Monsanto

FROM (NAME, LOCATION, PHONE) J. R. Condray - A3NA - 4-8883

DATE: September 29, 1992 **cc:**

SUBJECT: Product Stewardship

REFERENCE:

TO: M. A. Pierle

Enclosed is a brief background paper on the Product Stewardship Worldwide Guideline plus an outline for your presentation to the Manufacturing Council. I expect we will want to revisit the guideline next year and firm up some of the soft points.

J. R. Condray

JRC/fka

DSW 122794

STLCOPCB4032739

PRODUCT STEWARDSHIP
GUIDELINE #4

BACKGROUND

Monsanto has had a Product Stewardship Guideline since the late '70s. The guideline has had minor revisions over the years, but the latest version has a number of significant changes. These changes are driven by:

1. *The need to update and improve the style and format.*

2. *Conform with Responsible CARE.*

3. *Introduce the value added concept.*

The guideline revision is part of an overall program to address all existing Monsanto Guidelines plus any additional guidelines needed to satisfy the Monsanto pledge and Responsible CARE.

Jim Mieure of the Chemical Group and Ron Condray of Corporate ESH developed the first draft revision and it has gone through several iterations as a result of review and comment by:

1. *TSCA/Product Stewardship Committee*

2. *DEO/ESH liaison group*

3. *Environmental Policy Committee*

4. *Europe/Africa ESH*

Since several of the concepts in the guideline are new (product life cycle, supplier and customer involvement, value added) we envision close monitoring and modification as needed as we move up the learning curve.

Older versions of the Product Stewardship guideline focused on data development, assessment and risk communication (MSDS). The current guideline addresses all compartments of a products life which will result in more manufacturing involvement. Product stewardship links R&D, manufacturing and marketing and requires risk assessment and risk management at all phases of a product life, with the goal of risk reduction. Release reduction in manufacturing or by customers is one significant means of risk reduction, Other risk reduction approaches include raw material substitutions, reformulations, process changes and other manufacturing changes. The revised guideline will stimulate a systematic approach to an overall risk reduction program.

DSW 122795

September 29, 1992

DRAFT #5

PLEDGE GUIDELINE #4

PRODUCT STEWARDSHIP

Design, assess, manufacture, market and dispose of Monsanto's products in such a way that they meet societal needs and do not pose an undue risk to human health or to the environment during all stages of their life. Work with product stake holders (suppliers, employees, distributors, customers, consumers and disposers) to understand and reduce risks associated with a product's life.

KEY RESULTS

- The principles and key elements of Product Stewardship, as specified in Responsible CARE programs around the world, are practiced by Monsanto's global operations.

- Appropriate safety and handling information, including Safety Data Sheets (SDS's), are provided to potentially exposed employees including contract employees and product receivers.

- Work toward the goal of no undue risk through systematic risk reduction throughout a product's life.

- The application of product stewardship principles adds value to Monsanto product offerings that provides a competitive advantage.

DSW 122796

STLCOPCB4032741

PROGRAM

6.1 Health, Safety and Environmental Information and Risk Characterization

6.1.1 New chemical products, new isolated process intermediates, and significant new uses of existing chemical products will have adequate health, safety, environmental, and exposure information to support a preliminary product risk characterization (ER-200 or EC-201, and an R&D SDS), at the earliest practical stage of R&D and prior to offsite shipment. A product risk characterization, including an EC-202, a final SDS and a shipping classification, will be completed before new product commercialization.

6.1.2 The Monsanto process for generating and maintaining a SDS is comprehensive, and will fulfill the requirement for a product risk characterization. Whenever significant new information becomes available, it will be reviewed as part of the SDS program to satisfy regulatory and product risk characterization requirements. A SDS review / product risk characterization will be performed on a periodic basis, commensurate with product risk but no less than every five (5) years.

6.1.3 Product files or information systems will be maintained for all products or product families. The product files or information systems will contain the types of information necessary to fulfill regulatory requirements and to perform product risk characterizations and assessments, as appropriate including:

- Safety Data Sheets;

DSW 122797

STLCOPCB4032742

- References to relevant literature or internal reports dealing with health and safety (toxicology, epidemiology, industrial hygiene, flammability, reactivity, etc.), relevant information on composition, physical properties, raw materials, manufacturing processes, principal by-products, protective measures, exposure information, energy requirements, wastes and disposal practices;

- Use information, including handling, transport, packaging and storage, which will either be estimated (typically for new products) or obtained by visits or reviews of customer, distributor and consumer practices;

- A critical review of health and environmental effects and exposure information, such as EC-201, EC-202, Monsanto Work-Place Permissible Exposure Guideline (MWPEG) Reviews, Health Effect Reviews and Toxicology Reviews;

- Technology Risk Reviews.

- Health concerns from customers, employees or the public.

6.2 Risk Management System

6.2.1 A systematic approach to risk management will be implemented and maintained for new products. Existing products will be managed on a case-by-case basis.

6.2.2 Risk management options, where needed, will be an integral part of the follow-up to each phase of a product risk characterization,(as detailed in Section 6.1).

6.2.3 All products will be appropriately labeled for hazard or risk and will conform as a minimum to governmental requirements and appropriate consensus standards (ANSI, ISO, etc.).

DSW 122798

STLCOPCB4032743

6.2.4 Examples of specific risk management actions are detailed in Sections 6.3 through 6.7.

6.2.5 Document Risk Management actions in product files.

6.3 Product and Process Design and Improvement

6.3.1 R&D materials utilized in the laboratory will be handled under to Prudent Laboratory Practices or equivalent.

6.3.2 Pollution prevention principles (Guideline #1) will be included as a review criterion in technology risk reviews for new and existing chemicals.

6.3.3 Pollution prevention principles (Guideline #1) will be incorporated into the EC-201/202 assessments.

6.4 Employee Education and Product Use Feedback

6.4.1 Employee education for the purpose of safe handling and use of chemicals, is addressed in Pledge Guideline #2, Employees with significant customer interaction will be trained to recognize and feed back information about product use and misuse to Monsanto's environmental network.

6.4.2 Feedback systems to listen to stakeholders will be nurtured and expanded where appropriate. These systems include: commercial and technical service liaison with customers, product hotlines, poison control center relationships, etc.

DSW 122799

STLCOPCB4032744

6.5 Contract Manufacturers

See Pledge Guideline No. 7 - Outside Processors

In addition, provide guidance and information for contractor personnel on the safe handling and transportation of Monsanto products.

6.6 Suppliers

6.6.1 Up to date and high quality product information, including composition data and Safety Data Sheets will be obtained from suppliers for all raw materials.

6.6.2 Suppliers will be actively engaged as appropriate, commensurate with raw material risks.

6.7 Distributors, Customers and Other Direct Product Receivers

6.7.1 Assure SDS's and other appropriate safety literature are provided to all direct product receivers.

6.7.2 As appropriate, actively involve Monsanto product receivers in dialogue and outreach regarding appropriate risk characterization, risk management and risk reduction. Where applicable, conduct Monsanto assisted audits. If improper practices involving a Monsanto product are identified, work with the product receiver to improve the practices. In cases where adequate improvement is not evident take appropriate action, including termination of product sale, if necessary.

6.7.3 Actively seek product receiver involvement as input to continuous improvement of Monsanto products, and as a means of seeking product differentiation from competition, on the basis of health, safety and environmental stewardship.

6.8 RESPONSIBILITIES

6.8.1 Product Stewardship is the responsibility of the business units. Each operating company, free-standing division or world area will assign an individual(s) the responsibility for assuring that this Guideline program is met.

6.8.2 Guideline oversight is the responsibility of the Corporate Environment Safety and Health Staff.

6.8.3 Units of the corporate staff and business units are jointly responsible for developing information needed for product evaluations. This includes regular periodic reevaluation of new information relevant to the product.

6.9 MEASUREMENT

The following indicators will be used to measure progress against this Guideline:

6.9.1 The extent to which internal and external requirements are met for all new product introductions, (i.e., EC 201, 202 approvals, and governmental approvals).

6.9.2 The degree to which we have determined product hazards.

6.9.3 The degree to which we know how our products are used and the resultant exposures to people and the environment.

6.9.4 The degree to which adequate HS&E data is available, and provided to the ultimate product receiver.

6.9.5 The extent of progress in understanding and diminishing the risks and environmental impacts associated with a product throughout its life.

6.9.6 The extent to which Monsanto product are differentiated in the marketplace.

6.10 DEFINITIONS

6.10.1 Product Receiver:

An entity (not an individual) to whom we transfer product.

This definition is included to capture categories of product receivers (such as brokers or transporters) who may not fall into the traditional customer category.

6.10.2 Product:

Chemical substances and mixtures, materials and equipment, articles, licensed technology and services related to product use that are sold, distributed in commerce or otherwise provided.

6.11 REFERENCES

This Guideline supports and implements the requirements of industry performance standards as follows:

6.11.1 US Responsible CARE® (CMA) Code on Product Stewardship.

6.11.2 UK Responsible CARE Code on Product Stewardship.

6.11.3 Canadian Responsible CARE (CCPA)

6.11.4 ANSI standards on labeling and SDS.

6.11.5 ISO 9000 standards

6.11.6 Prudent Practices for Handling Hazardous Chemicals in Laboratories, National Research Council, National Academy Press, Washington, DC 1981

6.12 COORDINATOR

J. R. Condray, ESH, Corporate, WHS, A3NA, (314) 694-8883.

DSW 122803

STLCOPCB4032748

PRODUCT STEWARDSHIP
GUIDELINE #4

OBJECTIVES

1. CONTINUOUS IMPROVEMENT OF MONSANTO'S PROGRAM

2. HARMONIZE WITH RESPONSIBLE CARE

3. INTRODUCE THE VALUE ADDED CONCEPT

CONTINUOUS IMPROVEMENT

- EXPANDED GUIDELINE FORMAT
  1. KEY RESULTS
  2. MEASUREMENT
  3. DEFINITIONS
  4. REFERENCES
- RISK ASSESSMENT/MANAGEMENT OF ALL STAGES OF A PRODUCT'S LIFE
- RISK REDUCTION

  EXPOSURES/RELEASES

  HAZARD/EFFECT

DSW 122805

HARMONIZE WITH RESPONSIBLE CARE

- CMA, CIA (UK) AND CCPA (Canada) CODES OF PRACTICE

- STRETCH

  RISK MANAGEMENT -
  SUPPLIERS ← MANUFACTURER → CUSTOMERS

  CROSS CUTTING -
  OTHER RESPONSIBLE CARE CODES

- NEW CONCEPTS

  LIFE CYCLE

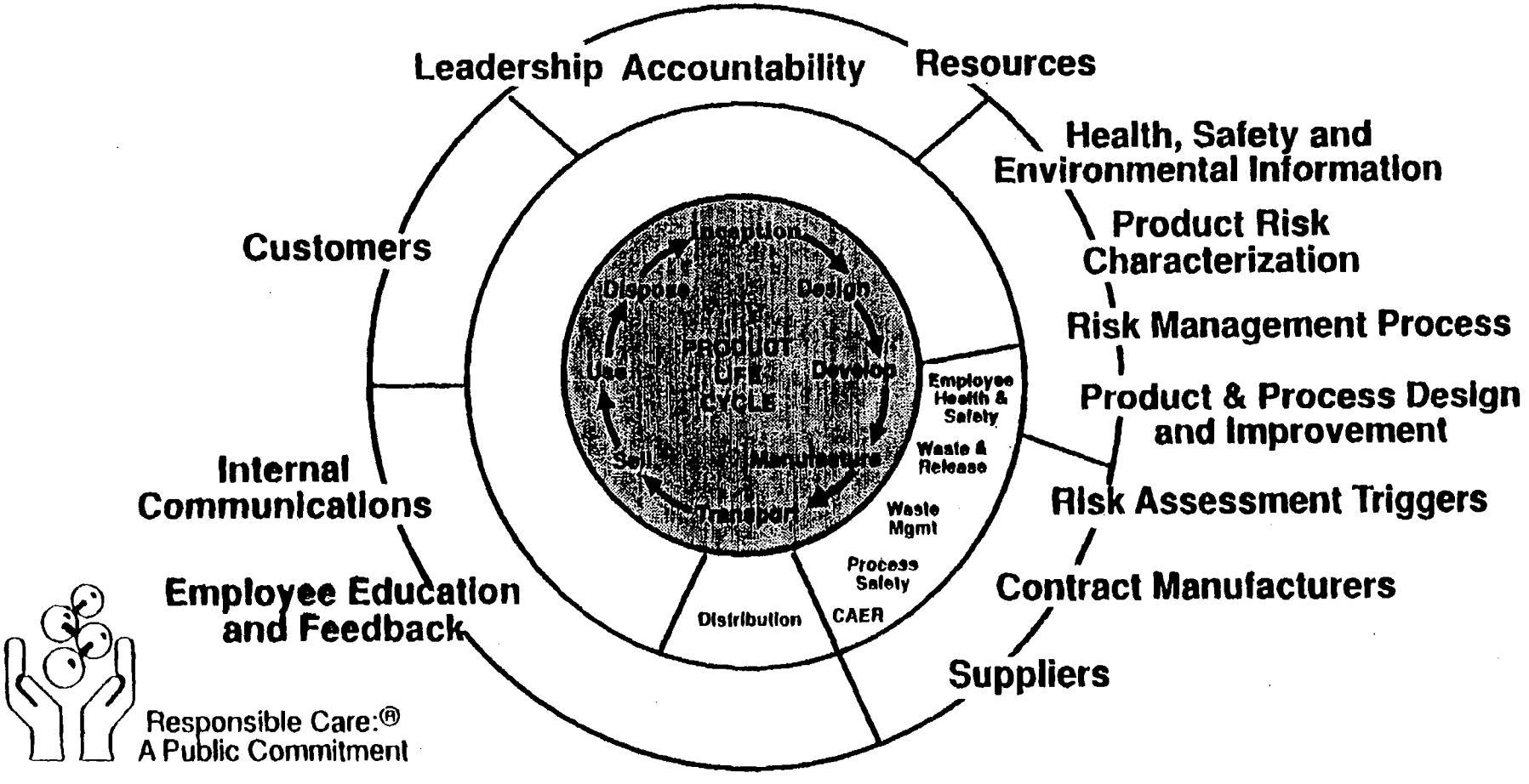
  GLOBAL IN SCOPE

DSW 122806

DSW 122807
STLCOPCB4032752

Product Stewardship

MANAGEMENT PRACTICES AND RELATIONSHIPS TO OTHER CODES



VALUE ADDED

- LIFE CYCLE
- CUSTOMER INVOLVEMENT
- NO UNDUE RISK

DSW 122808