GLOBAL POPS TREATY AND QUALITY CRITERIA FOR INTERNATIONAL POPS MANAGEMENT

Technology Works: Reducing Risk through State of the Art POPs Management

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Introduction:

The chemical industry has long been engaged in efforts to prevent, reduce and mitigate risks to human health and the environment posed by persistent organic pollutants (POPs). These efforts have included characterizing POPs sources within industry operations; funding health and environmental research; implementing voluntary risk management solutions; and engaging in policy development at all levels of government, including the UNECE POPs protocol and the UNEP POPs Convention. From this extensive experience, we have learned valuable lessons for crafting effective risk management solutions. The most important lesson: technology works. State of the art management technology has allowed for dramatic reductions in POPs emissions and for safe disposal of existing POPs stockpiles. Furthermore, developing technologies offer the best hope for addressing emerging challenges. Technology-based solutions require informed judgement, where costs, benefits and alternative risks are appropriately weighed.

The chemical industry strongly supports the objectives of the UNEP POPs Convention.

- The industry recognizes POPs as a high-priority for risk reduction efforts.
- The American Chemistry Council and the European Chemical Industry Council (CEFIC) have each developed guidance for member companies on managing POPs.
- The industry played a key role in negotiating and supporting the UNECE LRTAP POPs Protocol.
- We are actively working to support the UNEP POPs Convention.

Industry has demonstrated that technology can effectively manage POPs.

- The pulp and paper industry has virtually eliminated dioxins/furans from bleaching processes.
    - ° After dioxins/furans were identified in mill effluent, the industry compiled a comprehensive mill inventory to define the extent of the problem.
    - ° New technologies (mostly chlorine dioxide bleaching technology) have been developed and implemented .
    - ° New regulations codify these technology solutions (e.g., EPA's "cluster rule").
    - ° Dioxins and furans have been virtually eliminated from paper mills where this technology has been implemented.

- Improved technology is dramatically reducing municipal, medical, and hazardous waste combustor emissions.
    - Industry waste management experience led regulators to understand dioxin/furan emissions from municipal, medical, and hazardous waste combustors.
    - Testing quantified emissions and identified key control parameters.
    - Regulatory standards are coming into effect in U.S., Europe and Japan.
    - The U.S. is on track reduce to dioxin/furan emissions 95% from these sources.
- The chemical industry has a long history of employing science and technology in POPs control.
    - Landmark toxicology research, including Kociba dioxin study.
    - Development of analytical chemistry enabling today's phenomenally low detection limits.
    - Extensive process, waste stream and emissions testing.
    - Investment in engineering and process control technology that defines current BAT.
- Pesticide POPs
    - Technology has delivered new products and practices.
    - Vast majority of the market in developed countries has moved completely away from historic products – most remaining uses are for critical health protection or are specialized uses without a suitable replacement.
    - Much remains to be done to help developing countries reduce remaining uses and eliminate stockpiles.

Effective management requires informed judgement.

- Issues are complex.
- *All* stakeholders have a legitimate point of view
    - Frequently, the costs are significant to the overall health of an enterprise/industry.
    - Uneven competitive playing fields can be created.
    - Thousands of jobs and standards of living are usually in the balance.
- Costs, benefits and alternative risks must be weighed.
    - Replacements are seldom 100% successful – pest control in the tropics is a life and death process and different than temperate zones; costs are much more significant in poorer areas.
    - Specialized applications must be considered.
    - We must recognize law of diminishing returns (e.g., in the U.S., a 2% reduction in backyard trash burning would yield the same dioxin reductions as eliminating all controlled municipal and medical waste combustors).
- Poorly informed decisions can have dramatic, unintended consequences. Examples:
    - Based on U.S. EPA studies showing the potential for a slight increase in cancer risk from byproducts of chlorine disinfection, local water officials in

Lima, Peru stopped chlorinating the city's drinking water. The result was a cholera epidemic that made tens of thousands of people sick and claimed over 3,500 lives in 1991 alone.

- For the pulp and paper industry, "totally chlorine free" (TCF) bleaching technology was misrepresented by countries and companies who had no alternative. TCF is more costly than chlorine dioxide bleaching, without corresponding environmental benefits.
- More than one million children under the age of five die from malaria or related complications every year. While some have called for an immediate ban on all uses of DDT, the World Health Organization has recommended a "balanced and informed" approach to reducing the use of DDT, without sacrificing the ability of developing nations to control malaria and other diseases.

- There is good data on most historic sources and sound decisions have been made in regulatory policy.
- New sources are being identified (e.g., EPA estimates that as much as 50% of dioxin in U.S. is from reservoir sources).
  - New technology will be needed to deal with all the new challenges identified.
  - There are still significant knowledge gaps that need to be filled.

Recommendations for future POPs management:

- Build on lessons learned from the rich history of POPs management.
  - Challenging goals stimulate outstanding performance. Impossible ones lead to frustration and stagnation.
  - Practical, workable solutions will have a greater impact than ideological statements.
  - With informed public policy, technology has and will continue to address challenges while fueling a dynamic economic sector.
- Technology works best when public policy is based on a strong data base and continuing dialogue with stakeholders.
- Stay the course; technology, with sound public policy, can further prevent, reduce and mitigate risks posed by POPs.