVIOUS BENEFITS TO US FROM "RIGHT-TO-KNOW" LEGISLATION. BETTER CODE ENFORCEMENT WILL REDUCE THE NUMBER OF INCIDENTS, REDUCE THE EXPOSURE OF CITIZENS

CONTINUED

TO CHEMICAL HAZARDS, AND REDUCE INJURIES TO FIRE FIGHTERS. IN ADDITION, AS OUR STANDARD OPERATING PROCEDURES SEVERELY LIMIT OUR ACTIONS UNTIL THE PRODUCT HAS BEEN IDENTIFIED, OUR KNOWLEDGE OF THE PRODUCTS' IDENTITY WILL ALLOW US TO REACT MORE QUICKLY AND PERMIT US TO MINIMIZE THE RISKS INVOLVED IN THE INCIDENT.

IN THE MEANTIME, THE TORONTO FIRE DEPARTMENT IS CONSTANTLY IMPROVING ITS CAPABILITIES FOR DEALING WITH CHEMICAL EMERGENCIES. WITHIN A FEW MONTHS, WE WILL HAVE A SPECIALIZED VEHICLE CARRYING EVEN MORE EQUIPMENT TO CONTROL HAZARDOUS MATERIALS INCIDENTS. MORE TRAINING, MORE PRE-PLANNING AND MORE USE OF PRESENT-DAY TECHNOLOGY ARE ALL BEING INSTIGATED.

THE 1980s HAVE BEEN DESCRIBED AS THE INFORMATION AGE. WE NEED THAT INFORMATION TO SAVE LIVES AND PROTECT PROPERTY, AND ANY LEGISLATION WHICH PROVIDES ACCESS TO THAT INFORMATION WILL RECEIVE OUR WHOLEHEARTED SUPPORT.

HAZARDOUS SUBSTANCES AND THE RIGHT-TO-KNOW

A One Day Symposium

October 26, 1983

**A CASE HISTORY - THE JUNCTION TRIANGLE AREA OF TORONTO;
HOW ONE COMPANY HAS RESPONDED TO COMMUNITY PRESSURE AND
REQUESTS FOR INFORMATION.**

John M. Shepherd
Nacan Products Ltd.

The Junction Triangle

The Junction Triangle area of Toronto is a mixed residential/industrial area in the West-Central part of the city. The Triangle is small, has an area of about 250 acres, and is shared by 15 industries and 6000 people. The name originated because the area is roughly triangular in shape and is bounded by three major rail lines. Most of the industries in the Junction are situated around its periphery, along these rail lines.

Nacan Products Ltd.

Our company, Nacan Products, is a high-technology specialty chemical manufacturer, with a product line focused on polymer chemistry. Millions of dollars are spent worldwide each year on research and development in over twenty countries. We have six plants in Canada that share the results of this global research effort. We manufacture adhesives for a wide variety of industrial and home applications. We also make synthetic polymers which are used as paper coatings, hair sprays, binders and latex paints. A plant in Collingwood grinds corn grown in Ontario, and makes specialty starches for industrial and food applications.

The plant on Wallace Avenue, in the Junction Triangle, was originally built in 1929. It has since been expanded several times. In those days city planners located new industrial sites next to residential areas, so that people could walk to work. Few people had cars. The factories

were a buffer between the railway lines and the houses. People equated factory smells with jobs and prosperity.

Industries in the Junction Triangle

Our Wallace Avenue plant makes water-based adhesives and coatings. Other industries in the Junction include a paint company, two rubber compounders, an ink and resin manufacturer, a foundry, another resin manufacturer and a company that produces decorated metal bottle caps. These factories are by no means "heavy industry", but each has at least some potential to create odors.

Initial Environmental Concerns

I have worked at the Wallace Avenue plant since 1964. The first odour complaint from our neighbouring residents came to our attention about ten years ago. We did not recognize it immediately, but an increased environmental awareness was developing in the community. It grew slowly. Fewer and fewer people were willing to tolerate conditions that perhaps were more acceptable in 1929. My reaction ten years ago, as plant manager, was perhaps typical. - These odor episodes were infrequent. What did these people expect, living next to industry? Didn't they know that we were here first? Anyway, it couldn't be our plant, it must be the plant next door. - But just to be on the safe side, We did warn our operators and foremen about the situation. Some initial and rather obvious steps were taken to minimize any

annoyance. During the next few years the Ministry of the Environment made us aware of further complaints. We made other significant procedural and engineering changes to minimize odour emissions and to minimize noise at night.

As I have mentioned, the Wallace Avenue plant makes water-based adhesives and coatings. These are used by other manufacturers in Ontario for literally thousands of applications - to make paper bags, labels, postage stamps, envelopes, books, furniture, wallpaper, diapers, textiles and latex paints. The major ingredient in most of these products is vinyl acetate polymer. Some forms of vinyl acetate polymer are used to make chewing gum and coatings for cheeses. Not one of the finished products made at Wallace Avenue, although they are all chemical products, could be said to present any safety or health hazard to the community. However, we do handle various hazardous flammable, corrosive or odourous raw materials, and these do have the potential to be a problem if not handled properly.

Rezoning Issue

In 1975 the City of Toronto planning department started an area by area re-examination of zoning designations that had been in effect since 1950. When the planners looked at the Junction Triangle, with housing and industry in such close proximity, they recommended that the industrial area be rezoned to light industry. This meant that several of the existing plants would become "legal non-conforming uses". In

future, when these plants applied for building permits to expand or to make building alterations, they would have to go through a public hearing process. In the long run, these legal non-conforming uses would cease to exist, through attrition or for other reasons.

There was considerable opposition from the industries to this proposed rezoning. Some councillors were also a little uneasy as they realized that this might accelerate an exodus of industry to the suburbs. This trend had been growing since 1950. There was concern that without an industrial tax base, the core of the city would deteriorate and become like that in many U.S. cities. When we made representations to committees of city council, we realized that a Junction Triangle Anti-Pollution Group had been formed and was in favor of the rezoning. During the next several years, as the issue was debated, the media characterized the debate as "industry versus planners" or "should polluters be allowed to expand?".

Local Health Survey

In 1979 the local anti-pollution group conducted a door to door survey in the area. The survey showed that 74% of the households perceived pollution to be a problem. Some 30 to 50% said that they suffered from frequent colds, coughing, sneezing and eye irritation. About half related their illnesses to pollution. As a result of the publicity that this received, concern was expressed about the health of

the employees working inside the factories. The Ministry of Labour sampled the air inside our plant extensively, but found it well within limits.

M.O.E. Tests of Air Quality

In 1980 the Ministry of the Environment conducted extensive tests of the air in the Junction Triangle. A sophisticated mobile test unit operated in the area, 24 hours a day, for two weeks. The unit contained extremely sensitive state of the art equipment. On 37 occasions, it found very, very low levels of some 12 hydrocarbons from industrial processes, from car, truck and rail traffic, from gas stations, and even from natural vegetation. These were not average levels, but were peak concentrations. A few of the levels recorded must have been sufficient to have created some odour. Even these peak concentrations, however, were hundreds or thousands of times below what are considered to be safe occupational health limits for workers exposed continuously, 8 hours a day, 40 hours a week.

A summary of the test results stated that the contaminant levels found were so low that one would not expect to see any obvious health effects. It concluded, however, that due to the close proximity of industry and housing, some occasional annoyance due to odours was inevitable. In the media headlines, this was translated to "Study of Pollution Reveals Potential for Health Effects". A city health official was unfortunately quoted as saying that

the long term health effects of these chemicals in the atmosphere is unknown.

That health official's unfortunate statement was absolutely correct. This is because very little data exists for the long term health effects of extremely low levels of organic chemicals, particularly when they are present in multiple combinations. For the same reasons that no-one knows for sure whether impurities in the city drinking water are safe, neither does anyone know for sure whether the air we breathe is safe. All we can do is to make an educated guess based on what limited toxicological information we have.

My own assessment, having read some of the toxicological literature pertaining to industrial exposures, and having consumed Toronto water and breathed Junction air for some twenty years, is that both the water and air are perfectly safe. We wrote the medical officer of health about this, but quite understandably could get no one in authority to give our neighbours any reassurance. There was no dispute however, that measured contaminant levels were thousands of times below those considered safe for occupational exposures.

Throughout 1980 and 1981 we persisted in our efforts to convince city aldermen that we were environmentally compatible with our neighbours. We needed an exemption from the proposed rezoning by-law. The media coverage of the ongoing debate continued to focus on the pollution issue and, I believe, caused needless concern to the local residents about the quality of the air in the Junction.

Discharge to Sewer

On Monday evening April 5, 1982, the Land Use Committee of Toronto City Council voted to recommend to Council that Nacan and some of the other industries be granted an exemption to the proposed rezoning by-law. A few hours later, disaster struck.

About midnight, with what seemed to be an exquisite sense of timing, one of our employees deliberately sewered 800 gallons of a volatile combination of two odourous and flammable raw materials from a mixing tank. The two chemicals were vinyl acetate and butyl acrylate. Butyl acrylate has a particularly powerful odour at extremely low concentrations. This was no accidental spill and was not malicious, but it was a deliberate discharge, executed to cover up an error. The person had mixed the two materials in the wrong proportions.

All evidence of the discharge was cleaned up immediately, so that plant supervision did not realize what had occurred. The discharge had occurred after midnight, when sewer flow was light. The liquid passed slowly through the sewer system and created a strong smell in the streets along its path. The vapours inside the sewer even travelled a mile upstream and entered two houses with defective floor drain U-traps. Firemen were called to flush the sewer system. No one knew what the material was. Since it had an obvious chemical smell and irritated the eyes at high concentrations,

everyone assumed the worst.

Fortunately, the effects were temporary. These two chemicals have no known long term effects. Two schools were closed for the day as a precaution. Five firemen and two of the residents who had been exposed to the fumes visited the out-patient department at a local hospital, and were released later that day.

We had checked with our employees on the shift and they had assured us that the sewer odour had not come from Nacan. We passed this information on to the Ministry of the Environment. We checked for a leaking underground tank or a process upset but found nothing. We were sure that the discharge had not come from Nacan.

As the days went by, with the source of the discharge not having been determined, public pressure on the Ministry grew. The Ministry assigned special investigators to the task and we initiated further checks. It was not until nine days after the discharge that we completed a complicated material use calculation. This uncovered some missing inventory coincident with the time of the discharge. We immediately informed the Ministry investigator. Armed with this information he obtained confessions from two employees who had previously assured him that nothing unusual had happened at Nacan on the night of the discharge. That same morning, we issued a press release admitting the Company's responsibility for the discharge and apologizing on behalf of Nacan to all those affected.

Aftermath of the Discharge

This deliberate discharge was called a spill by most people. It generated a considerable amount of adverse publicity, not only for Nacan but also for the other Junction industries. City Council voted promptly to impose the zoning bylaw on Nacan and all the other companies. A Mayor's Action Task Force was formed to establish an emergency action plan in case of future spills or odour complaints. A second citizen's anti-pollution group was formed, in competition with the first. The city health department saw an opportunity to carry out another questionnaire-type study of the health of Junction residents. Politicians at three levels of government became involved. The Ministry of the Environment thoroughly examined the operations of six of the companies and initiated strict abatement programs at four of the plants. Nacan was charged under the Environmental Protection Act, pleaded guilty, and was fined \$17,000.

Public Meetings

In the twelve months following the sewer discharge, I attended at least seven or eight public meetings, either at City Hall or at the local school in the Junction. These were sponsored by several organizations - a committee of City Council, the Mayor's Action Task Force, one of the citizens' anti-pollution groups or the Ministry of the Environment. The meetings were to hear residents' concerns or to explain what

was being done by the various companies to guard against spills or odour emissions. I spoke and answered questions at most of these meetings, in an effort to reassure residents that Nacan operations are not a health hazard to the community.

It became apparent that there was a genuine concern and perhaps even fear among some of the residents about pollution, and its perceived effects on health. One woman's father had died of cancer. Another man displayed a severe rash on his arms. A father told of his young son who had aplastic anemia, which can be caused by a number of factors, including benzene poisoning. Another woman told of bringing her children into the Junction on Sunday (when industries were not even operating) to visit her mother, and picking them up at the end of the day with their eyes blood-shot from the pollution. We heard that the dogs in the area had skin problems and that two pet birds had died recently. Two other people told of moving into the Junction and starting to suffer from throat or bronchial irritation. The president of one of the anti-pollution groups claimed that every single person in the Junction felt that he had something wrong with him.

I do not believe that there is any possibility that contaminants emitted by us or by any other industry in the Junction could have caused these effects. I think that what we have seen is evidence of a type of mass hysteria, without doubt fed by media reports of statements made during the

zoning controversy and after the April 1982 discharge to sewers.

At these meetings I stated that I myself and many other Nacan employees had breathed the air in the Junction for almost twenty years without ill effect. I stated that although there may have been occasional annoyances from process upsets, these were infrequent. Ninety-nine percent of the time there was no odour in the area. Still, that one percent was too much, and all the industries were striving to reduce it. Measured contaminant levels were thousands of times below safe occupational health limits and should have created no health effects. These statements helped to provide some reassurance, but a better way of communicating was obviously necessary.

It was suggested that an Environment Liason Committee (E.L.C.) be formed. This committee would meet on a continuing basis, and would consist of representatives of Junction industries, the two anti-pollution groups and the Ministry of the Environment. The E.L.C. would stress cooperative, rather than adversarial objectives, and would be a means of facilitating communication between residents and industry. The initial correspondence outlining the concept is reproduced in Appendix A. The E.L.C. became a recommendation of the Mayor's Action Task Force, and was finally set up a few months ago. To date we have had only two meetings, but already there are promising indications that the committee can achieve its goals.

Requests for Confidential Information

The Mayor's Action Task Force asked six of the firms in the Junction for lists of all raw materials handled. Two of the firms did provide such lists and four of them (including Nacan) declined, largely for competitive reasons. Nacan's reasons were detailed in a letter to the Task force, which is reproduced in Appendix B.

We feel that a simple list of raw materials, without information on volume or conditions of use, would be extremely misleading in any hazard assessment. On the other hand, such a list, with or without usage information, could provide useful data to a knowledgeable competitor, and therefore should not be made public. We can expect similar requests in future for confidential information.

The Issue -

Proprietary Information and the Public Need for Knowledge

This conference focuses on "Hazardous Substances and the Right to Know". There are at least two conflicting principles here that we must examine. We must try to find some common ground, and try to determine what is best for society as a whole.

The first principle is that the public should have information about hazards or pollutants to which they are exposed, and which could affect their well-being. People can therefore assess the risks, and are free to choose whether to

expose themselves to these risks. Cigarette smoking is a good example of a risk which some people accept, providing that they have made the choice themselves.

The second principle is that an individual should not be forced to disclose to the public any details of his own innovative work which give that individual some competitive advantage and opportunity to make a profit. This principle is rooted in our belief that free enterprise and free competition must be nurtured. The incentive to save, invest and profit brings out the best in man. This is responsible for the high standard of living which we enjoy today. As we look around us in the world, we can see that free enterprise is indeed a fragile concept. I fear that in North America we often take it for granted.

Somehow, these two conflicting principles have to be reconciled. We believe that they should be resolved on a case by case basis.

The Specialty Chemical Manufacturer

Nacan is part of a world-wide organization. This organization spends heavily on research and development. In the last ten years alone, more than 80 million dollars has been invested. The Nacan plant in the Junction benefits from this research, as data and results are circulated regularly to affiliated companies. Competition within the chemical industry is intense. We gain and lose business regularly on the basis of product performance, which is really the

technical excellence of our formulations.

Most of Nacan's technology is in its product formulations. These formulations are vital to the success of the company. Great care is exercised to keep them confidential. In determining whether or not to release technical information to our customers or to the public, the deciding factor is whether the information will serve to warn people about any potential hazards. For example, if a product is flammable, or corrosive or contains volatile solvents, we do provide sufficient formulation information so that the degree of hazard can be assessed. The new Dangerous Goods Transportation Act also requires a similar degree of disclosure. We feel that it serves no useful purpose to list non-hazardous components of a formula, or even moderately hazardous components, if they are present in such small quantities that they present no risk.

Nacan discloses considerable confidential technical information to various federal and provincial government agencies. In every case, the enabling legislation for the agency prevents it from disclosing this confidential data to third parties. Examples of such legislation are the Statistics Act, the Environmental Contaminants Act, the Environmental Protection Act and the Occupational Health and Safety Act. Some of these agencies inspect our plant operations, and assess any hazard to employees or to the public. Since these agencies are responsible to politically elected representatives of the public, we feel that the

public interest is very well served.

Inside our plants, we make full disclosure of confidential formulation information to employees who actually work with the chemicals. We test the work atmosphere for contaminants. We share the results with a joint union-management safety committee. We post results for all to see on plant bulletin boards. All employees have access, right on the plant floor, to confidential data books summarizing properties, hazards and handling precautions for all hazardous raw materials. I believe that a company cannot protect the health of the public without first assuring the health of its own employees.

There have been a number of epidemiological studies carried out in the U.S.A of chemical industry workers. In general, the studies show that these workers have lower illness rates and lower death rates from cancer or from other causes than other workers. When we consider that chemical industry workers might potentially have a greater risk of exposure to chemicals, these studies are significant. They form the basis for at least a preliminary reassuring conclusion concerning the hazards of exposures to chemicals in the work place. I have found it even more reassuring that tests of the atmosphere outside our plant show contaminant levels thousands of times below the safe levels inside our plants.

When we received the request from the Mayor's Action Task Force for a complete list of raw materials used in the

plant, the decision whether to comply was not a difficult one. We believed, and had so stated, that the raw materials as used presented no health hazard to the community. The Ministries of Labour and Environment were already in possession of the information requested, although bound by confidentiality. The information could not have been used to assess any risk that the community was facing. On the other hand, release of the information could have benefited a knowledgeable competitor. There was in this case no conflict of principle. We therefore decided not to comply with the request.

Conflicts of Principle

A. Lawrence Lowell, who was President of Harvard University from 1909 to 1933, wrote a thought-provoking book some fifty-one years ago called "Conflicts of Principle". The book is listed in the bibliography at the end of this paper.

Lowell wrote that what appears as a universal principle is in fact often true only within the limits of certain conditions, and that it can become partially true, or altogether inapplicable under new and unfamiliar circumstances. He wrote about how conflicts can arise when two inconsistent principles come into collision. The book shows how such conflicts may be avoided by recognizing that each principle has limits, and that there is a debatable region in which neither principle can be rigorously applied.

The title of today's symposium concerns one such

principle, "The Right to Know". I have tried to show that there are other equally valid "conflicting principles" that warrant our consideration. All of these principles are true only within the limits of certain conditions. Hopefully, through the kind of dialogue that we are seeing today, we will be able to find that debatable region where neither principle can be rigorously applied, and where there is an area for compromise and understanding.



STARCHES • ADHESIVES • RESYNS

JUL 19 1982

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NACAN PRODUCTS LIMITED

July 19, 1982

371 WALLACE AVE.
TORONTO, ONTARIO M6P 3P1
(416) 531-2463

Alderman J. J. Piccininni
Chairman North West Toronto
Industrial Coordinating Committee
City Hall
Toronto, Ontario
M5H 2N2

Dear Alderman Piccininni:

This letter is to report to you the results of a meeting held on July 9 by a group representing local manufacturing companies, all of which are members of the North West Toronto Industrial Coordinating Committee. The meeting was held to determine whether it would be possible to develop some improved means of exchanging information, on a cooperative basis, with local community representatives, about environmental matters.

In attendance, meeting as a subcommittee of the NWTICC, were:

W. D. Berry	Canadian General Electric
W. Bryce	I.T.T. Grinnell
C. A. Huff	Inmont
W. Rays	Viceroy Rubber
A. Roos	Glidden Company
J. M. Shepherd	Nacan Products
D. Young	Canadian General Electric

The consensus of this subcommittee was that an "Environment Liaison Committee" should be set up, to consist of local residents, members of the NWTICC, and representatives of provincial and city regulatory agencies. The purpose of the ELC would be fourfold:

1. To receive information on environmental complaints and investigations.
2. To communicate technical data on monitoring measurements, health hazard limits, environmental standards, odour thresholds, etc.
3. To review progress on control and abatement measures taken or planned by firms in the area.
4. To agree on recommendations for action.

.../2

July 19, 1982

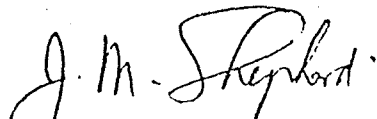
The subcommittee suggested that the following factors be considered in establishing an ELC.

- a) For maximum effectiveness, the ELC should be kept small - a maximum of 10 to 12 people.
- b) Cooperative, rather than adversarial objectives should be stressed.
- c) Local residents should choose their own representatives, but perhaps the services of the local Planning Office could be utilized to assist in this.
- d) One or two members of the "Mayor's Task Force" should be members of the ELC. Mr. B. Singh, Manager of the Abatement Section of the Ministry of the Environment is chairman of a similar committee in another part of the city, and would be willing to serve on this committee.
- e) The NWTICC representatives should perhaps be rotated in some manner, in order to keep the size of the ELC within the limits established.
- f) Evening meetings should be held, perhaps every two months, in a local school or community centre, with the chairmanship rotated perhaps every six months.
- g) Although ELC meetings would not be opened to the public or to the media, minutes of these meetings could perhaps be distributed, and members could be expected to communicate freely to the media or to the community.

If you feel that an Environmental Liaison Committee could be useful and should be set up, the members of your subcommittee would be pleased to assist you in any way possible in its establishment.

Yours very truly,

NACAN PRODUCTS LIMITED


John M. Shepherd
Vice President

JMS:kg

cc: W. D. Berry
W. Bryce
C. A. Huff
W. Rays
A. Roos
D. Young



The City of Toronto
Arthur C. Eggleton
Mayor

July 26, 1982

Mr. John M. Shepherd
Vice President
Nacan Products Limited
371 Wallace Avenue
Toronto, Ontario
M6P 3P1

Dear Mr. Shepherd:

As Chairman of the Action Task Force on Chemical Spills in the Junction Triangle, I was very pleased to receive from Alderman Piccininni the proposal made by you and your associates for the establishment of an Environment Liaison Committee.

I welcome this initiative taken by the industries, as it is a clear indication of the industries' concern for the environmental well being of the neighbourhood and is a meaningful demonstration of the type of co-operation that is needed from the industries in order to successfully resolve the environmental problems. It is also timely, as the open public meetings arranged by the Action Task Force for July 27th will provide me with the opportunity of presenting your proposal to the residents.

Sincerely,

A large, stylized handwritten signature of Arthur C. Eggleton, written in dark ink.

AE:IP:nkj



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APPENDIX B

NACAN PRODUCTS LIMITED

February 18, 1983

371 WALLACE AVE.

TORONTO, ONTARIO M6P 3P1

(416) 531-2463

City of Toronto

His Worship Mayor A. C. Eggleton

City Hall, Toronto

Dear Mayor Eggleton:

This letter is in response to your request for a list, by generic name, of raw materials used in manufacturing at this plant. Presumably, this list would become a public record, and could be used to assess the likelihood of there being any environmental health impact from plant operations.

I would suggest that such a list, by itself, is not very useful and could be very misleading in any such assessment. For a proper assessment, information on inventory levels, usage rates and how each material is stored, dispensed and processed should be required. A simple list does not differentiate between materials used in insignificant quantities, and those processed in bulk.

However, a list of materials used, such as has been requested, could provide useful information to a knowledgeable competitor if it were made public. A competitor would be interested not only in what materials are on the list, but also in what materials are not on the list. Information on usage rates would be of even greater interest. We feel that the request for "generic" information does not affect significantly the degree of disclosure required.

Our last count showed that we handled over 300 different raw materials at the plant. The majority of these have little or no hazard potential. Only about 50 of these materials would be classified as "hazardous" under the Dangerous Goods Transportation Act by virtue of their flammability, oxidizing potential, toxicity or corrosiveness. Most of these 50 have little or no volatility, or are used in such small quantities, that they would not be expected to be present in the air inside or outside the plant.

We manufacture about 300 different product formulations from these raw materials. Not one of these could be considered to present any safety or health hazard to the community. The products are mostly water-based adhesives and synthetic polymer emulsions that are used in a variety of industrial applications - bags, labels, postage stamps, envelopes, books, furniture, wallpaper, diapers, textiles and latex paints.

.../2

His Worship Mayor A. C. Eggleton
February 18, 1983
Page 2

Most of Nacan's technology is in its product formulations. These have evolved over the years through the expenditure of millions of dollars in research and development. These formulations are confidential and proprietary and are vital to the success of the Company. Information relating to formulations is not made public. A complete list of raw materials used could provide useful formulation information to a competitor.

You are well aware that the Ontario Occupational Health and Safety Act as well as the Environmental Protection Act both provide certain guarantees that information relating to trade secrets or to manufacturing processes will be kept confidential. In the past, Nacan has cooperated with the Ministries of Labour and the Environment with these same understandings of confidentiality. For example, a list of the 50 "hazardous" materials was supplied last summer to the Ministry of Labour on this basis. We cannot release either Ministry from these guarantees of confidentiality.

I am sure that you will understand why we cannot have this information made public. Based on tests and studies conducted over the years by the Ministries of Labour and the Environment, I do not believe that this plant presents the slightest health hazard to the neighbourhood. As a member of the North West Toronto Industrial Coordinating Committee, Nacan has offered to assist in the establishment of a neighbourhood Environment Liaison Committee. Since the Ministry of the Environment has jurisdiction in Ontario over these matters, it has been suggested that a Ministry representative also be a member of this committee. Such a person could do much to reassure the residents that this plant presents no health hazard to the community.

Yours very truly,

A handwritten signature in dark ink, appearing to read "John M. Shepherd". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

John M. Shepherd
Divisional Vice President

JMS:kg



The City of Toronto
Arthur C. Eggleton
Mayor

February 2, 1983

Mr. J. Shepherd
Nacan Products Limited
371 Wallace Avenue
Toronto, Ontario
M6P 3P1

Dear Mr. Shepherd:

Re: Action Task Force on Chemical Spills and
Air Emissions in the Junction Triangle

In response to a request from the Junction Triangle Anti Pollution Group, contained in their brief concerning my report on the Action Task Force on Chemical Spills and Air Emissions in the Junction Triangle, I am writing to determine if you could provide a list, by generic name, of the raw materials that are delivered to your plant for manufacturing purposes.

The Anti Pollution Group do not consider this information to be as specific as the information on every chemical used in the manufacturing process that is filed with the Ministry of the Environment and, therefore, they feel it will not infringe upon patent rights. Such information does not require detail as to how these materials are combined, their quantities, or the final product.

Your early attention to this matter would be most appreciated.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Art Eggleton', written over the word 'Sincerely,'.

B I B L I O G R A P H Y

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OPENING REMARKS TO A PANEL

ON

HAZARDOUS SUBSTANCES

AND THE

RIGHT TO KNOW

PRESENTED BY

MR. W.A. NEFF

DIRECTOR OF TECHNICAL AFFAIRS .

THE CANADIAN CHEMICAL PRODUCERS' ASSOCIATION

TO A SYMPOSIUM ORGANIZED BY

THE CANADIAN ENVIRONMENTAL LAW RESEARCH FOUNDATION

OCTOBER 26, 1983

TORONTO, ONTARIO

I WOULD LIKE TO THANK THE ORGANIZERS OF THIS SYMPOSIUM FOR THE OPPORTUNITY TO TALK TO YOU TODAY ABOUT THE IMPORTANCE OF CHEMICALS TO OUR CANADIAN WAY OF LIFE AND OUR NATION'S FUTURE, AND IN THIS LIGHT, TO DISCUSS THE NEED TO ENSURE THAT THE JUSTIFIED CONFIDENTIALITY OF INFORMATION, PARTICULARLY THAT AFFECTING THE COMPETITIVENESS OF COMPANIES, IS APPROPRIATELY PRESERVED.

THE ORIGIN OF CHEMICALS

LET ME BEGIN BY DISCUSSING WHERE CHEMICALS COME FROM AND HOW WE USE THEM, BEFORE ADDRESSING THE KEY ROLE THAT CHEMICAL MANUFACTURERS PLAY IN CREATING A STRONG CANADIAN ECONOMY.

I'M SURE MANY PEOPLE ASSUME THAT CHEMICALS COME FROM TEST TUBES IN THE HANDS OF WHITE COATED SCIENTISTS WORKING IN SEALED OFF LABORATORIES.

ACTUALLY, CHEMICALS ARE A GIFT OF NATURE IN THEIR RAW FORM.

WHAT THE CHEMICAL INDUSTRY DOES IS CONVERT THEM FROM RAW MATERIALS INTO MANUFACTURED CHEMICALS BY USE OF VARIOUS CATALYTIC PROCESSES - THERMAL, ELECTRICAL, EVEN CHEMICAL. THE END RESULT IS A VAST ASSORTMENT OF DIFFERENT CHEMICALS AND CHEMICAL COMPOUNDS.

THAT, IN A NUTSHELL, IS THE BASIC CHEMICAL MAKING BUSINESS. WE APPLY HUMAN INGENUITY AND TECHNOLOGICAL INNOVATION TO NATURE'S LATENT GIFTS - AND PRODUCE CHEMICALS.

CHEMICAL USE

WHY DO WE NEED CHEMICALS? THERE ARE SEVERAL REASONS.

ONE IS THAT CHEMICALS CAN FREQUENTLY BE USED TO MAKE PRODUCTS THAT ARE SUPERIOR TO EXISTING PRODUCTS. A SIMPLE EXAMPLE IS THE PLASTIC GARBAGE BAG, COMPARED WITH PAPER BAGS OR EVEN METAL GARBAGE CANS. THEY ARE NOT ONLY SUPERIOR AND LESS EXPENSIVE TO PRODUCE, BUT MORE HYGENIC AS WELL. PLASTIC BOTTLES ARE SAFER THAN GLASS BOTTLES - AND USE LESS ENERGY TO MAKE.

WE NEED CHEMICALS BECAUSE THEY RESULT IN VITAL PRODUCTS THAT WOULD NOT OTHERWISE EXIST. EXAMPLES HERE ARE PHARMACEUTICALS.

WE NEED CHEMICALS BECAUSE THEY MAKE MANY LIFE-SUPPORTING PRODUCTS SAFER, SUCH AS FOOD PRESERVATIVES OR, FOR CONTRAST, RADIAL AUTOMOTIVE TIRES.

WE NEED CHEMICALS BECAUSE WE CAN'T AFFORD TO RELY ON LIMITED NATURAL MATERIALS. FOR EXAMPLE, CLOTHING AND OTHER TEXTILES USED TO BE MADE EXCLUSIVELY FROM COTTON AND WOOL. TODAY, MANY OF THESE PRODUCTS ARE MADE FROM CHEMICALLY-DERIVED SYNTHETIC FIBRES. IF WE REVERTED BACK TO NATURAL MATERIALS, WE WOULD NEED AN AREA EQUIVALENT TO ALL OF CONTINENTAL EUROPE JUST TO GROW ENOUGH WOOL. SIMILARLY, THE WORLD CAN'T PRODUCE ENOUGH NATURAL RUBBER TO MEET DEMAND. HENCE THE USE OF CHEMICALLY-DERIVED SYNTHETIC RUBBERS.

AND WE NEED CHEMICALS TO INCREASE FOOD PRODUCTION, WHICH IS WHY FERTILIZER CHEMICALS AND PESTICIDES ARE IMPORTANT.

CHEMICALS ARE AN ESSENTIAL PART OF OUR WAY OF LIFE. I JUST DON'T KNOW HOW WE'D GET ALONG WITHOUT THEM.

CHEMICALS ARE A KEY LINK BETWEEN NATURAL RESOURCES AND THOUSANDS UPON THOUSANDS OF ESSENTIAL PRODUCTS THAT SHAPE AND IMPROVE OUR WAY OF LIFE.

BUT AN INDUSTRY IS MUCH MORE THAN ITS PRODUCTS. THE CHEMICAL MANUFACTURING INDUSTRY IS ALSO VITAL TO OUR ECONOMIC WAY OF LIFE.

IN A PHRASE, IT IS A KEY INDUSTRY.

CHEMICAL MANUFACTURING - A KEY INDUSTRY

I'D NOW LIKE TO IDENTIFY SEVERAL FACTORS THAT UNDERScore THE IMPORTANCE OF A HEALTHY AND GROWING CHEMICAL MANUFACTURING INDUSTRY TO CANADA'S ECONOMIC FUTURE.

FIRST, LET ME GIVE YOU SOME IDEA OF OUR SIZE AND STATURE.

CHEMICAL MANUFACTURING IS CANADA'S FIFTH LARGEST INDUSTRY. IF THE ECONOMY CONTINUES TO IMPROVE, WE WILL BE A \$10 BILLION INDUSTRY, IN TERMS OF SALES, BY THE END OF 1984.

WE ARE A MAJOR INVESTOR IN CANADA'S FUTURE. CHEMICAL MAKERS HAVE ALREADY INVESTED CLOSE TO \$8 BILLION IN PLANTS AND EQUIPMENT. WE ARE A CAPITAL INTENSIVE INDUSTRY. AND WE CONTINUE TO MAKE SUBSTANTIAL NEW INVESTMENTS IN MAINTAINING, IMPROVING AND EXPANDING OUR ASSET BASE. IN FACT, ONE OUT OF EVERY FIVE DOLLARS INVESTED IN MANUFACTURING IS CHEMICALLY RELATED.

SECOND, CHEMICAL MANUFACTURERS ARE A KEY INDUSTRY IN CREATING JOBS FOR CANADIANS.

WE EMPLOY DIRECTLY MORE THAN 30,000 PEOPLE. IF YOU INCLUDE COMPANIES WHICH USE CHEMICALS TO MAKE THEIR PRODUCTS - AND THUS ARE CLOSELY ASSOCIATED WITH CHEMICAL MANUFACTURING - THE CHEMICAL GROUP AS A WHOLE EMPLOYS CLOSE TO 90,000 PEOPLE.

WE ARE A KEY EMPLOYER.

CHEMICAL WORKERS ARE WELL EDUCATED, WELL TRAINED, AND WELL PAID. THEIR WAGES AND SALARIES EXCEED THE AVERAGE FOR MANUFACTURING IN GENERAL. WE ARE A KNOWLEDGE INTENSIVE INDUSTRY, PROVIDING CAREERS FOR SCIENTISTS, TECHNICIANS, ENGINEERS AND OTHER PROFESSIONALS, AS WELL AS PEOPLE WHO POSSESS SPECIALIZED TRADE SKILLS. CONSEQUENTLY, WE ARE NOT ONLY A SIGNIFICANT SOURCE OF JOBS, BUT ALSO OF QUALITY JOBS.

I SHOULD NOTE THAT, WHEN YOU CALCULATE THE VALUE ADDED PER EMPLOYEE, CHEMICAL WORKERS ARE HIGHLY PRODUCTIVE. TAKING MANUFACTURING AS A WHOLE, THE CHEMICAL MANUFACTURING SECTOR RANKS SECOND IN TERMS OF PRODUCTIVITY.

NOW, I MENTIONED THAT WE ARE A KNOWLEDGE INTENSIVE INDUSTRY. THIS BRINGS ME TO THE THIRD KEY ATTRIBUTE OF CHEMICAL MANUFACTURING - WE MAKE A MAJOR CONTRIBUTION TO SCIENTIFIC ENDEAVOR AND TECHNOLOGICAL CHANGE IN CANADA.

THE NATIONAL RESEARCH COUNCIL, FOR INSTANCE, PLACES CHEMICAL MANUFACTURING ONLY SECOND TO THE ELECTRICAL PRODUCTS INDUSTRY IN THE RATIO OF SCIENTISTS AND ENGINEERS EMPLOYED IN RESEARCH AND DEVELOPMENT ACTIVITIES. THAT'S AN IMPORTANT MEASURE.

MUCH OF OUR SUCCESS IN THIS AREA IS ADOPTING TECHNOLOGICAL DEVELOPMENTS FROM ELSEWHERE IN THE WORLD TO CANADIAN REQUIREMENTS. BUT WE HAVE ALSO HAD OUR OWN HOME-GROWN TECHNOLOGICAL FIRSTS. A CANADIAN COMPANY DEVELOPED UNIQUE TECHNOLOGY TO PRODUCE POLYMER FOR THE NYLON USED IN CARPETING. ANOTHER CANADIAN FIRM CONCEIVED AND DEVELOPED THE POLYETHYLENE GARBAGE BAG. A THIRD CAME UP WITH SUPERIOR TECHNOLOGY FOR MANUFACTURING AND HANDLING SULPHURIC ACID.

THESE ARE A FEW EXAMPLES OF THE KEY ROLE THAT CHEMICAL MANUFACTURERS PLAY IN DEVELOPING A MORE INVENTIVE CANADIAN ECONOMY.

WE ALSO PUT A GREAT DEAL OF EFFORT INTO HELPING OUR CUSTOMERS DEVELOP NEW PRODUCTS, OR IMPROVE EXISTING ONES, OR ADOPT BETTER WAYS OF ACTUALLY MAKING PRODUCTS.

THIS BRINGS ME TO A FOURTH KEY ASPECT OF CHEMICAL MANUFACTURING - THE WAY IT SUPPORTS AND FOSTERS GROWTH IN A MULTITUDE OF INDUSTRIES.

TODAY, THERE IS HARDLY ANY SEGMENT OF THE ECONOMY WHICH DOES NOT USE CHEMICALS IN ONE FORM OR ANOTHER. THE BULK OF PURCHASES MADE BY A PULP AND PAPER MILL - ASIDE FROM THE PULP ITSELF - ARE CHEMICALS OF ONE KIND OR ANOTHER. THE MINING OF MOST METALS INVOLVES THE USE OF CHEMICALS TO CONCENTRATE THE ORE PRIOR TO SHIPMENT. TEXTILE MILLS EMPLOY CHEMICALS TO PRODUCE FIBRES AND CHEMICALS TO DYE THEM. BLAST FURNACES AND STEEL MILLS REQUIRE CHEMICAL PLANTS TO FEED THEM OXYGEN AND OTHER GAS. AUTOMAKERS REQUIRE SPECIAL CHEMICALLY-BASED FINISHES TO MAKE THEIR CARS RUST PROOF.

OTHER MAJOR CUSTOMERS OF CHEMICAL MANUFACTURERS INCLUDE SUCH INDUSTRIES AS FOOD AND BEVERAGES, RUBBER AND PLASTICS, ELECTRICAL PRODUCTS, AGRICULTURE, TRANSPORTATION, AS WELL AS PRINTING, PAINTS, FURNITURE, LEATHER, CONSTRUCTION, COMPUTERS - THE LIST IS ENDLESS.

THE DEPENDENCE OF SO MANY INDUSTRIES ON CHEMICALS HIGHLIGHTS THE PIVOTAL ROLE OF CHEMICAL MANUFACTURERS IN ASSISTING THE WHOLE PROCESS OF ECONOMIC PROGRESS.

THERE IS, HOWEVER, ANOTHER MEASURE OF THE CONTRIBUTION AN INDUSTRY MAKES TO THE ECONOMY AS A WHOLE. IT IS CALLED VALUE-ADDED GROWTH.

BASICALLY, YOU DEDUCT FROM YOUR SHIPMENT REVENUES, CERTAIN COSTS, SUCH AS MATERIALS, SUPPLIES AND FUEL, TO DETERMINE JUST HOW MUCH VALUE YOU HAVE ACTUALLY ADDED TO YOUR PRODUCTS. THIS VALUE-ADDED CONCEPT IS ONE OF THE BEST MEASURES OF REAL ECONOMIC GROWTH.

AND I'M PLEASED TO SAY THE CHEMICAL MANUFACTURING INDUSTRY SCORES RATHER WELL. OUR REAL ECONOMIC GROWTH - OR CONTRIBUTION TO THE CANADIAN ECONOMY, IF YOU LIKE - HAS AVERAGED CLOSE TO SIX PERCENT A YEAR DURING THE PAST DECADE. THAT'S SUBSTANTIALLY BETTER THAN MANUFACTURING AS A WHOLE - AND IS SECOND ONLY TO THE NON-ELECTRICAL MACHINERY INDUSTRY.

MUCH OF THIS IMPRESSIVE GROWTH, BY THE WAY, HAS COME ABOUT SINCE THE MID-1970s, WHEN CHEMICAL MANUFACTURERS - NOTABLY PETROCHEMICAL PRODUCERS - INVESTED BILLIONS OF DOLLARS IN BUILDING WORLD-SCALE PRODUCTION FACILITIES. THESE FACILITIES, IN QUEBEC, ONTARIO AND ALBERTA, ARE AMONG THE MOST EFFICIENT IN THE WORLD. THEY ARE CLEAN AND SAFE MONUMENTS TO TECHNOLOGICAL ACHIEVEMENT.

HAVING WORLD-SCALE FACILITIES BRINGS ME TO A SIXTH KEY ATTRIBUTE OF OUR INDUSTRY: WE ARE ALSO WORLD-CLASS. WE HAVE TO BE. SO MUCH OF CHEMICAL MANUFACTURING IS NOW AN INTERNATIONAL BUSINESS.

FOR ONE THING, WE FACE A GOOD DEAL OF COMPETITION WITHIN CANADA FROM CHEMICAL IMPORTS. MANY OF THESE CHEMICALS ARE VERY SPECIALIZED. THEY ARE NOT ECONOMICALLY WORTHWHILE MAKING HERE BECAUSE OF THE SMALL VOLUME OF ORDERS FOR EACH SPECIFIC CHEMICAL.

WE HAVE MADE A CONCERTED EFFORT TO DISPLACE OTHER CHEMICAL IMPORTS, WITH SUCCESS IN THE PETROCHEMICAL SECTOR. DURING THE PAST TEN YEARS, PETROCHEMICAL PRODUCERS ARE ONE OF ONLY TWO CANADIAN MANUFACTURING INDUSTRIES TO REDUCE IMPORT PENETRATION.

BUT STILL, CHEMICAL IMPORTS GENERALLY CONTINUE TO RISE, AND TOTAL ROUGHLY \$3 BILLION A YEAR.

AS A COUNTERBALANCE, HOWEVER, WE HAVE MOVED DETERMINEDLY INTO INTERNATIONAL MARKETS, WITH GREAT SUCCESS. CANADIAN MANUFACTURERS EXPORT ABOUT \$2 BILLION WORTH OF CHEMICALS A YEAR, MOSTLY PETROCHEMICALS AND INORGANIC CHEMICALS.

IN FACT, CANADIAN PETROCHEMICAL PRODUCERS HAVE HAD SPECTACULAR SUCCESS IN CONQUERING FOREIGN MARKETS. IN 1979, THE INDUSTRY ACHIEVED ITS FIRST-EVER TRADE SURPLUS IN PETROCHEMICALS. OTHER CHEMICAL SECTORS HAVE ALSO IMPROVED THEIR EXPORTS.

WHILE OVERALL, WE STILL HAVE A TRADE DEFICIT IN CHEMICALS, IT IS MUCH SMALLER THAN IT USED TO BE. OUR PROGRESS TO DATE HAS CONTRIBUTED TO CANADA'S IMPROVED TRADE BALANCE.

THESE, THEN, ARE SIX CHARACTERISTICS WHICH POSITION CHEMICAL MANUFACTURING AS A KEY INDUSTRY IN THE CANADIAN ECONOMY:

- ITS SIZE IN TERMS OF SALES AND CAPITAL INVESTMENT;
- ITS CAPACITY TO CREATE A LARGE NUMBER OF QUALITY JOBS;
- ITS LEADERSHIP IN SCIENTIFIC ENDEAVOR AND TECHNOLOGICAL ADAPTION;
- ITS CONTRIBUTION TO THE SUCCESS OF, AND INTERDEPENDENCE WITH, VIRTUALLY EVERY OTHER MANUFACTURING SECTOR;
- ITS LEADERSHIP IN CREATING REAL ECONOMIC GROWTH; AND
- ITS INCREASING EMPHASIS ON EXPORT SALES.

CHEMICAL MANUFACTURING - A RESPONSIBLE INDUSTRY

IT IS OBVIOUS THAT THE CHEMICAL INDUSTRY IS A KEY INDUSTRY WITH RESPECT TO CANADA'S WAY OF LIFE AND FUTURE PROSPERITY. I AM PLEASED TO BE ABLE TO SAY THAT THE INDUSTRY IS RESPONSIBLE AS WELL.

ONE ASPECT OF OUR RESPONSIBILITY IS THAT THE CHEMICAL INDUSTRY HAS AN EXCELLENT SAFETY RECORD. ONE IMPARTIAL STUDY CONFIRMS THAT PEOPLE WORKING WITH INDUSTRIAL CHEMICALS SUFFER PROPORTIONALLY FEWER ACCIDENTS AND LESS SEVERE INJURIES THAN WORKERS IN OTHER INDUSTRIAL SECTORS.

WE'RE PLEASED WITH OUR SAFETY RECORD, BUT FAR FROM COMPLACENT ABOUT IT. CHEMICALS CAN BE DANGEROUS - IF THEY ARE MISUSED OR MISHANDLED. THAT'S ONE REASON WHY OUR INDUSTRY HAS INVESTED SO MUCH TIME AND MONEY IN TRAINING AND RETRAINING PEOPLE TO HANDLE AND TRANSPORT CHEMICALS SAFELY. WE DON'T TOLERATE ACCIDENTS. IF THERE IS ONE, WE MOVE FAST TO CONTAIN IT AND CORRECT IT. WE'RE OBSESSED WITH FINDING OUT WHAT WENT WRONG, AND MAKING SURE THE ODDS OF IT HAPPENING AGAIN ARE NEXT TO ZERO.

WE ARE PARTICULARLY PLEASED WITH OUR RECORD IN TRANSPORTING CHEMICALS SAFELY. UNDER THE CANADIAN CHEMICAL PRODUCERS' ASSOCIATION, WE HAVE DEVELOPED THE TRANSPORTATION EMERGENCY ASSISTANCE PLAN, OR TEAP, WHICH MAINTAINS TEAMS OF SKILLED CHEMICAL INDUSTRY EMPLOYEES AT TEN REGIONAL LOCATIONS ACROSS CANADA. THESE TEAMS ARE AVAILABLE AROUND THE CLOCK TO PROVIDE TECHNICAL INFORMATION AND ASSISTANCE AT THE SITE OF ANY TRANSPORTATION ACCIDENT INVOLVING CHEMICALS.

THE NEED TO PROTECT A COMPANY'S INTELLECTUAL PROPERTY

THE ABILITY FOR A MANUFACTURER TO COMPETE SUCCESSFULLY IS BASED ON THE COMPANY'S EFFICIENCY, REFLECTED IN ITS PRODUCTS AND PRICES. EFFICIENCY, TO A LARGE DEGREE, IS DETERMINED BY THE COMPANY'S MANUFACTURING PROCESSES AND OPERATING EXPERIENCE WHICH HAVE USUALLY BEEN DEVELOPED OVER A LONG PERIOD AND AT CONSIDERABLE EXPENSE. THIS INTELLECTUAL PROPERTY LOSES ITS VALUE, AND THE FIRM ITS RELATIVE ADVANTAGE, IF A COMPETITOR ACQUIRES THIS KNOWLEDGE OR "KNOW-HOW" AT LITTLE OR NO COST.

RESEARCH AND DEVELOPMENT (R&D) CAN ALSO PROVIDE A COMPANY WITH THE COMPETITIVE EDGE IT NEEDS TO SUCCEED IN THE MARKETPLACE. R&D, TO SEIZE TECHNOLOGICAL OPPORTUNITIES, TO SERVICE CHANGING MARKET DEMANDS OR TO IMPROVE PRODUCTIVITY AND EFFICIENCY, IS AN ESSENTIAL ELEMENT IN A DYNAMIC AND GROWING INDUSTRIAL STRUCTURE. THE INCENTIVE FOR SUCH R&D IS THAT IT IS EXPECTED TO PROVIDE THE FIRMS UNDERTAKING IT WITH A COMPETITIVE ADVANTAGE IN THE FUTURE. IT IS, THEREFORE, IMPORTANT THAT PROPRIETARY RESEARCH AND DEVELOPMENT INFORMATION RECEIVES THE FULLEST PROTECTION FROM GOVERNMENT AS A MATTER OF PUBLIC POLICY.

A COMPANY'S CONFIDENTIAL INFORMATION IS ONE OF ITS MOST VALUABLE ASSETS, BECAUSE IT REPRESENTS A LONG-TERM INVESTMENT IN RESEARCH, DEVELOPMENT, MANUFACTURING EXPERIENCE, MARKETING STRATEGY, AND BUSINESS DEVELOPMENT. IN ADDITION, SOME COMPANIES SELL THEIR TECHNOLOGY AND KNOWLEDGE AS PART OF THEIR BUSINESS.

A COMPANY COULD INCUR SERIOUS LOSS IF INFORMATION OF THIS TYPE BECOMES FREELY AVAILABLE TO ITS COMPETITORS, THROUGH INADEQUATE SECURITY SAFEGUARDS OR BECAUSE THE SENSITIVITY OF THE INFORMATION IS NOT FULLY APPRECIATED BY INDIVIDUALS WHO HAVE IT IN THEIR POSSESSION. LOSS OF PROPER CONTROL OF THIS INFORMATION WILL RESULT IN A DISTORTION OF THE COMPETITIVE MECHANISMS WITHIN THE INDUSTRY. SUCH COMPETITIVE MECHANISMS ARE RECOGNIZED AS IMPORTANT BY ALL ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT (OECD), MEMBER COUNTRIES, INCLUDING CANADA, AND ARE THE RATIONALE FOR THE SECRECY PROVISIONS OF THE CANADA

STATISTICS ACT.

A COMPANY HAS A LEGITIMATE RIGHT TO PROTECT ITS INTELLECTUAL PROPERTY IF ITS RESOURCES WERE USED TO DEVELOP INFORMATION, WHICH IT CONSIDERS PROPRIETARY. SINCE THE OWNER OF THE INFORMATION IS THE ONLY ONE WHO WILL UNDERSTAND THE COMMERCIAL SENSITIVITY OF CERTAIN INFORMATION, HE MUST BE ALLOWED TO IDENTIFY WHICH INFORMATION IS CONFIDENTIAL AND WHICH IS NOT.

THE RIGHT OF A COMPANY TO PROTECT ITS INTELLECTUAL PROPERTY IS BASIC TO OUR COMPETITIVE ECONOMY, NOT ONLY IN CANADA AND THE U.S. BUT IN ALL THE INDUSTRIALIZED WESTERN DEMOCRACIES. THIS WIDELY HELD BELIEF OF THE NEED TO PROTECT PROPRIETARY RIGHTS OF DATA WAS RECENTLY AFFIRMED BY OECD MEMBER STATES INCLUDING CANADA IN NOVEMBER, 1982. SUGGESTED PRINCIPLES CONCERNING THE PROTECTION OF PROPRIETARY RIGHTS TO DATA HAVE RECENTLY BEEN RECOMMENDED BY THE OECD COUNCIL. THESE PRINCIPLES ARE VERY SIMILAR TO THOSE PROPOSED IN CCPA'S POLICY PAPER WHICH MOST OF YOU HAVE SEEN.

THE OECD NON-CONFIDENTIAL PACKAGE

AT THE SAME TIME THE OECD COUNCIL RECOMMENDED ADOPTION OF A LIST OF NON-CONFIDENTIAL DATA TO APPLY TO ALL CHEMICALS. AFTER YEARS OF DISCUSSION IT WAS AGREED THAT THE FOLLOWING INFORMATION MAY BE TERMED NON-CONFIDENTIAL.

- TRADE NAME(S) OR NAME(S) COMMONLY USED (IN THE UNITED

STATES OF AMERICA, TRADE NAMES OR NAMES COMMONLY USED MAY MEAN A GENERIC NAME OF A CHEMICAL SUBSTANCE)

- GENERAL DATA ON USES (THE USES NEED TO BE DESCRIBED ONLY BROADLY, LIKE: CLOSED OR OPEN SYSTEM, AGRICULTURE, DOMESTIC USE, ETC.)
- SAFE HANDLING PRECAUTIONS TO BE OBSERVED IN THE MANUFACTURE, STORAGE, TRANSPORT AND USE OF THE CHEMICAL
- RECOMMENDED METHODS FOR DISPOSAL AND ELIMINATION
- SAFETY MEASURES IN CASE OF AN ACCIDENT
- PHYSICAL AND CHEMICAL DATA WITH THE EXCEPTION OF DATA REVEALING THE CHEMICALS IDENTITY (E.G. SPECTRA). IF THE PHYSICAL AND CHEMICAL DATA MAKE IT POSSIBLE TO DEDUCE THEREFROM THE CHEMICAL IDENTITY, ONLY RANGES OF VALUES NEED BE GIVEN
- SUMMARIES OF HEALTH, SAFETY, AND ENVIRONMENTAL DATA INCLUDING PRECISE FIGURES AND INTERPRETATIONS. (THE SUBMITTER OF THE HEALTH, SAFETY, AND ENVIRONMENTAL DATA SHOULD PARTICIPATE IN THE PREPARATION OF THE SUMMARIES).

THE CANADIAN CHEMICAL PRODUCERS' ASSOCIATION SUPPORTS THIS

ACTION AS A MEANINGFUL AND SIGNIFICANT STEP FORWARD.

IT IS IMPORTANT TO REALIZE THAT THESE RECOMMENDATIONS RESULTED FOLLOWING CONSIDERATION OF THE VIEWS OF TRADE UNIONS AS WELL AS INDUSTRY AND REPRESENT THE APPROACH THAT WILL BE TAKEN BY VIRTUALLY ALL OF CANADA'S TRADING PARTNERS.

THE CANADIAN CHEMICAL INDUSTRY ACCEPTS ITS RESPONSIBILITY TO WORK WITH GOVERNMENT AGENCIES TO FORMULATE, IMPLEMENT AND MAINTAIN PROCEDURES WHICH PROTECT BOTH HUMAN HEALTH AND THE ENVIRONMENT. WITH THIS IN MIND, THE INDUSTRY AND INDIVIDUAL COMPANIES ARE PREPARED TO DIVULGE PROPRIETARY, TECHNICAL AND COMMERCIAL INFORMATION IN CONFIDENCE TO THE GOVERNMENT.

IN GENERAL TERMS, WE URGE THAT THE FOLLOWING PRINCIPLES BE ACCEPTED AND ADHERED TO WHEN HANDLING PROPRIETARY INDUSTRIAL INFORMATION:

- o THAT SUCH INFORMATION BE RECOGNIZED AS THE INTELLECTUAL PROPERTY OF THE COMPANY SUBMITTING IT;
- o THAT THE RECIPIENT ACT IN THE ROLE OF TRUSTEE, NOT OWNER, OF SUCH CONFIDENTIAL INFORMATION;
- o THAT REQUESTS FOR INFORMATION BE LIMITED TO WHAT IS NECESSARY FOR THE PURPOSE AT HAND;

- o THAT THE PURPOSE, THE OBJECTIVE AND THE USE OF PROPRIETARY INFORMATION BE CLEARLY INDICATED TO INDUSTRY REPRESENTATIVES;
- o THAT PROPRIETARY INFORMATION NOT BE RELEASED TO THE PUBLIC OR USED FOR PURPOSES OTHER THAN STATED WITHOUT THE KNOWLEDGE AND CONSENT OF THE SUPPLIER.

HAVING SAID THIS, WE BELIEVE THAT THERE IS NO FUNDAMENTAL CONFLICT BETWEEN THE NEED TO PROTECT PROPRIETARY INFORMATION AND THE NEEDS OF CANADIAN SOCIETY. HEALTH AND SAFETY INFORMATION ON MATERIALS NECESSARY TO PROTECT HUMAN HEALTH AND THE ENVIRONMENT IS NOT CONSIDERED TO BE CONFIDENTIAL.

WHERE NECESSARY FOR MEDICAL TREATMENT, MECHANISMS NOW EXIST TO TRANSMIT SPECIFIC CHEMICAL IDENTITY INFORMATION TO THE TREATING PHYSICIAN. THE PHYSICIAN'S GENERAL APPRECIATION OF THE PRINCIPLES SURROUNDING THE NEED TO PROTECT CONFIDENTIAL INFORMATION FACILITATES SUCH TRANSFER.

POPULAR MISCONCEPTIONS

RECENT STATEMENTS BY SOME GROUPS SUGGEST THAT THE DISCLOSURE OF TRADE SECRETS IS OF LITTLE CONCERN COMPARED TO LONG TERM GAINS IN COMPETITIVENESS. THEY SUGGEST THE CURRENT ANALYTICAL TECHNIQUES HAVE OVERTAKEN THE ABILITY TO KEEP SECRETS AND THAT OTHER MECHANISMS SUCH AS PATENTS EXIST TO PROTECT PROPRIETARY RIGHTS. IT IS IMPORTANT THAT THESE MISCONCEPTIONS BE CORRECTED.

1. ACQUIRING A FORMULA BY ANALYTICAL MEANS

SIGNIFICANT ADVANCES HAVE BEEN MADE IN SCIENTIFIC KNOWLEDGE AND INSTRUMENTATION IN THE LAST TEN TO FIFTEEN YEARS TO THE POINT WHERE SIMPLE FORMULAE CAN BE CRACKED. IN SPITE OF THESE ADVANCES THE IDENTIFICATION OF COMPLICATED CHEMICAL STRUCTURES' ESPECIALLY IF THE SUBSTANCE IN QUESTION IS CONTAINED IN A MIXTURE, IS VERY DIFFICULT, TIME-CONSUMING AND EXPENSIVE.

THE RESOURCES NECESSARY TO DECIPHER THE SPECIFIC IDENTITY OF A SUBSTANCE CAN VARY GREATLY. A SOLVENT USED IN A MIXTURE SPRAY LUBRICANT FOR EXAMPLE, COULD INVOLVE ONE CHEMIST FOR A DAY OR TWO USING EQUIPMENT WORTH APPROXIMATELY \$100,000. ON THE OTHER HAND, A PHOTOREACTIVE FORMULATION SUCH AS THAT USED IN A PHOTOGRAPHIC FILM OR MICROFILM PROCESS WOULD TAKE A TEAM OF SIX SPECIALISTS AT THE PH.D LEVEL WITH MANY YEARS OF EXPERIENCE AND \$5 TO \$6 MILLION WORTH OF EQUIPMENT, MANY MONTHS TO RESOLVE.

THESE TECHNIQUES USUALLY ARE SUFFICIENT TO DETERMINE THE CLASS OR FAMILY OF CHEMICAL INVOLVED AS WELL AS MANY OF THEIR IMPORTANT PHYSICAL AND CHEMICAL CHARACTERISTICS. THEY FREQUENTLY ARE NOT ADEQUATE, HOWEVER, TO DETERMINE THE PRECISE COMPOSITON AND STRUCTURE OF HIGHLY SPECIALIZED CHEMICALS. WHEN GENERAL INFORMATION IS COMBINED WITH A LIST OF SPECIFIC IDENTITIES OF EVEN SOME COMPONENTS, IT BECOMES AN EASIER TASK TO PRECISELY DEFINE EXACT COMPOSITIONS AND THEN PROCEED TO COMMERCIAL EXPLOITATION. A SPECIFIC EXAMPLE WHICH OCCURRED IN CANADA IS DESCRIBED IN APPENDIX I

AND WILL HELP PUT THINGS IN PERSPECTIVE.

2. PATENT PROTECTION:

PROTECTION OF A CHEMICAL'S CONFIDENTIAL SPECIFIC IDENTITY THROUGH PATENTS IS GENERALLY AN INADEQUATE APPROACH TO SAFEGUARDING PROPRIETARY INFORMATION. AN ESSENTIAL REQUIREMENT TO OBTAIN A PATENT IS THAT THE INVENTION WAS NOT OBVIOUS OR PREDICTABLE. MANY TRADE SECRETS WOULD NOT MEET THIS CONSTRAINT AND ARE THEREFORE NOT PATENTABLE. IN ADDITION, IT IS FREQUENTLY NECESSARY TO MARKET A PRODUCT OR OPERATE A PLANT AT OR NEAR ITS DESIGNED CAPACITY FOR CONSIDERABLE PERIODS TO RECOVER THE COSTS. DISCLOSING THE SPECIFIC IDENTITY OF A CHEMICAL MAY ALLOW COMPETITORS TO ENTER THE MARKET SOONER, REDUCE PLANT UTILIZATION AND EXTEND THE PERIOD REQUIRED TO PAY OFF THE COSTS INCURRED.

ALTHOUGH PATENTS PROVIDE A MEASURE OF PROTECTION, IT IS GENERALLY NOT POSSIBLE TO CARRY OUT ENOUGH RESEARCH TO COVER ALL RELATED COMPOSITIONS AND THE USUAL RANGES OF CHEMICALS IN EACH, TO DETERMINE COMMERCIALY VALUABLE SUBSTANCES WHICH WILL PERFORM A GIVEN TASK. IN ADDITION, ALTHOUGH A LARGE NUMBER OF PATENTS ARE ISSUED, WITHOUT ADDITIONAL INFORMATION, IT IS VERY DIFFICULT TO DETERMINE WHICH HAVE COMMERCIAL IMPORTANCE.

IMPLICATIONS OF INADEQUATE CONFIDENTIAL SAFEGUARDS

BASED ON STATISTICS CANADA DATA (APPENDIX II), THE VALUE OF FACTORY SHIPMENTS OF CHEMICALS AND CHEMICAL PRODUCTS IN CANADA IN 1981 TOTALLED \$12.7 BILLION. IMPORTS, DURING THE SAME PERIOD, TOTALLED \$4.0 BILLION OR ROUGHLY ONE-THIRD OF TOTAL FACTORY SHIPMENTS. APPROXIMATELY 77% OF THESE IMPORTS CAME FROM THE UNITED STATES, COMPARED WITH 15% FROM THE EUROPEAN ECONOMIC COMMUNITY (EEC).

IN INTERPRETING THESE FIGURES, IT IS IMPORTANT TO NOTE THAT CANADA'S MAJOR TRADING PARTNER IN CHEMICALS IS THE UNITED STATES. ANY REGULATORY REQUIREMENTS IN CANADA THAT ARE MORE STRINGENT OR MORE COSTLY THAN THOSE APPLIED TO OUR U.S. COUNTERPARTS COULD JEOPARDIZE CANADIAN INDUSTRY'S COMPETITIVE POSITION VIS-A-VIS THE UNITED STATES.

IT IS IMPORTANT TO REALIZE THAT THIS WOULD NOT NECESSARILY RESULT IN FEWER CHEMICALS IN CANADIAN COMMERCE SINCE CHEMICALS ARE REQUIRED BY OUR MANUFACTURING INDUSTRY. IT WOULD, HOWEVER, RESULT IN INCREASED IMPORTS AND THE TRANSFER OF BENEFITS, (E.G., EMPLOYMENT AND VALUE ADDED, ETC., TO OTHER COUNTRIES.) HIGHER PRICES FOR BOTH DOMESTICALLY PRODUCED AND IMPORTED CHEMICALS WOULD LIKELY RESULT. THIS COULD MEAN HIGHER PRICES FOR EXPORTED CHEMICALS AND FOR MOST CANADIAN MANUFACTURED GOODS.

THE CONSEQUENCE THAT WILL FLOW FROM MANDATORY DISCLOSURE OF PROPRIETARY INFORMATION WILL IMPACT ON THE ENTIRE CANADIAN SOCIETY:

- o CANADIAN COMPANIES WILL SUFFER SINCE THEIR COMPETITORS, WHETHER CANADIAN OR FOREIGN-BASED, WILL HAVE FREE ACCESS TO THEIR TRADE SECRETS AND WILL EXPLOIT THEM FOR THEIR OWN COMMERCIAL ADVANTAGE.

- o OFF-SHORE COMPANIES THAT ARE REQUIRED TO SUBSTANTIATE THEIR CONFIDENTIALITY CLAIMS TO GOVERNMENT UNDER NATIONAL LAWS, WOULD LOSE THIS PROTECTION IN THEIR OWN COUNTRIES, IF SIMILAR INFORMATION WERE RELEASED IN CANADA. THIS COULD RESULT IN A BUSINESS DECISION TO WITHDRAW THEIR PRODUCTS FROM THE RELATIVELY SMALL CANADIAN MARKET, IN ORDER TO PROTECT THE LARGER WORLD MARKET. THIS COULD HAVE A DEVASTATING EFFECT ON THE ENTIRE CANADIAN MANUFACTURING SECTOR.

- o SINCE MOST CHEMICALS ARE USED IN RELATIVELY SMALL AMOUNTS TO IMPART DESIRED PROPERTIES IN MUCH LARGER VOLUMES OF FORMULATED PRODUCTS, THE WITHDRAWAL OF ONE CHEMICAL FROM THE CANADIAN MARKET WILL HAVE A MUCH GREATER OVERALL EFFECT THAN INITIALLY EXPECTED.

ALTHOUGH THE POTENTIAL EXISTS FOR FURTHER DEVELOPMENT IN THE FUTURE, VERY FEW NEW CHEMICALS OR CHEMICAL PRODUCTS ARE DEVELOPED IN CANADA AT THE PRESENT TIME. WE RELY ON IMPORTS TO SATISFY MUCH OF OUR NEED FOR MORE SOPHISTICATED AND EXOTIC CHEMICALS SUCH AS DYESTUFFS. IT IS CLEAR THAT IF WE, AS CANADIANS, WISH TO REAP THE BENEFITS OF A FULLY INTEGRATED CHEMICAL INDUSTRY IN THE FUTURE, E.G., INCREASED R&D,

EMPLOYMENT AND VALUE ADDED, ETC., WE MUST AVOID ADOPTING POLICIES WHICH WOULD INHIBIT THIS NATURAL DEVELOPMENT.

THE FUTURE

WE HAVE SEEN THAT THE POTENTIAL IMPACT ON CANADIAN SOCIETY IS HIGH IF WE OPT FOR MANDATORY DISCLOSURE OF INDUSTRY'S INTELLECTUAL PROPERTY. IF ADEQUATE SAFEGUARDS FOR PROPRIETARY BUSINESS INFORMATION ARE BRUSHED ASIDE IT WILL BE COUNTERPRODUCTIVE TO ATTAINING OUR NATIONAL GOALS. JOBS WILL BE DESTROYED.

IN MEETING ITS RESPONSIBILITIES, INDUSTRY WILL PROVIDE TO APPROPRIATE GOVERNMENT DEPARTMENTS PROPRIETARY AND CONFIDENTIAL BUSINESS INFORMATION PROVIDED ADEQUATE SAFEGUARDS EXIST. OUR ASSOCIATION HAS SUGGESTED A NUMBER OF MECHANISMS AND PROCEDURES THAT WOULD FACILITATE THIS NECESSARY PROTECTION (APPENDIX II). IN ADDITION, THE CANADIAN CHEMICAL MANUFACTURES SUPPORT THE CONCEPT OF OECD'S NON-CONFIDENTIAL PACKAGE.

I BELIEVE THAT THIS IS A RESPONSIBLE POSITION FOR INDUSTRY TO TAKE. IT IS CONSISTENT WITH THE VIEWS AND ACTIONS TAKEN BY THE CANADIAN GOVERNMENT AND BY THE GOVERNMENTS OF OUR MAJOR TRADING PARTNERS. THE SAFEGUARDS WE REQUIRE SHOULD NOT PREVENT THE FLOW OF MEANINGFUL INFORMATION THAT IS REQUIRED TO PROTECT THE HEALTH OF WORKERS, THE PUBLIC AND THE NATURAL ENVIRONMENT.

WHY THEN ARE WE MEETING HERE TODAY? WHAT IS THE PROBLEM?

THE PROBLEM AS I SEE IT IS THAT NEITHER THE INDUSTRY NOR THE GOVERNMENT AGENCIES PRESENTLY ENJOY SUFFICIENT CREDIBILITY WITH SOME OF THE CANADIAN PUBLIC. WHEN INDUSTRY OR GOVERNMENT SAY THAT A CHEMICAL IS SAFE, SOME PEOPLE REFUSE TO BELIEVE THEM. ON THE OTHER HAND, WHEN WE SAY A CHEMICAL IS POTENTIALLY HAZARDOUS, EVERYONE BELIEVES US.

I THEREFORE SEE OUR GREATEST NEED AS REESTABLISHING THE CREDIBILITY OF BOTH INDUSTRY AND GOVERNMENT. THIS WILL NOT BE EASY AND WILL TAKE TIME. BUT WE MUST BEGIN SINCE IT IS THE ONLY WAY OUT OF OUR DILEMMA.

WE MUST IDENTIFY CREDIBLE MECHANISMS AND ALTERNATIVES TO TOTAL DISCLOSURE. IF WE DON'T ALL CANADIANS WILL LOSE.

AS FOR THE CANADIAN CHEMICAL PRODUCERS' ASSOCIATION, WE ARE COMMITTED TO CONSIDERING AND DISCUSSING THE MERITS OF ANY REASONABLE PROPOSAL THAT MAY HELP IN RESOLVING OUR MUTUAL PROBLEM. SO LET'S PUT OUR THINKING CAPS ON! I'M AN OPTIMIST. I THINK WE CAN FIND A WAY OUT OF OUR DILEMMA IF WE REALLY TRY.

THANK YOU.

APPENDIX I
A SPECIFIC CANADIAN EXAMPLE
OF WHY
ANALYTICAL MEANS ALONE ARE INADEQUATE
TO ACQUIRE A FORMULA

A COMPANY OPERATING IN CANADA HAS HAD A DUAL SPECTRUM PHOTOCOPY SYSTEM IN THE MARKETPLACE FOR A NUMBER OF YEARS. THE ADVANTAGE OF THIS SYSTEM IS THE LOW COST FOR THE HARDWARE REQUIRED TO MAKE THE COPIES. ONE OF THE KEY INGREDIENTS IN THE COATED PAPER FORMULATION IS PRESENT IN TRACE QUANTITIES (.001%). WHILE PRESENT DAY INSTRUMENTATION CAN DETECT MATERIALS FAR BELOW THIS ORDER OF MAGNITUDE THE REAL LIFE SITUATION IS BADLY CONFUSED BY THE PRESENCE OF IMPURITIES IN OTHER COMMERCIAL RAW MATERIALS USED IN THE FORMULATION. THE ANALYZING CHEMIST WOULD BE FACED WITH THE QUESTION, WHICH OF THESE DOZENS OF TRACE MATERIALS IS REQUIRED TO MAKE THE FORMULATION WORK, AND WHICH ARE REDUNDANT, OR IN OTHER WORDS, IMPURITIES.

THIS HAS NOT BEEN AN EASY TASK. A NUMBER OF COMPETITORS HAVE ATTEMPTED TO DUPLICATE THE FORMULATION AND EACH ONE HAS FAILED, ALLOWING THE ORIGINAL INVENTOR TO ENJOY THE BENEFITS OF A SIGNIFICANT MARKET SHARE FOR AN EXTENDED PERIOD OF TIME. RELEASE OF THE DETAILS OF THAT FORMULATION WOULD HAVE OPENED THE DOOR FOR PIRATE ORGANIZATIONS TO ENTER THE MARKETPLACE WITH A VERY SMALL FRONT END INVESTMENT AND UNFAIRLY COMPETE IN A LIMITED MARKET.

APPENDIX II

CHEMICALS AND CHEMICAL PRODUCTS IN CANADA

	1980 .		1981	
	Value in (Percent) \$ billion		Value in (Percent) \$ billion	
FACTORY SHIPMENTS	10.7		12.7	
IMPORTS	3.5		4.0	
- from the U.S.	2.7	(76.6)	3.1	(76.9)
- from the EEC	.6	(16.1)	.6	(14.9)
EXPORTS	3.1		3.6	
- to the U.S.	1.7	(53.4)	2.1	(58.2)
- to the EEC	.6	(21.0)	.9	(24.7)

Source: Statistical Reviews - Chemicals Branch,
Industry, Trade and Commerce

APPENDIX III

SUGGESTED MECHANISM & PROCEDURES TO SAFEGUARD PROPRIETARY INFORMATION

The following procedures and mechanisms are proposed by the Canadian Chemical Producers' Association to assist in meeting mutual objectives in proprietary information collection, storage and handling.

1. Requests for proprietary commercial and technical information should, in general, be limited to what is necessary to protect human health and the environment. Furthermore, in requesting information, the purpose, the objective and the ultimate use of the information should be clearly indicated. Data should not be used for purposes other than those stated, nor by other agencies, without the express consent of the information supplier.

2. Any agency receiving confidential information should have an acceptable security system for data stored in computers. Regular security audits should be carried out which include computer-stored data.

3. Since a company is in the best position to appreciate the sensitivity of proprietary information in its possession, it should be allowed to designate what is confidential and what is not. This prerogative must not be abused. Indeed, this should be agreed upon before the data is submitted. Once agreement is reached, the proprietary information must be protected.

4. To ensure that a company retains control over its confidential information, we strongly urge that any given agency not be allowed to share proprietary information with other agencies. Rather, it should be permitted to inform other agencies only of the source and type of information in its possession. Upon receiving a request from a second agency, the original agency should confirm only that the information exists, and then refer the second agency directly to the company or industry body which is the source of the information.

5. Disclosure of its proprietary information should be made only with the approval of the company concerned. Where the government concludes that disclosure of a company's proprietary information is necessary, on an urgent basis, to protect the public interest, it is recommended that the company be notified and consulted to ensure that all disclosure issues are understood fully by both parties. As well, the company should be allowed to prepare the first draft of any public information release prior to amendment and release by a government agency.

6. The attending physician should initiate the transfer of confidential information in emergency situations or in cases where such information is necessary to protect a specific worker's health. The 24 hour telephone number contained on the MSDS will facilitate such a request.

Policy Paper

on Safeguarding Proprietary Information

Government's role in
safeguarding information
about Canadian
industrial products and
production processes

The Canadian Chemical
Producers' Association

The Principles We Propose

2

The chemical industry, like other industrial sectors, has a responsibility to work with government agencies to formulate, implement and maintain procedures which protect both human health and the environment. With this in mind, the industry and individual companies are prepared to divulge proprietary technical and commercial information in confidence to the government. But this information must be fully safeguarded by government agencies to protect the companies' competitive edge in a highly competitive world.

This policy paper outlines the CCPA's concerns regarding the handling and distribution of such information, and sets out recommendations for action to ensure that confidential information provided to governments remains just that: "CONFIDENTIAL".

In general terms, the Canadian Chemical Producers' Association (CCPA) urges that the following principles be accepted and adhered to when government handles proprietary industrial information:

- that such information, when submitted to government, be recognized as the intellectual property of the company submitting it;
- that government act in the role of *trustee, not owner*, of such confidential information;
- that government requests for information be limited to what is necessary for the purpose at hand;
- that the purpose, the objective and the use of proprietary information be clearly indicated to industry representatives;
- that proprietary information not be released to the public or used for other purposes within government *without the knowledge and consent* of the supplier.

About the CCPA

3

The CCPA represents 65 companies which account for more than 80 per cent of Canada's total output of manufactured chemicals, production of which in 1981 was in excess of \$9 billion, involving 30,000 employees. As well, larger numbers of workers are engaged in further processing of chemical products for use in other primary, manufacturing and service industries. Ultimately the chemicals produced by CCPA members are purchased in countless forms by consumers in all walks of life and in all regions of Canada.

Members of the CCPA have a full and continuing commitment to ensuring that their products are used safely and well. This concern is evidenced by the in-plant production and handling procedures employed by chemical producers along with transportation safety procedures, including an extensive and highly-sophisticated emergency response system.

It is further evidenced by the active participation of the CCPA with all levels of government in developing methods and procedures for managing, testing and handling chemicals and recommending new and better methods.

During such cooperative efforts, member companies often entrust to government various kinds of commercial information which is proprietary and which could be of substantial commercial significance to rival companies either in Canada or abroad. The indiscriminate release of such information could prejudice a company's production and marketing accomplishments and, in the long run, compromise the competitive position of the Canadian chemical industry as a whole.

The ability to compete successfully is based on a company's efficiency, reflected in its products and prices. The production processes and "know how" employed by a chemical company play a major role in achieving efficiencies and therefore establishing both the quality and the price of its products. It is a matter of great importance that the details of those processes, developed by a company, remain the intellectual property of that company.

An edge in research and development often provides a company with the competitive edge it needs to succeed in the marketplace.

How Important Is Our Proprietary Information?

4

Many of CCPA's 65 member companies are in direct competition with one another. Canadian chemical producers are also in competition, both in Canada and abroad, with foreign chemical manufacturers.

Competition in sales of industrial chemical products in export markets is particularly keen. The Canadian chemical industry has built an admirable record of competing in these markets, to the benefit of Canada's balance of trade and the economy as a whole.

A Canadian chemical company's proprietary information is one of its most valuable assets. It represents long-term investments in research innovation and engineering development, extensive manufacturing experience, and commitments to marketing strategy and business development.

For most companies, research and development work is concentrated on new product formulations and applications which are crucial to their successful competition in the marketplace. It is in Canada's best interest that incentives exist for companies to continue research and development in this country. To meet this objective, it is important that proprietary research and development information receives the fullest protection from government as a matter of public policy.

Companies could incur serious losses in many cases if proprietary information were to become easily available to competitors, whether through inadequate safeguards or because the value of the information is not fully appreciated by those who control the information.

Such losses would eventually manifest themselves as a weakening of competitive strength and an erosion of the ability to expand, or even to sustain, employment and income.

A Common Responsibility

Industry and government have a responsibility to each other and to the society in which they operate.

The growing complexity of that society has made it increasingly necessary in recent years for government to seek out information from private industry about essentially proprietary operations. Recognizing that it does not operate in a social vacuum, and that such information is vital to specific areas of public concern, the Canadian chemical industry has provided such information whenever it has been required.

Government, in the main, has usually recognized the need to ensure that firms remain willing to make this information available and to ensure that this willingness not be impaired by fears that proprietary data will be misused. This, for instance, is the rationale behind the secrecy provisions of the federal Statistics Act.

But increasingly, information which is being made available by industry to various levels of government is being handed over to consultative or fact-finding bodies, or to other authorities that may not recognize – or cannot guarantee – confidential handling of the data. Worse still, some government agencies have shown an inclination to develop policy frameworks that would, if fully implemented, lead to the release of proprietary information as a matter of course.

The increasing uncertainty of this situation gives rise to industry concerns that government might not continue to meet its responsibility to ensure that the proprietary data provided remain confidential.

The Basic Problem

6

Since the 1960s, we have witnessed increasing public pressure for openness in government, and demands not only that decisions be made public, but that the information which influenced those decisions also be made public.

There has been a growing tendency to argue that freedom of information legislation should make all information public as a matter of course, unless there is a compelling reason for it *not* to be made public.

This argument is often linked to a false assumption that an organization deems a piece of information "confidential" because it has something to hide. Such distrust and suspicion can lead to potentially destructive results.

We are left with a basic problem: how can one decide if a piece of information should be treated as confidential unless it is held up for scrutiny?

What Are the Dangers?

We are living in an age of greater government involvement and intervention in the operations of the private sector.

We are living in a time of computerization of data banks, a time when the entire question of privacy versus potentially uncontrolled access to personal and proprietary information is becoming a major social issue.

We are also living at a time of growing demand for public involvement and discussion and for divulging increasing amounts of sensitive information to the public.

These factors can sometimes combine to present a very real danger.

The danger is that a government, under pressure, could demand and receive information (much of it of little use or purpose to the public sector) that could easily then be incorporated into data banks, accessible to enquirers, and made available by law.

In some non-Canadian jurisdictions where such freedom of information legislation has been tried, the vast majority of requests for information about a company's operations originate with rival companies. This is a situation feared by any manufacturer operating in a highly competitive field.

When such a situation arises in a jurisdiction — where a company is required by law to divulge (and thereby endanger) proprietary information — it can reasonably be expected that the company will be forced to review whether or not it can continue operations in that jurisdiction.

Avoiding the Problem

8

The problem can be resolved, and the danger can be avoided.

First, there should be agreement on the principles of gathering and divulging information set out in the first chapter, "The Principles We Propose". Second, a mechanism should be established to ensure that information is not divulged inadvertently and, further, that procedures satisfactory to companies are being effectively and consistently applied. Such mechanisms do exist and operate successfully in many jurisdictions.

The CCPA is prepared to cooperate to the fullest extent with all levels of government in developing such mechanisms.

In doing so, we must recognize and overcome an essential difficulty, the increasing evidence of a lack of understanding within some sectors of government as to what information should be considered confidential by government and why it is considered confidential by industry. Here are what we consider to be types of such commercially sensitive information:

Technological information

Production operations, including formulation and process know-how.

Why? Because this information covering both on-going operations and future product orientation is the basis of a company's ability to compete with others.

Identifying information

Certain selected chemical names and uses.

Why? Because specific chemical names can reveal proprietary formulations that are the result of an individual company's expensive and time consuming research and development.

Statistical and marketing information

Utilization of existing capacity.
Process efficiencies.
Selected economic information.
Future plans.
Production volumes.

Why? Because this information reveals in detail a firm's ability to change its marketing strategy, pricing and competitive production advantages. Freely available, such information could be misused by other firms to undercut and destroy established business arrangements at no cost and little risk to themselves.

Industrial Information that Should Not be Confidential

9

Not all information available from manufacturers is so commercially significant that it requires confidential handling by government. While a comprehensive listing is not feasible, a few examples provide an indication of what we mean. For one, information on effluents and discharges into the environment as a result of manufacturing operations is of major importance to environmental agencies and cannot be treated as confidential. Similarly, information on the toxic properties of various chemicals should not be considered confidential and should be openly available. Trade names and general data on the uses of chemicals do not need to be confidential, nor does information on chemical transport or disposal procedures. In the final analysis, to require treatment as confidential, the information turned over to government should be commercially valuable in such a way that its release would specifically harm the *business* and *trade* prospects of a manufacturer.

Meeting Industry and Government Objectives

10

The following procedures and mechanisms are proposed by the Canadian Chemical Producers' Association to assist in meeting industry and government objectives in proprietary information collection, storage and handling.

1. Government requests for proprietary commercial and technical information should, in general, be limited to what is necessary to protect human health and the environment. Furthermore, in requesting information, the purpose, the objective and the use of the information should be clearly indicated by government agencies. Data should not be used for purposes other than those stated, nor shared with other government agencies or contractors, without the express consent of the information supplier.

2. Any government agency receiving confidential information should have an acceptable security system for data stored in computers. Government should carry out regular audits on security of information including computer-stored data.

3. Since a company is in the best position to appreciate the sensitivity of proprietary information in its possession, it should be allowed to designate what is confidential and what is not. Government should then review a "confidential" designation in consultation with the company to confirm whether there is agreement that the information is truly confidential or not. Ideally, this should be agreed upon *before* the data is submitted. Once agreement is reached, the proprietary information must be protected.

4. To ensure that a company retains control over its confidential information, we strongly urge that any given government agency not be allowed to share proprietary information with other agencies. Rather, it should be permitted to inform other agencies only of the source and type of information in its possession. Upon receiving a request from a second government agency, the original government agency should confirm only that the information exists, and then refer the second agency directly to the company or industry body which is the source of the information.

5. Disclosure of its proprietary information should be made only with the approval of the company concerned. Where the government concludes that disclosure of a company's proprietary information is necessary on an urgent basis to protect the public interest, it is recommended that the company be notified and consulted to ensure that all disclosure issues are understood fully by both parties. As well, the company should be allowed to prepare the first draft of any public information statement prior to release by the government agency.

In Summary

12

The chemical industry, as represented by the CCPA, fully understands its responsibilities regarding the safe use of the chemicals it produces, the transportation and storage of those chemicals, and the ultimate disposal of chemical wastes and by-products.

It is prepared to cooperate fully with all levels of government in furthering safe utilization procedures and practices relating to industrial chemicals.

At the same time, the industry urgently seeks an understanding on the part of both government officials and the public as to what information is of genuine importance for the continued viability of commercial operations.

We believe that the mechanisms proposed in this publication would go a long way toward ensuring that such commercially valuable information is used correctly – for the purposes identified – and not disclosed inadvertently to the detriment of the industry.

The implementation of the proposed mechanisms would help ensure a continued free flow of information between government and private companies, allowing both to fulfill their public responsibilities.

Industrial Chemicals: a key and responsible Canadian industry

For further information, write to:

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THE ONTARIO FEDERATION OF LABOUR

SUBMISSION TO

THE ADVISORY COUNCIL ON OCCUPATIONAL HEALTH AND OCCUPATIONAL SAFETY

THE CONTROL OF WORKPLACE CARCINOGENS

CLIFF PILKEY, PRESIDENT.

TERRY MEAGHER, SECRETARY-TREASURER.

ED WADDELL, DIRECTOR OF OCCUPATIONAL
HEALTH AND SAFETY.

NOVEMBER 15, 1982.

INTRODUCTION: THE NEED FOR AN OCCUPATIONAL CANCER POLICY

More than four hundred years after miners in the Schneeberg region of Central Europe fell victim to a mysterious disease called "mountain sickness", the uranium miners are still counting the bodies of their brothers who have developed lung cancer as a result of exposure to that same radon gas in the mines of Elliot Lake and Bancroft, Ontario. Studies carried out in Colorado were ignored but even more criminal were the reports developed by the statisticians in the WCB and the Ministry of Labour which were delivered to international scientific conferences, but never released in Elliot Lake. It was the tragedy of Elliot Lake that forced the establishment of the Ham Commission and the passage of the Occupational Health and Safety Act in 1978.

More than two hundred years after Percival Pott described the first known occupational carcinogen, coke oven and gas workers are still counting the bodies of their brothers who were exposed to those same cancer causing agents in Hamilton, Sault Ste Marie and Toronto.

In 1982 in Ontario, we are still debating the relative risks of blue verses brown verses white asbestos, when there is clear human and animal evidence that shows that all asbestos causes cancer.

Despite the fact that every major agency in the U.S. has stated that at the present time it is impossible to estimate human risk from animal studies, and the debate over vinyl chloride in the U.S. produced risk estimations that varied over a million fold, (1) our Ministry of Labour overlooks that hurdle and confidently states:

"The acceptable annual risk was taken to be 50 excess tumours among 100,000 workers. Based upon the above assumptions the acceptable concentration of vinyl chloride in the air in the workplace was calculated to be 2 ppm."

(2)

Not only do we not trust their risk calculation, but the exercise is made even more ludicrous given that the vinyl chloride industry has been operating below 1 ppm for many years. But most importantly, who are these beaurocrats and what gives them any right to decide that fifty excess tumours a year is "socially acceptable"?

Even before the debate over the cancer policy, the Ministry of Labour has prejudged the situation and decided that the nuclear industry's approach to "acceptable levels of risk" that gives industry a clear licence to kill is somehow acceptable in Ontario. They gladly adopt this part of the nuclear industry's approach but ignore the ALARA principle (As Low As Reasonably Achievable) which is meant to encourage better controls.

Even before the debate over the cancer policy, the Ministry of Labour has adopted an extremely questionable theory of carcinogenesis.

Dr. D. Harding of the Health Studies Service told a meeting of labour and industry representatives convened by the Ministry on July 28, 1982 that they have decided that there are epigenetic carcinogens which induce the chain of events leading to cancer, not by altering the genes but by irritating the cytoplasm in the cell. Such epigenetic carcinogens have thresholds. PCBs are considered by the Ministry to be in this category and Dr. Harding has published a paper arguing that formaldehyde is an epigenetic carcinogen. Labour was told at this meeting, that we have a (3) "bad attitude towards carcinogens" in our wish to eliminate exposures to these substances.

On further investigation, we have found that the epigenetic theory of cancer is being strongly promoted by the Formaldehyde Institute in the U.S. and has been rejected by the EPA Office of Toxic Substances, the National Toxicology Program and the Consumer Product Safety Commission in the U.S. In fact the Office of Toxic Substances concluded in their report:

"There is ... absolutely no scientific evidence for this hypothesis in the published literature."
(4)

Dr. Emanuel Farber, a member of the Advisory Council's Special Advisory Committee on Carcinogens and certainly a world renowned expert in carcinogenesis reviewed Dr. Harding's paper and concluded that it was "Madison Avenue science"!

At the same July 28, 1982 meeting we were told by Dr. Peter Pelmear, the Director of the Occupational Health Branch, that the Ministry has been persuaded by studies produced by Monsanto, who just happens to manufacture PCBs, that they are epigenetic carcinogens and therefore have a "safe" threshold. When asked how he determined the new guideline of 50 ppm. Dr. Pelmear stated that he had called every company that handled PCBs and determined that the exposures ranged from 0.0 to 50 ppm. He then stated that in this case he had used the ALARA principle and set the level at 50 ppm. If the consequences of this bizarre process were not so tragic it would be laughable, but the consequences are borne not by the employers or by these bearocrats but by working people whose voice is ignored.

There are some 2,820 compounds that are listed in the National Institute of Occupational Safety and Health's 1980 Registry of Toxic Effects of Chemical Substances which have some evidence of tumourgenicity. In 1979 Tomatis at the International Agency for Research on Cancer (IARC) published a list of 111 substances for which there is sufficient evidence of carcinogeneity in animal studies to regard the substances as being carcinogenic in man. A further 100 are suspected because of animal evidence. In November 1982, there are Designated Substance Regulations for only three cancer causing agents in this province.

A survey of workplace exposures carried out by NIOSH in the U.S. found in 4,500 workplaces 70% of the exposures were in the form of trade name products and that in 90% of those cases neither the workers exposed nor the employer had any idea what was in them. When they obtained further information on about half of the 85,000 trade name products, 45% of them contained substances that were regulated by OSHA. When asked how many of these were considered to be trade secrets, they were told at least one third and many of these contained clear carcinogens. (6)

Workers are being exposed to cancer causing agents that are hidden by trade names and not even their employers know.

There is absolutely no reason to expect that the situation is any different in this province.

There are no mandatory requirements for the pre-testing of workplace chemicals. Workers in this province and this country are still being used as guinea pigs for the profits of industry. In 1982, it is simply a disgrace!

Asbestos workers, miners and smelter workers, auto workers, rubber workers, electrical workers, hydro workers, chemical and oil workers, foundry workers, steel workers, transportation and communications workers, hospital workers, lab workers, textile and clothing workers, food workers, farm workers, dry

cleaners, government employees at all levels, wood workers, construction workers, maintenance workers and office workers, to mention only a few are exposed to known and suspected carcinogens every day on their jobs.

The time for a cancer policy is long overdue!

REPORT OF THE SPECIAL ADVISORY COMMITTEE ON CARCINOGENS

- 1) The Report of the Special Advisory Committee on Carcinogens was a profoundly disappointing document to those of us in the labour movement. It is incredible that a committee set up by an Advisory Council on Occupational Health and Occupational Safety should develop a case study on smoking. The study does not even discuss the potential workplace exposures to side-stream smoke. Nor does it mention that many of the classic epidemiological studies on smoking had no controls for occupational exposures. We certainly do not deny that smoking causes cancer and other health problems, but smoking is a public health problem for the entire population and the Ministry of Labour has no mandate to regulate that.

Perhaps the Committee should be guided by the approaches taken in the U.S., England and Sweden in this respect. Testimony by Richard Lemen of NIOSH before the Royal Commission on Asbestos on July 8, 1981 indicated that NIOSH recommends that people not smoke:

"However, we feel in our interpretation of the Occupational Safety and Health Act that we don't have any authority to tell people to smoke or

or not to smoke, that our authority lies in making recommendations for providing a safe workplace no matter what the personal habits of the individual might be."

(7)

Similarly Dr. E.D. Acheson, who wrote the report for the Simpson Committee in England testified on July 28, 1981:

"But I do not consider....and again I'm expressing a personal view.... that the tobacco factor in any way reduces the responsibility of the asbestos industry to control their standards, to control the dust levels. I think it should be no more dangerous....and again I'm expressing a personal view....to smoke on the work floor as in the board room, in an asbestos factory."

(8)

The Swedish delegation stated that prohibition of smoking could not be agreed to by the social partners and Mr. Harold Linton from the Swedish Ministry of Labour stated;

"Smoking is a general health problem for the entire population, and it is mainly a question for the Minister of Social Affairs, and she has been trying to put forward a bill which should ban smoking in all official buildings. But she hasn't succeeded."

(9)

If the Ministry of Health in this province wishes to issue regulations controlling people's lifestyle then so be it. But we are sure that they will have difficulty persuading the Ministry of Revenue who took in \$345 million in cigarette taxes between April 1, 1981 and March 31, 1982. Not to mention the federal income raised by the 3¢ on every five cigarettes in excise tax or the 12% sales tax.

While the Committee points out that 80% of the lung cancer in males and 60% in females is attributable to smoking they do not point out that the rate of lung cancer deaths in non-smokers approximately doubled in the U.S. between 1958 and 1969 and has maintained that increase ever since.

(10)

They conclude that any increase in lung cancer is mainly accounted for by smoking and that any regional differences, which show higher rates of lung cancer in heavily industrialized areas can be mainly explained by differences in smoking habits. There are no references on which they base this statement. A report from Doll and Peto's institution in England, however, demonstrates that the correlation coefficient between lung cancer and smoking internationally explains only one third as much of the variation as does the correlation coefficient between lung cancer and solid fuel consumption.

(11)

There is no breakdown as to what kinds of lung cancer occur. Many of the occupational lung cancers are different from the small-cell undifferentiated and squamous cell cancers due to smoking, but the statistics do not indicate how many die from adenocarcinoma which characterizes many workplace exposures.

(12)

The Committee's seeming obsession with smoking will be used by industry to attempt to deflect attention from the very real opportunity we have to reduce and eliminate exposures to the cancer causing agents in our workplaces and to prevent the introduction of any new ones. They state that the removal of asbestos alone could eliminate 90% of the cancer among that high risk population and that smoking would eliminate 79% of the cancer. So let us deal with the exposure we can control.

It is time to heed the warning of the Surgeon-General in the U.S. whose 1979 Report on Smoking and Health stated that the over-emphasis on smoking has diverted attention from other important causes of lung cancer.

(13)

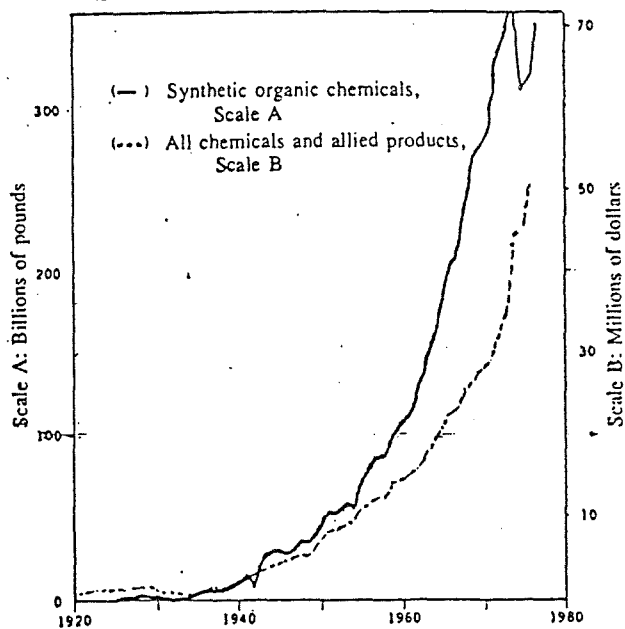
2) The Committees conclusion that:

"There is no convincing evidence that there has been at least up to the present time, any significant increase in cancer in the population as a whole due to chemicals introduced in the last 15 to 25 years."

is equally disappointing. They do admit that perhaps the latency period has not been long enough and that provincial statistics may be too crude to pick up the increase but we have already seen this conclusion used to argue against the need for a cancer policy.

As the graph below indicates, the use of synthetic, organic chemicals and all chemicals grew exponentially from the mid 1960s on. It is impossible to draw any conclusions about the cancer impact of these chemicals in 1982.

Figure 1
Total Synthetic Organic Chemicals, Annual Production
(excludes tar, tar crudes, and primary products
from petroleum and natural gas)
Total Chemicals and Allied Products,
Annual Value Added



(14)

- 3) Despite the Committee's warning that WCB statistics underestimate the true incidence of workplace cancer, industry has already used the annual case load of 16.8 claims to trivialize the problem and the need for regulation. Peter Barth, who carried out a study on compensation for the Royal Commission on Asbestos looked at the problem of underreporting of asbestos cancer. Using mesothelioma as the marker disease he estimated how many other cancer cases would be expected. Only 44% of the total lung cancer claims expected were submitted to the Board and only 40% received compensation. (15) And that is for a work-related disease that is probably better known than any other.

The labour movement in this province believes that the estimation of 20 to 38% of all cancer is attributable to workplace exposures is not only fair but probably underestimates the amount. Workers (16) in this province are exposed to far more than the six carcinogens studied, not the least of which is radiation. And furthermore, many of these exposures have been largely uncontrolled. For example, as late as 1974 miners in the Reeves asbestos mine were exposed to levels of 30 to 200 times the allowable limit according to Johns-Manville's own hygienist.

The NCI, NIEHS and NIOSH estimations were based on the risk effect to the exposed populations and were not diluted by the general population. If you take the conservative estimate of 20%, more than 2,834 workers died in Ontario in 1979 of cancer. If that is not an epidemic we do not know what is!

- 4) At least two other lessons should be learned from the vinyl chloride case study. In fact animal screening did detect the carcinogenic effects of vinyl chloride before human data was available, but the Manufacturing Chemists Association chose not to publish Viola's 1971 findings. Even Maltoni's 1972 results which confirmed and expanded the earlier study were not made public until 1974, when B.F. Gooderich announced that three of their Louisville, Kentucky workers had died of angiosarcoma. The National Association for the Advancement of Science concluded:

"Because of the suppression of these data, tens of thousands of workers were exposed without warning, for perhaps two years, to toxic concentrations of vinyl chloride."

(17)

If this was a single incident of aberrant corporate behaviour it could be ignored but the same lesson is learned again and again in asbestos, DBCP and benzene to mention only a few.

(18)

The lesson that labour takes from this example is that there is a clear need for independent testing by reputable scientists and paid by industry.

As well, the vinyl chloride case study teaches that the industry to be regulated is not the appropriate institution to be calculating the costs of such regulation. The vinyl chloride industry deliberately overestimated the costs when it reported that the 1 ppm standard would cost \$92 billion and 2.2 million jobs lost. In fact the initial capital cost was \$34 million with savings earned and no jobs lost.

(19)

- 5) And finally we are concerned about the suggestion made by the Committee that an example of a radiation control program might be found in the nuclear industry in Ontario. Despite the criticisms that are raised about risk assessment in the case study this suggestion seems to endorse the concept of "acceptable levels of risk". Is it acceptable that we have already seen two men who have paid the price for these "acceptable levels" and that both Hydro and the AECL predict more victims? Is it acceptable that more than 100 miners have developed lung cancer from working in the uranium mines for our nuclear industry? Perhaps those who make the decisions would like to explain to their widows and children how they determined that the deaths are somehow "acceptable". We, in the labour movement, who do see the widows and the children cannot.

THE CONTROL OF WORKPLACE CARCINOGENS

Unlike the Report of the Special Advisory Committee on Carcinogens the discussion paper entitled The Control of Workplace Carcinogens attempts to focus entirely on workplace carcinogens and the Council should be congratulated.

Limited Scope of the Policy

As we have stated in our Introduction there is a clear need for a cancer policy in this province if not in this country, but of

equal concern is the growing knowledge that workplace chemicals also cause reproductive problems and birth defects. A tragedy for the next generation, if indeed there is one.

J. Donald Millar of NIOSH has stated that there are 1,800 substances in the Toxic Substance Registry for which one human or one animal study has shown teratogenic or other reproductive effects. It has been estimated that 20 million jobs in the U.S. carry the potential for adverse reproductive outcomes.

(20)

These chemicals must also be tested and classified according to their potential teratogenic or mutagenic effects and efforts must be made to remove the substance from the workplace. The current practice of removing women of child bearing years unless they can show sterility is totally unacceptable from a human rights point of view. Not only does it discriminate against the women involved, but it leaves the men in potentially hazardous exposures for their reproductive lives as well.

While we recognize that this discussion is focused on cancer and we will limit our remarks to the testing and classification of carcinogens, we appeal to the Advisory Council and the Ministry of Labour not to ignore this problem until the next generation asks why.

The discussion paper focuses entirely on chemicals. The recent controversy over video display terminals surely indicates the need to expand testing requirements to any possible cause of cancer in the workplace, especially before it enters the plant. As well, by-products are important sources of workers' exposures and processes must be tested for potential carcinogenic effects. The foundry study at Dofasco shows clearly that it is not always possible to isolate the individual component or components which cause the excess lung cancer.

(21)

The discussion paper emphasizes the testing and classification of new chemicals and certainly the new chemicals provide us with an opportunity to stop carcinogens before they enter the workplace and multi-billion dollar industries are based on their use. But there are some 55,103 chemicals used in workplaces now and most of them have not been tested. We therefore, heartily endorse the discussion paper's recommendation that these chemicals must be properly categorized within five years.

(22)

And finally, we agree that for a single province to undertake such a project is overwhelming. The federal government must be encouraged to undertake such a testing and classification project through the Canadian Centre for Occupational Health and Safety. Industry will argue that limiting exposures to cancer causing agents in one province will create an unfair competitive disadvantage to Ontario industry. We would argue that to deprive all Canadian workers of stringent protections against carcinogens raises significant questions

equity and fairness.

ISSUES FOR CONSIDERATION

In responding to these issues the labour movement wishes to make clear that we endorse a very basic assumption which must apply in considering the use and testing of all chemicals or physical agents. We believe that all chemicals or physical agents must be considered guilty until proven innocent. We place a high value on civil liberties in the judicial system, where we generally believe that the acquittal of the guilty is less harmful than the conviction of the innocent. But in the case of toxic substances, this idea of innocent until proven guilty makes no sense at all. Granting civil rights to chemicals may very well deny them to human beings. Presuming chemicals innocent until proven guilty makes people the victims unless they can sustain enormously difficult burdens of proof.

(23)

- Issue #1
- 1) Federal co-operation and co-ordination is absolutely essential but if such action is not forthcoming, Ontario must proceed on its own. As one of the most industrialized provinces we have a responsibility to set an example and to protect the workers under our jurisdiction, at least.
 - 2) The use of international data is also essential given the enormity of the task and the waste of resources in reproducing similar tests. However, our experience with Industrial Bio-Test Laboratories

in the U.S. where fraudulent results were developed for regulatory agencies in the U.S. and here in Canada, would encourage the careful scrutiny of just who is carrying out the tests in those jurisdictions.

(24)

- 3) The International Labour Organization is subject to even greater trade-offs than most agencies responsible for developing recommendations, therefore, we do not think that these should form the basis of our standards. They are clearly a minimum. At the same time it is shocking that we do not even subscribe to such a minimum. No Ontario standard has encouraged the substitution of less hazardous chemicals and the vinyl chloride standard is certainly not complying with Article 2 of the ILO Occupational Cancer Convention, 1974.

Many countries have excellent programs for testing and classification:

The IARC in France, the EPA's Office of Toxic Chemicals, The U.S. National Toxicology Program, the Toxic Substance Control Act program and the Interagency Testing Committee in the U.S., and the efforts by the European Economic Community should also be monitored.

Issue #2

A permanent committee should be established with full-time paid representatives of labour and management. The majority on the committee would represent workers since they are the ones who must assume any risks from the decisions involved. The committee would have a technical staff who can advise and they would decide on the need for more testing or information.

Since we reject the possibility of introducing new carcinogens into our workplaces, this committee would decide on any exemptions to this rule.

Industries who use known or suspected carcinogens would have to justify their continued use to this committee and present plans for the elimination of all workplace exposure and the eventual substitution of less hazardous chemicals.

Since we also reject the exemption for those industries producing less than one tonne, as recommended in this discussion paper, the committee would hear appeals for the use of carcinogens for research or development purposes.

Where "old" chemicals are identified as being known or suspected carcinogens, the committee will direct the Ministry of Labour to send a cancer warning to the joint health and safety committee or a worker representative in every workplace where there might be an exposure. Such warnings will also be broadly publicized in the media.

Where "old" chemicals are identified as being known or suspected carcinogens the committee will direct the government to issue an emergency standard within 60 days.

Issue #3 The Minister must develop reporting requirements for the full disclosure of all chemicals before they are introduced into the workplace, describing their chemical formulation, any testing carried out to date, the intended use of these chemicals and the potential interactions with other chemicals to produce by-products.

As well the Minister should require reporting of all chemicals used at this time, with chemical formulations, any test results, a description of the use of these substances, their interactions with other chemicals, by-products produced in the process, exposure results and the numbers of workers potentially exposed. This information should be approved by the joint health and safety committee or a worker representative where there is no committee.

Such information on "old" chemicals can be used to prioritize the further testing and regulation. The Ministry of Labour attempted to get some of this information voluntarily with little success so that it is necessary to legislate the requirement. As well, the approval of the joint committee or a worker representative with a posting of the list would do much to fulfill the workers' right to know about all the hazards on their jobs.

7
check

While this paper addresses carcinogens only, the Ministry must be interested in other health effects as well, for the purposes of testing and regulation.

- 2) No blanket exemptions from the reporting rule. Exemptions can be made by the committee for purposes of research and development, as long as they are satisfied that every precaution is taken to eliminate worker exposure, that every worker involved is fully informed of the possible hazard and that they have the right to refuse without penalty.

Issue #4

- 1) All new chemicals should be tested. Their chemical structure and relationship to a known carcinogen would certainly prioritize their testing but no chemical should be allowed into the workplace until it is thoroughly tested.
- 2) The testing must be carried out by an independent approved testing facility or accepted by an approved International Agency. The manufacturer or importer has the financial responsibility for the tests and must provide the results to the government. They may not introduce the chemical until it is approved by the committee and then the government.

When a chemical is assessed to be similar or related to a known carcinogen, we agree that it should go on to long term animal tests. The problem that we have is that negative animal tests might end up as Category III (Non-carcinogens). The problem of false negatives in animal testing is of very real concern to those who must bear the risk of the possibility of being wrong. Arsenic is a perfect example, and there is some argument about benzene. Both are clear human carcinogens.

We think that another category should be added. The new Category III would be chemicals for which animal and short-term testing has been negative. In this case the potential carcinogenicity is still unknown. Exposures to these chemicals should be controlled to as low as possible and the workers should be followed up to detect any possibility of cancer.

The new Category IV (Non-Carcinogens) would include only those who have negative animal tests, negative short-term tests and negative human data from a well constructed epidemiological study that has followed the workers for at least thirty years and preferably for a lifetime. These chemicals would be regulated for any other health effect that is shown.

The Classification system we recommend follows on the next page.

CLASSIFICATION OF SUBSTANCES IN THE WORKPLACE

SUBSTANCE	CARCINOGEN	SUSPECT CARCINOGEN		NON-CARCINOGEN
-before testing		-structure similar to -subject to tissue accumulation -earlier studies suggest exposure may lead to cancer ↓	-others ↓	-only where human data over life-time study shows no increase cancer in addition to negative animal and short-term tests ↓
TESTING REQUIREMENTS		Animal Tests ↙ ↘ + - ↓ ↓ Short-term Tests ↙ ↘ + - ↓ ↓	Short-term Tests ↙ ↘ + - ↓ ↓ Animal Tests Animal Tests ↙ ↘ ↙ ↘ + - + - ↓ ↓ ↓ ↓	
CATEGORY -after testing	↓ I	↓ I	↓ II ↓ III ↓ I ↓ II ↓ II ↓ III	↓ IV

KEY: CATEGORY I - CARCINOGEN
 CATEGORY II - SUSPECT CARCINOGEN
 CATEGORY III - UNKNOWN
 CATEGORY IV - NON-CARCINOGEN

Where there are negative animal tests and short-term tests
 the Committee can decide if additional testing is required.

- Issue #5
- 1) The permanent committee would recommend to the Ministry the testing protocol required.
 - 2) Yes, the "Guidelines for Carcinogen Bioassay in Small Rodents" produced by the National Cancer Institute in the U.S. should be followed.
 - 3) Yes a minimum of two short-term tests should be required.
 - 4) This is a difficult question and one that would depend on the nature of the exposure and the chemical. Ideally the tests should be carried out on both commercial and purified samples. Of concern to labour is also the potential interactions of substances in the workplace which produce another or even more potent carcinogen.

Workplace environments are not duplicated in the lab. Animals are tested with only one chemical and are kept at a constant temperature, whereas the workplace can be a veritable sea of toxic chemicals and the temperature may well alter their structure.
 - 5) Any advancement should be monitored and decisions made when new test protocols are developed. The three year rule must not prevent the use of better testing technology when it is developed and approved by the committee.

Issue #6

Positive results must supercede negative results. Because of the insensitivity of animal tests to predict the response in a human population any positive animal results must be considered very important. As well because of the insensitivity of epidemiological studies positive animal results must supercede negative human results.

At the OSHA Hearings over the U.S. Cancer policy, Dr. Arthur Upton, Director of the National Cancer Institute stated:

"Given this lack of knowledge concerning mechanisms, I believe that a reproducible carcinogenic response in *any* species of test animal must be considered sufficient to describe the test compound as a carcinogen and so a potential threat to human health. I consider that a similar reaction in a second mammalian species is a confirmation of the carcinogenicity of the test agent, but it is not necessary before a finding of carcinogenicity and potential threat to human health can be made: negative results in a second or even third species of test animal do not in my mind establish that the test agent is not a potential threat for human beings. Given the variation in human susceptibility to carcinogens, I believe it unreasonable to ignore a finding of carcinogenicity in any mammalian test species when considering possible effects on human health." (Upton. S. 17)

Dr. Umberto Saffiotti, also of the NCI :

"Conclusive evidence of carcinogenicity in one species supersedes negative findings in other species in the extrapolation of risk to man, since no basis presently exists to rule out the likelihood that human beings respond in the same manner as the positive test species." (Saffiotti, S. 34)

And Dr. Robert Hoover of the NCI:

"Because of the severe limitations of each of these methods of investigation, a good study showing positive evidence of carcinogenicity should take precedence over negative studies. For example, animal studies are hindered by the inability to routinely evaluate the effect of low-level exposures, and the potential problems of species specificity. On the other hand, human studies are hindered by the inability to identify low-level, but substantial, increases in risk, the long latent period between exposure and disease, and the influences of multiple exposures and differing host susceptibilities." (Hoover, S. 20)

Negative epidemiological results cannot override positive animal results because of the very real methodological problems in epidemiology and the insensitivity of these studies to demonstrate positive results in anything but very potent human carcinogens.

Dr. Richard Bates of the National Institute of Environmental Health and Safety and the Federal Food and Drug Administration told the OSHA Cancer Hearings:

"Few epidemiological studies of occupational cancer have been of adequate sensitivity to detect anything smaller than a 50% increase in the incidence of cancer over that found in the general population. Weakly carcinogenic agents, that is those capable of inducing cancer only if the most highly susceptible individuals at the level to which the worker population is exposed, would not be detected by most studies." (Bates, S. 7)

Most epidemiological studies suffer from inadequate exposure data, according to Dr. David Wegman of Havard University:

"... I have yet to see and would be surprised to see adequate, historically collected exposure data to provide us with sufficient evaluation of exposure retrospectively; that is, looking back in time to exposures that have already occurred, to predict that we could come up with, starting today on old data, a negative epidemiologic study that could rule out an association between a given exposure and a risk of cancer that is related to that exposure, because the exposure data is not there." (Wegman, Tr. 1681-1682)

All of these quotes can be found in the Federal Register, referenced in the footnotes.

And two respected scientists testified that they had never seen a good negative epidemiological study;

"I do not know of any good epidemiological negative study where a compound is a proven carcinogen in animals, where you have have a good or acceptable study in humans and where you can say, 'This study does not show cancer in people and it has been proven beyond a doubt that it does not show cancer in people.' I just cannot think of one."
(Renate Kimborough, CDC, Tr. 1791)

and

"I have never seen a good negative study. I mean I am an epidemiologist. I know most of the cancer epidemiology that is done and the negative studies that are done are not-- I mean, I cannot think of any case where it is clearly proof that the substance is safe. It is very difficult to distinguish between exposed and unexposed and to find people who are exposed for a long time."
(Richard Peto, Tr. 2547)

Given these respected opinions we therefore propose the following classification system.

CATEGORY I - Positive, significant results in any of the following:

- one epidemiological study
- two animal species
- one animal species duplicated in a second study
- one animal study supported by positive results in short-term studies.
- one animal study where there is overwhelming evidence ie. high incidence of tumours or the occurrence of rare tumours.
- where other evidence is considered appropriate by the committee.

CATEGORY II - SUSPECT CARCINOGENS

- where there are conflicting animal results
- where there are positive short term tests but negative animal tests in at least two species.

CATEGORY III - UNKNOWN

- where there are negative short-term tests and negative animal tests in at least two species.

CATEGORY IV - NON-CARCINOGENS

- where there are negative short-term tests and negative animal tests in at least two species and there is a negative result in a carefully constructed epidemiological study which has sufficient exposure data and at least thirty years if not life-time follow-up.

Issue #7

The Control of New Chemicals

- 1) No new chemical that is classified as a Category I Carcinogen will be allowed into any workplace. The Committee can grant exemptions to this rule but the only exemption that can be foreseen is the development of new chemicals for medical therapy.

We do not need any more carcinogens in our workplaces or the environment, and the pre-testing of these chemicals provide the chance to stop their introduction before entire industries are dependant upon them. The ILO principle of substitution of safe alternatives must apply from the beginning.

- 3) Where the committee has allowed an exemption, there should be no detectable exposure, the workers must be fully informed that the substance is a carcinogen, and that they have the right to refuse to handle the substance without penalty.
- 4) Category II substances must be treated as Suspect Carcinogens and the committee must decide on an individual basis which substance will be allowed into any workplace.
- 5) Category II substances will be treated as carcinogens in the sense that there should be no detectable level, the workers must be fully informed that the substance is a suspected carcinogen, and they have the right to refuse to handle the substance without penalty. Where the substance is allowed the workers must be followed up to detect any possibility of cancer.
- 6) In general Category I, new chemicals will not be allowed into any workplace. But where Category I or II are allowed the no detectable levels will be met through engineering and workplace controls only.
- 7) Personal protective equipment can be used only for maintenance and emergency purposes and must ensure no detectable exposure during that time. If workers wish to wear protective equipment as an additional precaution, the employer must supply it.

- 8) Epidemiological surveillance should be maintained for workers exposed to Category I and II where allowed, and for those exposed to Category III and IV. The inevitability of being wrong in these last two categories make it important to follow the populations.

Issue #8

Testing and Classification of "Old" Chemicals

- 1) Having received the lists of chemicals in use and the numbers of workers exposed from the mandatory notification requirement described before, the Ministry can prioritize the chemicals by assessing how much is used and how many are exposed, what is known to date, how other approved agencies have categorized them, and whether they resemble any known carcinogen.
- 3) Where testing is considered necessary, independant approved laboratories should carry out the tests paid by the manufacturer or the user if the substance is imported and not properly tested to date.
- 4) If the chemical has already been tested and classified and subjected to whatever regulation is necessary, its use in a newly-constructed workplace should not be considered a new chemical. If the substance is a Category I Carcinogen permission to use the chemical until a safe substitute is found must be granted by the committee. If the substance is going to be used in an entirely new way, it should be subject to the new chemical test requirements.

- 5) The classification should take place as quickly as possible and within no longer than five years.

Issue #9

The Control of "Old" Chemicals

- 1) Any employer using a Category I Carcinogen must justify its continued use to the committee where no safe substitute is available. Immediate notification to the workers, regulations limiting exposures to no detectable levels, and the other requirements described for Category I substances will apply within 60 days.
- a) The use of a Category I Carcinogen in a new plant must be approved by the committee and subject to the same stringent regulations.
- 2) Category II Suspect Carcinogens must be approved for use in a new plant by the committee and subject to stringent regulations limiting exposure to no detectable level etc.
- b) In an existing plant immediate notification to the workers, and regulations limiting exposure to no detectable levels will also apply.
- 3) All users of chemicals will be required to meet the stringent requirements of new chemicals within the time set in the regulation.

Issue #10 Epidemiologic Surveillance

- 1) All workers should be followed to identify any breakdown in the classification or regulatory system. Employers should pay a % of wages to a fund that will be used for such research.
- 2) Accurate exposure records are absolutely necessary for a good epidemiological study.
- 3) Attempts should be made to get better occupational information on any cancer victim.

Issue #11 Workers' Right To Know

- 1) There should be a mandatory requirement that the employer provide to the joint committee or the worker representative and post for all workers to see, the list of all chemicals and physical agents used in the workplace, with the potential hazards, the chemical formulation, the amount used, the use to which it is put in the process and the potential jobs exposed. This information is required to go to the government for setting priorities in testing. Any new chemical must be added to this list.
- 2) Since the government will have this list, they must ensure that the employer complies and where he or she refuses, charges should be laid and a copy of the government's list should be given to a worker member on the committee or a worker representative for posting.

- 3) Labelling of all chemicals or physical agents is important but especially carcinogens. Clearly a national labelling system would be of great benefit and we would be satisfied to see the Canadian Centre undertake such a project. A cautionary note should be added about colour coding information. Shapes are considered to be a better informer given the incidence of colour-blindness. As well, written labels presume knowledge of the language used and literacy.

Where any known or suspected carcinogen is allowed to be used, notices must be placed at the entrance and on the walls warning workers of their presence.

- 4) All of the classification data must be available for public scrutiny. The lists must be updated regularly and made available to libraries, labour unions, manufacturers' associations and to the media. Notification of any Category I or II Carcinogen must be sent to any user and the health and safety committee or worker representative and placed in the media.
- 5) Workers have a right in natural justice to know what they are working with, they are not interested in selling trade secrets. Section 34 (1) (b) essentially prevents worker committee members from sharing essential information with their brothers and sisters in the workplace. It is unacceptable. Consideration should be given to the public's right to know what a neighbourhood industry may be introducing into the environment.

Issue #12

The courts find it very difficult to act in a preventative way when there is no victim. Even where there is a victim the fines range between \$1,000 and ten thousand dollars for the death of a female Inco worker. Hardly an incentive to take health and safety seriously. The Attorney-General must instruct the prosecutors to demand the maximum penalties including jail terms.

We consider the introduction of carcinogens without notification a serious offense, but we are not prepared to say that it is more serious than an employer refusing to screen a dangerous vat. Any failure to comply with the regulations is a serious offence and the penalties for any form of negligence must be increased. A death from cancer should not be judged as more significant than a municipal worker drowning in a storm sewer or a miner dying in a rock fall. All of these workplace deaths are completely preventable and the penalties should reflect a desire to value all human life.

CONCLUSION

Although it was not raised as an issue in the discussion paper, we must raise our objections to the increasing practice of genetic screening for cancer-prone individuals and the discriminatory practice of excluding hyper-sensitive workers. Such action, like fertility screening is discriminatory on the two counts mentioned before. It not only discriminates against those who are found to be genetically "inferior", a concept reminiscent of Hitler, but

leaves the "super-workers" exposed to the carcinogens. The problem is the chemical or the physical agent and the solution is to rid our workplaces of known and suspected cancer causing agents.

We reject the entire concept of "acceptable risk" and the calculations inherent in the process of risk assessment that leads to this decision. Animal and short-term testing can identify carcinogens qualitatively. However, the next step is to quantify risk and this is impossible at the present time.

Methods for quantitative risk assessment require a number of choices and assumptions to compute the risks at low levels of exposure: the choice of data set(s), choice of mathematical model, correction for lifespan differences in animals and man, calculations of dose, variability in multiple exposures, state of health and genetic background that occur in humans and not in test animals. All of these choices are subjective and introduce considerable uncertainty. In fact, the risk estimations produced for vinyl chloride varied by a magnitude of more than a million fold, and the estimations for saccharine varied by a factor of 10 million fold.

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There was much evidence offered by experts confirming the inability to quantify human risks from animal studies at the Cancer hearings in the U.S., and an important warning was released from the National Cancer Institute to the U.S. Food and Drug Administration in 1979. They stated that the FDA should not abandon the rigid Delaney principle which prohibits carcinogenic additives for a more flexible

risk benefit approach:

"Conclusion - Although an attractive idea, quantitative risk assessment involving extrapolations from animal data is not yet sufficiently developed to be used as a primary basis for regulating human exposure to carcinogens. Although we are correct in concluding qualitatively that animal carcinogens are potential human carcinogens, quantitative extrapolations involve potentially large errors, some of which could underestimate the actual human risk from exposure. Scientific knowledge is currently insufficient to lend precision to this process."

(26)

Epidemiological studies also suffer from enormous methodological problems and subjective choices and assumptions. Small numbers, insufficient latent periods, incomplete follow-up, multiple exposures, and insufficient exposure data characterize most epidemiological studies. According to Dr. Selikoff, quantitative risk assessment is not even possible for asbestos - the best studied occupational carcinogen for which follow-up has been extensive and exposure data has been determined. Certainly the evidence given during the expert testimony at the Royal Commission on Asbestos in this province would confirm Dr. Selikoff's conclusion:

"Human data are not sufficiently valid to define a dose-response relationship at low concentrations for a meaningful numeric data standard setting."
(Selikoff, Transcript 1731-4)

To then use these extremely questionable risk estimations to balance off risks and benefits or to carry out cost-benefit analysis is even more unacceptable. In an article written for a conference on risk management for carcinogens, Dr. Nicholas Ashford summarized the flaws inherent in cost-benefit analysis:

- There are important differences between economic regulation and environmental, health, or safety regulation that must not be overlooked.
- Costs are easier to express than benefits, but their quantifiability makes them no more certain or reliable.
- Benefits include improved quality of life and good health as well as positive economic side-effects, but they defy accurate estimation and their recipients are not a well-organized lobbying group.
- The comparison of costs and benefits is beset by serious methodological difficulties and requires the analyst to make value-laden assumptions; yet cost-benefit analysis appears, deceptively, to be a neutral technique.
- Insistence on cost-benefit decision rules and other regulatory "reform" efforts may be undemocratic attempts to reorient legislative mandates.

(27)

OSHA in the U.S. faced these problems in the deliberation over their cancer policy and concluded:

First, the state-of-the-art of quantitative risk assessment techniques particularly for carcinogens, that are crucial to cost-benefit analysis, is too crude and unreliable to permit the refined estimates necessary to determine risk reduction at various exposure levels. OSHA believes that estimates with such wide variations that may understate cancer risks by orders of magnitude are not useful in setting control levels. Cancer is an irreversible disease leading to death with no demonstrated threshold or safe level, and thus requires a highly protective regulatory approach.

Secondly, as a matter of policy, efficiency criteria alone are not appropriate because they ignore equity considerations. The economic savings from less protective regulation accrue to industry in the form of higher profits and consumers in the form of lower prices. But the costs are borne by workers through increased industrial illness and death rates. OSHA believes that it would be inappropriate for an agency statutorily required "to assure so far as possible every working man and woman in the Nation safe and healthful working conditions" to ignore such equity considerations.

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By refusing to allow new carcinogens into the workplace and limiting exposures to a no detectable level for those already present until the substitution of "safe" tested alternatives is possible, we are recommending a prudent public health policy. Additional research is not necessary for us to move immediately to protect workers against cancer.

Many will argue that now is not the time to regulate, that we should be concerned about productivity and inflation. Well just as workers' wages have been incorrectly diagnosed as the cause of inflation so too is health and safety regulation. In a study prepared for the President's Council on Environmental Quality in the U.S., the annual inflationary impact of pollution regulation on the consumer price index was 0.2% The Council on Wage and Price Stability in (29) the U.S. estimated that all regulation contributed 0.75% to the annual inflation rate and more than half of that was due to cartel regulations. The charge that health and safety regulation, whether (30) for workers or the public, is the cause of inflation may have a nice polemic if not poetic ring to it, but it has no basis in fact. The cause of our double digit inflation lies elsewhere. (31)

While we have heard accusations of low productivity from Canadian workers, we have not heard about the 18.9 million man days lost to production as a result of occupational injury, illness and death in 1979. And that figure is based only on compensation claims accepted, a figure that is known to grossly underestimate the true incidence. On the other hand, we certainly did hear a lot about the 7.7 million man days

lost to production in that same year due to strikes and lock-outs.

(31)

If one looked at the more than one billion dollars paid out in direct compensation to the victims of our failure to regulate and enforce, or the estimated \$4.3 billion in indirect costs, we might gain
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a small sence of the economic impact of our past failures. While these figures represent the impact of accidents and other toxic exposures the cost of almost 3000 victims of workplace exposures to known carcinogens every year is clearly unacceptable to any society.

Now, indeed is the time to regulate the pretesting of new chemicals and the strict regulation of those carcinogens in use, until they can be substituted with "safe" alternatives. To do less is to sentence our economic recovery to increasing lost production and spiralling health costs.

But over-riding any of these arguments is the basic premise on which every civilized society is based "Thou shalt not kill!" While it may be expressed differently in every organized religion and in the laws of every country the value of human life remains the same, and it is not open to the proposition that it is alright to kill, if not killing is to expensive.

(33)

FOOTNOTES

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- 10) Enstrom, J.F. Journal of National Cancer Institute, 62, 755 (1979) as reported in Epstein, S. and J. Swartz, "Fallacies of Lifestyle Cancer Theories," Nature, Vol. 289, January, 1981, pp.127-130.
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- 17) As reported in Epstein, S., The politics of Cancer, Anchor Books, N.Y., 1979, pp. 106.
- 18) As reported in Epstein, S. op. cit.
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- 21) Dofasco Study, submitted to Ontario WCB.
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- 24) As reported in Epstein, S., The Politics of Cancer, pp.310.
- 25) Federal Register, op.cit. pp.5198.
- 26) "NCI Draft Memorandum to FDA on Use of Animal Data in Cancer Risk Assessmen", April 5, 1979, Chemical Regulation Reporter, Vol. 3, 8, May 25, 1979, pp. 274-5.
- 27) Ashford, N. "Alternatives to Cost-Benefit Analysis in Regulatory Decisions", in Nicholson, W., op.cit., pp. 129-137.
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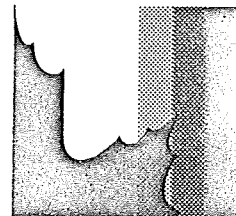
THE CANADIAN ENVIRONMENTAL LAW RESEARCH FOUNDATION

The Canadian Environmental Law Research Foundation is a registered charitable organization, founded in 1970. The Foundation carries out research in a wide variety of environmental law areas and disseminates the products of that research by means of its publishing and conference programs.

The Foundation's best known publication is Environment on Trial (C.E.L.R.F., 1978), a comprehensive guide to Ontario environmental law. Others include Poisons in Public (Lorimer, 1980), Acid Rain: The North American Forecast (Anansi, 1980), Environmental Rights in Canada (Butterworths, 1981), and most recently, Canadian Occupational Health and Safety Law (CCH, 1983). The Foundation is also the publisher of the Canadian Environmental Law Reports, the only environmental law reporter in Canada.

Each year the Foundation plays host to a major conference on a particular aspect of environmental regulation in Canada. In addition, the Foundation is currently in the process of presenting a series of three Roundtable Discussions on Toxic Chemicals Law and Policy.

The subject of this year's conference, "Hazardous Substances and the Right to Know" was chosen because of the belief on the part of the Foundation that there was a need to bring together the different parties which have an interest in this important issue for a sharing of information and perspectives.



ACTIVITIES REPORT

Fall 1983

1. ROUNDTABLE DISCUSSIONS ON THE REGULATION OF TOXIC SUBSTANCES
IN CANADA

The second in this series of three Roundtables, titled Roundtable Discussion on Hazardous Wastes Law and Policy, was held in Toronto on June 20 and 21. With representation from across Canada, and from the industrial, academic, government and environmental sectors, the Roundtable provided an excellent opportunity for informed and comprehensive discussion of all aspects of this important subject. The transcript of that discussion will be available from the Foundation office in the near future.

Work is now proceeding on preparation of the background paper for the final Roundtable, on Pesticides Law and Policy, which will be held in Toronto in June of 1984.

2. HAZARDOUS SUBSTANCES AND THE RIGHT TO KNOW

This one day symposium will be held at the Sutton Place Hotel, Toronto, on Wednesday, October 26.

Speakers include Gordon Atherley, Canadian Center for Occupational Health and Safety; Alderman Anne Johnston, Toronto Board of Health; Joanna Kidd, Toxic Substances Coalition; William Neff, Canadian Chemical Producers Association; and Ed Waddell, Ontario Federation of Labour.

3. TOXIC AND OXIDANT TRANSBOUNDARY AIR POLLUTION

With funding provided by the Donner Canadian Foundation, work has commenced on this eighteen-month project which is intended to draw attention to the problem of the long-range transport of pollutants other than acid rain. Done jointly with the Environmental Law Institute of Washington, D.C., the study will culminate in a series of recommendations for legal reforms which will be presented to the American and Canadian governments.

4. CITIZEN INTERVENTION ACROSS THE CANADA-UNITED STATES BORDER

The Joyce Foundation of Chicago has approved a grant of \$42,500 which represents one-third of the project cost for this study of legal reforms which would be required in Canada and the United States to allow citizens of either country greater access to the courts and administrative tribunals of the other in cases of transboundary pollution. Steps are being taken to secure the remaining funding from American and Canadian sources.

5. INDUSTRIAL WASTE REDUCTION AND RECYCLING

Work has now commenced on this study, being carried out jointly with Pollution Probe, of select actions which can be taken by all levels of government in Canada to facilitate increased reduction and recycling of industrial waste.

6. ENVIRONMENTAL PROSECUTIONS IN ONTARIO

Background research for this study, which includes a statistical and analytical examination of all major environmental prosecutions carried out in Ontario during the past decade, was done during the past summer. An interim report will be presented to the study's sponsors, the Great Lakes Institute of the University of Windsor, in the near future.

7. THE ONTARIO ENVIRONMENTAL ASSESSMENT ACT

Working with the assistance of an advisory committee consisting of Professor Paul Emond of Osgoode Hall Law School, Mr. Charles Ferguson, Director of Environmental Affairs, Inco Ltd., and Mr. Arlin Hackman, Environmental Specialist, Federation of Ontario Naturalists, plans have now been completed for an examination of key areas of the environmental assessment process in Ontario and, in particular, the implications of its extension to the private sector. The project has been designed in such a way as to provide ample opportunity for dialogue upon the research findings and study recommendations among all interested parties.

8. PROPERTY RIGHTS AND THE CHARTER

Because of their joint concern for the effect it might have upon environmental protection in Canada, the Foundation is currently working with the Canadian Environmental Law Association to prepare a report highlighting the implications of the entrenchment of property rights in the Charter of Rights and Freedoms. Copies of the report will be provided to all members of the House of Commons and other elected representatives throughout the country.

9. CANADIAN ENVIRONMENTAL LAW REPORTS CUMULATIVE INDEX

It is expected that the Index, which provides convenient access to all cases reported in the Canadian Environmental Law Reports from 1972 to 1983, will be available in mid-October. Copies may be ordered from the Foundation at a cost of \$35.00 each.

Policy Paper

on Safeguarding Proprietary Information

Government's role in
safeguarding information
about Canadian
industrial products and
production processes

The Canadian Chemical
Producers' Association

The Principles We Propose

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The chemical industry, like other industrial sectors, has a responsibility to work with government agencies to formulate, implement and maintain procedures which protect both human health and the environment. With this in mind, the industry and individual companies are prepared to divulge proprietary technical and commercial information in confidence to the government. But this information must be fully safeguarded by government agencies to protect the companies' competitive edge in a highly competitive world.

This policy paper outlines the CCPA's concerns regarding the handling and distribution of such information, and sets out recommendations for action to ensure that confidential information provided to governments remains just that: "CONFIDENTIAL".

In general terms, the Canadian Chemical Producers' Association (CCPA) urges that the following principles be accepted and adhered to when government handles proprietary industrial information:

- that such information, when submitted to government, be recognized as the intellectual property of the company submitting it;
- that government act in the role of *trustee, not owner*, of such confidential information;
- that government requests for information be limited to what is necessary for the purpose at hand;
- that the purpose, the objective and the use of proprietary information be clearly indicated to industry representatives;
- that proprietary information not be released to the public or used for other purposes within government *without the knowledge and consent* of the supplier.

The CCPA represents 65 companies which account for more than 80 per cent of Canada's total output of manufactured chemicals, production of which in 1981 was in excess of \$9 billion, involving 30,000 employees. As well, larger numbers of workers are engaged in further processing of chemical products for use in other primary, manufacturing and service industries. Ultimately the chemicals produced by CCPA members are purchased in countless forms by consumers in all walks of life and in all regions of Canada.

Members of the CCPA have a full and continuing commitment to ensuring that their products are used safely and well. This concern is evidenced by the in-plant production and handling procedures employed by chemical producers along with transportation safety procedures, including an extensive and highly-sophisticated emergency response system.

It is further evidenced by the active participation of the CCPA with all levels of government in developing methods and procedures for managing, testing and handling chemicals and recommending new and better methods.

During such cooperative efforts, member companies often entrust to government various kinds of commercial information which is proprietary and which could be of substantial commercial significance to rival companies either in Canada or abroad. The indiscriminate release of such information could prejudice a company's production and marketing accomplishments and, in the long run, compromise the competitive position of the Canadian chemical industry as a whole.

The ability to compete successfully is based on a company's efficiency, reflected in its products and prices. The production processes and "know how" employed by a chemical company play a major role in achieving efficiencies and therefore establishing both the quality and the price of its products. It is a matter of great importance that the details of those processes, developed by a company, remain the intellectual property of that company.

An edge in research and development often provides a company with the competitive edge it needs to succeed in the marketplace.

How Important Is Our Proprietary Information?

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Many of CCPA's 65 member companies are in direct competition with one another. Canadian chemical producers are also in competition, both in Canada and abroad, with foreign chemical manufacturers.

Competition in sales of industrial chemical products in export markets is particularly keen. The Canadian chemical industry has built an admirable record of competing in these markets, to the benefit of Canada's balance of trade and the economy as a whole.

A Canadian chemical company's proprietary information is one of its most valuable assets. It represents long-term investments in research innovation and engineering development, extensive manufacturing experience, and commitments to marketing strategy and business development.

For most companies, research and development work is concentrated on new product formulations and applications which are crucial to their successful competition in the marketplace. It is in Canada's best interest that incentives exist for companies to continue research and development in this country. To meet this objective, it is important that proprietary research and development information receives the fullest protection from government as a matter of public policy.

Companies could incur serious losses in many cases if proprietary information were to become easily available to competitors, whether through inadequate safeguards or because the value of the information is not fully appreciated by those who control the information.

Such losses would eventually manifest themselves as a weakening of competitive strength and an erosion of the ability to expand, or even to sustain, employment and income.

Industry and government have a responsibility to each other and to the society in which they operate.

The growing complexity of that society has made it increasingly necessary in recent years for government to seek out information from private industry about essentially proprietary operations. Recognizing that it does not operate in a social vacuum, and that such information is vital to specific areas of public concern, the Canadian chemical industry has provided such information whenever it has been required.

Government, in the main, has usually recognized the need to ensure that firms remain willing to make this information available and to ensure that this willingness not be impaired by fears that proprietary data will be misused. This, for instance, is the rationale behind the secrecy provisions of the federal Statistics Act.

But increasingly, information which is being made available by industry to various levels of government is being handed over to consultative or fact-finding bodies, or to other authorities that may not recognize — or cannot guarantee — confidential handling of the data. Worse still, some government agencies have shown an inclination to develop policy frameworks that would, if fully implemented, lead to the release of proprietary information as a matter of course.

The increasing uncertainty of this situation gives rise to industry concerns that government might not continue to meet its responsibility to ensure that the proprietary data provided remain confidential.

The Basic Problem

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Since the 1960s, we have witnessed increasing public pressure for openness in government, and demands not only that decisions be made public, but that the information which influenced those decisions also be made public.

There has been a growing tendency to argue that freedom of information legislation should make all information public as a matter of course, unless there is a compelling reason for it *not* to be made public.

This argument is often linked to a false assumption that an organization deems a piece of information “confidential” because it has something to hide. Such distrust and suspicion can lead to potentially destructive results.

We are left with a basic problem: how can one decide if a piece of information should be treated as confidential unless it is held up for scrutiny?

What Are the Dangers?

We are living in an age of greater government involvement and intervention in the operations of the private sector.

We are living in a time of computerization of data banks, a time when the entire question of privacy versus potentially uncontrolled access to personal and proprietary information is becoming a major social issue.

We are also living at a time of growing demand for public involvement and discussion and for divulging increasing amounts of sensitive information to the public.

These factors can sometimes combine to present a very real danger.

The danger is that a government, under pressure, could demand and receive information (much of it of little use or purpose to the public sector) that could easily then be incorporated into data banks, accessible to enquirers, and made available by law.

In some non-Canadian jurisdictions where such freedom of information legislation has been tried, the vast majority of requests for information about a company's operations originate with rival companies. This is a situation feared by any manufacturer operating in a highly competitive field.

When such a situation arises in a jurisdiction – where a company is required by law to divulge (and thereby endanger) proprietary information – it can reasonably be expected that the company will be forced to review whether or not it can continue operations in that jurisdiction.

Avoiding the Problem

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The problem can be resolved, and the danger can be avoided.

First, there should be agreement on the principles of gathering and divulging information set out in the first chapter, "The Principles We Propose". Second, a mechanism should be established to ensure that information is not divulged inadvertently and, further, that procedures satisfactory to companies are being effectively and consistently applied. Such mechanisms do exist and operate successfully in many jurisdictions.

The CCPA is prepared to cooperate to the fullest extent with all levels of government in developing such mechanisms.

In doing so, we must recognize and overcome an essential difficulty, the increasing evidence of a lack of understanding within some sectors of government as to what information should be considered confidential by government and why it is considered confidential by industry. Here are what we consider to be types of such commercially sensitive information:

Technological information

Production operations, including formulation and process know-how.

Why? Because this information covering both on-going operations and future product orientation is the basis of a company's ability to compete with others.

Identifying information

Certain selected chemical names and uses.

Why? Because specific chemical names can reveal proprietary formulations that are the result of an individual company's expensive and time consuming research and development.

Statistical and marketing information

Utilization of existing capacity.
Process efficiencies.
Selected economic information.
Future plans.
Production volumes.

Why? Because this information reveals in detail a firm's ability to change its marketing strategy, pricing and competitive production advantages. Freely available, such information could be misused by other firms to undercut and destroy established business arrangements at no cost and little risk to themselves.

Industrial Information that Should Not be Confidential

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Not all information available from manufacturers is so commercially significant that it requires confidential handling by government. While a comprehensive listing is not feasible, a few examples provide an indication of what we mean. For one, information on effluents and discharges into the environment as a result of manufacturing operations is of major importance to environmental agencies and cannot be treated as confidential. Similarly, information on the toxic properties of various chemicals should not be considered confidential and should be openly available. Trade names and general data on the uses of chemicals do not need to be confidential, nor does information on chemical transport or disposal procedures. In the final analysis, to require treatment as confidential, the information turned over to government should be commercially valuable in such a way that its release would specifically harm the *business* and *trade* prospects of a manufacturer.

Meeting Industry and Government Objectives

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The following procedures and mechanisms are proposed by the Canadian Chemical Producers' Association to assist in meeting industry and government objectives in proprietary information collection, storage and handling.

1. Government requests for proprietary commercial and technical information should, in general, be limited to what is necessary to protect human health and the environment. Furthermore, in requesting information, the purpose, the objective and the use of the information should be clearly indicated by government agencies. Data should not be used for purposes other than those stated, nor shared with other government agencies or contractors, without the express consent of the information supplier.
2. Any government agency receiving confidential information should have an acceptable security system for data stored in computers. Government should carry out regular audits on security of information including computer-stored data.
3. Since a company is in the best position to appreciate the sensitivity of proprietary information in its possession, it should be allowed to designate what is confidential and what is not. Government should then review a "confidential" designation in consultation with the company to confirm whether there is agreement that the information is truly confidential or not. Ideally, this should be agreed upon *before* the data is submitted. Once agreement is reached, the proprietary information must be protected.

4. To ensure that a company retains control over its confidential information, we strongly urge that any given government agency not be allowed to share proprietary information with other agencies. Rather, it should be permitted to inform other agencies only of the source and type of information in its possession. Upon receiving a request from a second government agency, the original government agency should confirm only that the information exists, and then refer the second agency directly to the company or industry body which is the source of the information.

5. Disclosure of its proprietary information should be made only with the approval of the company concerned. Where the government concludes that disclosure of a company's proprietary information is necessary on an urgent basis to protect the public interest, it is recommended that the company be notified and consulted to ensure that all disclosure issues are understood fully by both parties. As well, the company should be allowed to prepare the first draft of any public information statement prior to release by the government agency.

In Summary

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The chemical industry, as represented by the CCPA, fully understands its responsibilities regarding the safe use of the chemicals it produces, the transportation and storage of those chemicals, and the ultimate disposal of chemical wastes and by-products.

It is prepared to cooperate fully with all levels of government in furthering safe utilization procedures and practices relating to industrial chemicals.

At the same time, the industry urgently seeks an understanding on the part of both government officials and the public as to what information is of genuine importance for the continued viability of commercial operations.

We believe that the mechanisms proposed in this publication would go a long way toward ensuring that such commercially valuable information is used correctly – for the purposes identified – and not disclosed inadvertently to the detriment of the industry.

The implementation of the proposed mechanisms would help ensure a continued free flow of information between government and private companies, allowing both to fulfill their public responsibilities.

Industrial Chemicals: a key and responsible Canadian industry

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