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that a thorough level of understanding of new chemicals, chemical products, processes, equipment and their uses and their potential hazards is achieved prior to and throughout commercial development.

- iii) manage research and development operations in a manner which protects people and the environment from hazards.
- iv) provide information about the hazards and associated risks of new chemicals, chemical products, processes and uses to customers, enabling them to use these and manage associated wastes in a responsible manner.
- v) provide information about the hazards and associated risks of research and development operations to employees and other people on site, to contract laboratories, and to those in the community who have an interest.
- vi) know the laws and regulations applicable to research and development, and meet or exceed them in letter and in spirit.
- vii) be sensitive and responsive to community concerns about research and development operations.
- viii) work actively to assist governments in developing public policies, legislation and regulations governing research and development operations.

CODE OF PRACTICE

1. General

Each member company shall have written policies, and protocols and methodologies which govern all aspects of the research and development of new chemicals, chemical products, process, equipment and uses. Responsibility shall be clearly defined for generating, implementing, auditing and updating them, and for taking corrective action. These policies, protocols and methodologies shall meet or exceed all applicable laws and regulations in letter and in spirit.

Each member company shall have hiring standards and training criteria commensurate with responsible research and development requirements, take action to maintain employee competence and include code compliance in regular performance assessments.

The manager of a research and development site shall adhere to the requirements of the CAER code of practice.



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- 5.4 subsequently check back to confirm that customers are following responsible handling, use and waste management practices. Each member company shall require, with due diligence, that customers follow responsible handling, use and waste management practice, if special requirements are determined to apply;
- 5.5 ensure that even for small-scale test marketing, the first three items in section 5 up to and including "waste management" in item three are in place before proceeding.



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- 3.3 proper management of laboratory waste;
- 3.4 documentation and reporting of results in a scientifically accurate and ethical manner;
- 3.5 preparation of a data package on every new chemical, chemical product, process and application which clearly identifies potential hazards, including those of associated wastes;

Laboratory practice shall be audited and updated on a regular basis.

4. Transfer to Manufacturing

Every member company transferring a new chemical or chemical product, a new process or new equipment from research and development to manufacturing shall ensure that:

- 4.1 hazard and operability studies, or their equivalent, are an integral part of the design process;
- 4.2 standards for health and safety and environmental protection in the new process are clearly spelled out, and that it is the responsibility of the process design team to achieve them;
- 4.3 all operators are fully trained in the new or revised process before start-up, including procedures to be followed in an emergency;
- 4.4 material safety data sheets (MSDS) are available for all input, in-process and output materials, and proper procedures for packaging, handling and disposing of these materials, including by-products, are clearly identified;
- 4.5 the above principles are applied also to pilot or less-than-commercial scale plants, except that in this case certain standards, eg. those for durability of process equipment, may be less rigorous.

5. Market Introduction

Every member company introducing a new chemical, chemical product, process or application to the marketplace shall:

- 5.1 ensure that the requirements of all relevant legal and government regulations are met or exceeded in letter and in spirit;
- 5.2 educate employees and contract personnel to ensure responsible product handling and transportation;
- 5.3 provide potential customers with information about hazards and associated risks, and assistance to ensure responsible handling, use and waste management, including reduction/recycling/recovery/reuse opportunities where feasible;



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MANUFACTURING CODE OF PRACTICE

PURPOSE

The member companies of The Canadian Chemical Producers' Association (CCPA) are committed, as a condition of membership, to the policy of "Responsible Care". This code governs member company actions in meeting the guiding principles of that policy as they relate to all aspects of the commercial production of chemicals and chemical products by the member company and toll manufacturers.

Practice of this code is intended to result in:

- the protection of people and the environment through the responsible management of all facilities and materials during manufacturing;
- the assurance that the management systems necessary for the responsible operation of the manufacturing site are in place and are functioning effectively;
- the confidence of the community and employees and other people on site that they know the manufacturing hazards and associated risks that could have an impact on them and that they and the environment are protected from these hazards.

GUIDING PRINCIPLES

The guiding principles of this code as they reflect those of the "Statement of Policy on Responsible Care" are:

- i) manufacture chemicals and chemical products in a manner which protects people and the environment from hazards;
- ii) provide information about the hazards and associated risks of on-site chemicals, chemical products, processes and equipment to employees, other people on site, and toll manufacturers, and to those in the community who have an interest;
- iii) make responsible care an early and integral part of the planning process leading to new chemicals, chemical products, process, equipment or facilities;
- iv) apply this code to existing, modified, and new chemicals, chemical products, processes, equipment and facilities;
- v) know the laws and regulations concerning manufacturing, and meet or exceed them in letter and in spirit;
- vi) be sensitive and responsive to community concerns about manufacturing operations;
- vii) work actively to assist governments in developing public policies, legislation and regulations governing the manufacture of chemicals and chemical products.



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R & D CODE OF PRACTICE

MILESTONES

1. An R & D coordinator is appointed.
2. The coordinator attends an R & D code workshop.
3. The coordinator reviews the code with the management of all functions whose activities are encompassed by the code definition of R & D.
4. A management assessment is completed of the company's capability to meet the code and needed actions are identified.
5. A management plan is completed of the actions needed to meet the code.
6. The execution of the plan is completed and the capability to meet the code is reassessed.
7. The program of planning and executing action is repeated and reassessed annually.



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CODE OF PRACTICE

1. General

Each member company shall have written policies, standards and procedures which govern all aspects of the manufacture of chemicals and chemical products. Responsibility shall be clearly defined for generating, implementing, auditing, and updating them, and for taking corrective action. These policies, standards and procedures shall meet or exceed all applicable laws and regulations in letter and in spirit.

Each member company shall have hiring standards and training criteria commensurate with responsible manufacturing requirements, conduct regular performance assessments, take action to maintain employee competence, and ensure with due diligence the equivalent performance from contractors working within the plant environment.

Each member company shall ensure with due diligence that toll manufacturers meet the guiding principles of this code in contracted operations performed for member companies. Toll manufacturers shall be provided with information about hazards and risks associated with contracted operations.

Each member company shall work actively, alone or through selected organizations, and, if possible, in consultation with other affected stakeholders, to assist governments in developing public policies, legislation and regulations governing the manufacture of chemicals and chemical products.

Chemicals and chemical products will not be manufactured unless this can be done in accordance with this code.

2. Employee, Community and Environmental Protection

Each member company shall have management systems in place to protect the safety and health of its employees and other people on site, the community and the environment from any harmful effects of its materials and operations. The member company shall:

- 2.1 identify and evaluate on a regular basis potential safety, health and environmental hazards and associated risks, and work to minimize these risks through hazard elimination, engineering controls, procedures, education and the use of personal protective equipment;
- 2.2 monitor its safety and health performance as well as the working environment with the objective of identifying and minimizing actual or potential occupational safety and health problems;



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MANUFACTURING CODE OF PRACTICE

MILESTONES

1. The plant manager and/or manufacturing code coordinator attend a regional code workshop.
2. A plant management assessment is completed of the capability to meet code requirements and of the action needed to meet the code.
3. The results of the assessment are communicated to the operating, environmental and occupational health and safety employees who will be involved in planning and implementing action.
4. A management plan of action is developed and approved.
5. The plan is executed and conformance capability is reassessed.
6. The program of planning and executing action is repeated and reassessed annually.



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- 3.6 recognize the CCPA's community right-to-know policy by providing information to all interested people at the planning stage of new facilities and by responding to their concerns.

4. Operations

Each member company shall have written operating, engineering and maintenance procedures which specify conditions for the responsible operation of any facility during normal or abnormal circumstances. The member company shall:

- 4.1 perform and document a regular hazard analysis and risk assessment of the operating facility and take action to minimize identified risk;
- 4.2 have written and up-to-date procedures which cover all phases of operation, including start-up and shutdown.
- 4.3 have written and up-to-date procedures which protect personnel during the maintenance of the facilities;
- 4.4 take action to prevent injury, damage and harm to people and the environment from explosion, fire or uncontrolled releases;
- 4.5 have a management system to control and record changes and modifications to equipment, processes, materials and associated computer hardware and software;
- 4.6 institute security procedures and systems which protect the facilities and address possible security threats;
- 4.7 maintain systems and procedures to minimize risks to safety, health and the environment during the handling and storage of all materials used and produced;
- 4.8 audit and update these procedures on a regular basis.



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TRANSPORTATION CODE OF PRACTICE

PURPOSE

The member companies of The Canadian Chemical Producers' Association (CCPA) are committed as a condition of membership to the policy of "Responsible Care". This code governs member company actions in meeting the guiding principles of that policy as they relate to all aspects of the transportation of chemicals and chemical products, including hazardous wastes, by all modes from their source to their destination.

Practice of this code is intended to result in:

- continuous improvement in safety, and reduction of accidents which can result in injury to people and to the environment during the transportation cycle;
- effective emergency response to transportation accidents which minimizes injury to people and damage to the environment;
- the assurance that the management systems necessary for responsible transportation activities are in place and are functioning effectively;
- cooperation with the transportation industry in reducing risks associated with the carriage of chemicals;
- public, employee and transporter confidence in the transportation of chemicals and chemical products as a result of the effectiveness of the above.

GUIDING PRINCIPLES

The guiding principles of this code as they reflect those of the "Statement of Policy on Responsible Care" are:

- i) transport chemicals and chemical products in a manner which minimizes risk of injury to the general population along transportation routes, persons involved in the transportation cycle, and the environment;
- ii) provide information about the hazards and associated risks of chemicals and chemical products and their control in transportation emergencies, to transporters, first responders and to people potentially exposed. Such information shall be updated periodically and be readily available in the event of an emergency;
- iii) make responsible care an early and integral part of the planning of new product introduction, the design of new facilities or the significant modification of existing facilities;



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- iv) know the laws and regulations concerning all phases of transportation, including the response to transportation emergencies, and meet or exceed them in letter and in spirit;
- v) be sensitive and responsive to community concerns about the transportation of chemicals;
- vi) assist the transportation industry in meeting this code of practice as it applies to their operations;
- vii) work actively to assist governments in developing public policies, legislation and regulations governing the transportation of chemicals and chemical products.

CODE OF PRACTICE

1. General

Each member company shall have written policies, standards and procedures which govern all aspects of the transportation of chemicals and chemical products, including hazardous wastes. Responsibility shall be clearly defined for generating, implementing, auditing and updating them, and for taking corrective action. These policies, standards and procedures shall meet or exceed all applicable laws and regulations in letter and in spirit.

Each member company shall identify and evaluate on a regular basis the hazards and associated risks to people and the environment from the transportation cycle, and provide information about these hazards and associated risks to employees and transporters.

Each member company shall work actively, alone or through selected organizations, and, if possible, in consultation with other affected stakeholders, to assist governments in developing public policies, legislation and regulations governing the transportation of chemicals.

Chemicals will not be shipped unless this can be done in accordance with this code.

2. Accident Prevention

Each member company shall have an active program designed to continuously improve safety and to prevent accidents during the transportation cycle which:

- 2.1 establishes criteria for selecting the mode of transport, the specifications for the transportation equipment and container, and inspection and maintenance of these during use;
- 2.2 establishes criteria for selecting carriers which include safety performance and programs, inspection and maintenance procedures for equipment, selection and training of drivers and support staff, and assistance to carriers in meeting these criteria;



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- 2.3 identifies alternate transportation modes and routes which minimize the exposure of people and environmentally sensitive areas to the hazards inherent in the transportation mode;
- 2.4 establishes standards for equipment used in loading and unloading containers including containment and emergency response facilities in the event of an accidental release;
- 2.5 provides procedures, training and performance assessment for persons who load or unload the containers;
- 2.6 deals effectively with the risks involved in the return, cleaning, reuse, servicing and disposal of containers;
- 2.7 clearly identifies the contents of containers;
- 2.8 audits and updates all program components on a regular basis.

3. Emergency Response

Each member company shall have an up-to-date and operational transportation emergency response plan which:

- 3.1 identifies and describes means for dealing with the hazards, whether to people or the environment, and ways of containing and cleaning up the release;
- 3.2 identifies emergency response resources whether in-house, through a mutual-aid plan such as TEAP (Transportation Emergency Assistance Plan) or from a contractor, to be deployed in the case of an accident involving the company's chemicals or chemical products;
- 3.3 provides technical advisors to handle all informational aspects of an accident involving the company's chemicals and chemical products, including media relations;
- 3.4 provides specialized equipment and materials required for responding to an accident;
- 3.5 provides training and regular performance assessment of company emergency response personnel;
- 3.6 provides assistance, through the association, in training first responders along the transportation corridors;
- 3.7 provides for cooperation with government or other agencies at the accident scene;
- 3.8 is sensitive to and provides for evaluation with appropriate authorities of the need for immediate and short term assistance for persons who are dislocated by a transportation accident;
- 3.9 is documented, field-tested, audited, and updated at least annually.



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4. Awareness Concerning Transportation

Each member company shall have a program, consistent with the CCPA's right-to-know policy, which enables it to respond to questions from those along transportation corridors.

This program shall include:

- 4.1 key elements of the policies, standards and procedures which reduce hazards, prevent accidents and provide prompt, effective response in the event of an accident;**
- 4.2 available information on the hazards and associated risks of chemicals and chemical products moving along the transportation corridors;**
- 4.3 identification and training of employees responsible for answering questions;**
- 4.4 provision for participation in, and coordination with, a program the association will operate in conjunction with carriers in raising awareness concerning transportation;**
- 4.5 periodic assessment and updating of the program.**



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TRANSPORTATION CODE OF PRACTICE

MILESTONES

1. A TRANSCAER coordinator is appointed.
2. The TRANSCAER coordinator attends a TRANSCAER seminar.
3. The TRANSCAER coordinator reviews code requirements with management.
4. A management assessment is completed of the company's capability to meet code requirements, identifying new or additional actions needed.
5. The results of the assessment are communicated to employees, carriers and other outside organizations who will be involved in planning and implementing action.
6. A management plan is completed of the internal and external action needed to meet the code.
7. The execution of the plan is completed and audited by management.
8. The continuing program is audited annually.



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DISTRIBUTION CODE OF PRACTICE

PURPOSE

The member companies of The Canadian Chemical Producers' Association (CCPA) are committed, as a condition of membership, to the policy of "Responsible Care". This code governs member company actions in meeting the guiding principles of that policy as they relate to all aspects of the distribution of chemicals, chemical products and services. This code applies to member owned and contracted premises.

"Distribution" is defined as all the activities in which member companies are involved in relation to the transfer of chemicals, chemical products and/or services from the source of these chemicals, chemical products and/or services through to the use of these chemicals, chemical products and services, in all geographic jurisdictions. This code is intended to cover activities related to the sale of chemicals, chemical products or services and those involved in moving chemicals, chemical products and services from suppliers for conversion or resale.

Transportation is always a part of distribution, but, because of its importance, is covered by a separate code, namely, the code of practice for the transportation of chemicals and chemical products.

Practice of this code is intended to result in:

- continuous reduction of incidents which can result in or threaten injury to people or damage to the environment during distribution;
- cooperation with the users, manufacturers, distributors, importers, operators of warehouses and terminals, carriers and government agencies, in reducing risks;
- effective emergency response to any distribution incidents which minimizes injury to people and damage to the environment;
- the assurance that the management systems necessary for responsible distribution activities are in place and functioning effectively;
- public and employee confidence in the distribution of chemicals, chemical products and services as a result of the effectiveness of the above.