

A New Path Forward: A collaborative Approach to product stewardship

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International Council of Chemical Associations (ICCA)...



- The worldwide voice of the chemical industry (53 chemical industry associations, e.g., ABIQUIM, ACC, CEFIC and its national industry associations, JCIA, etc.)

<http://www.icca-chem.org>

- Represents:
 - Chemical producers and users in 53 countries operating on 6 continents.
 - More than 75% of the total volume of chemicals produced and traded globally.
- Focused on 3 priorities:
 - Chemicals Policy and Health
 - Energy and Climate Change
 - Responsible Care®

ICCA GLOBAL PRODUCT STRATEGY



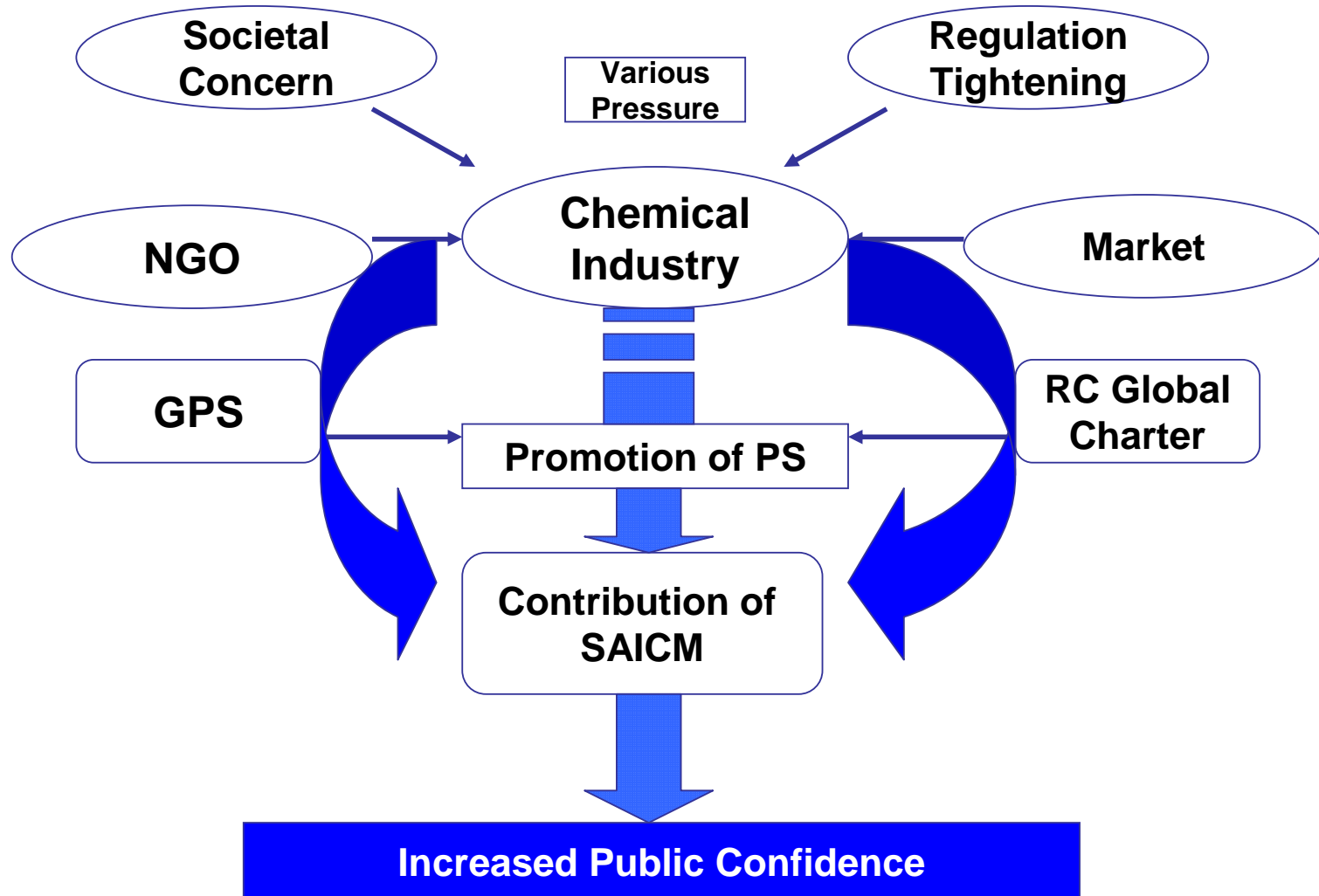
What is the ICCA Global Product Strategy (GPS)?

- A **bold, voluntary initiative** of the global chemical industry to improve industry product stewardship practices and performance, particularly in developing countries.
- Taken together with the **Global Responsible Care Charter, GPS** represents the chemical industry's contribution to help achieve the **Strategic Approach to International Chemicals Management**.

Vision Statement

“...by 2020, chemicals are produced and used in ways that minimize significant adverse impacts on human health and the environment.”

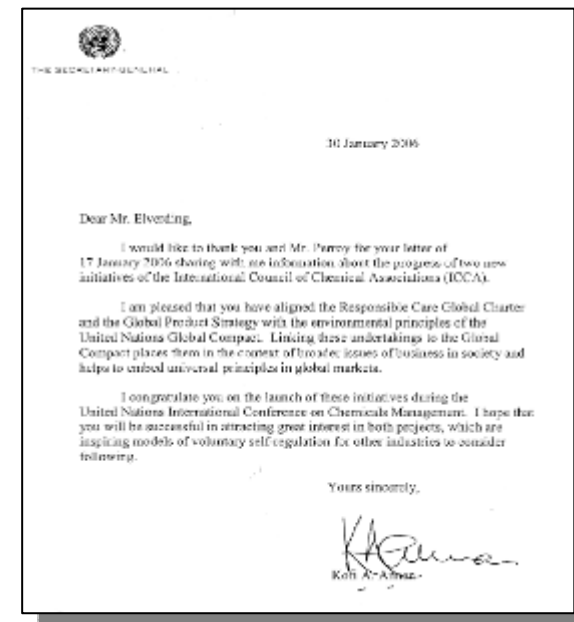
ICCA's Response to Societal Concerns



ICCA Challenge – Implement the Global Product Strategy (GPS)



- GPS is critical to the reputation of the chemical industry
- GPS was launched at the Dubai UNEP conference in Feb. 2006 to increase public confidence
- All major chemical companies accepted the obligation to put GPS into practice
- ICCA committed GPS as contribution to the UN SAICM process
- Positive feedback by UNEP
- External review process through ICCM-2 Conference May 11-15, 2009
- Challenged to accelerate industry progress!



ICCA GLOBAL PRODUCT STRATEGY



Key Components

- **Product Stewardship Guidelines and a Management System for implementation**
- **Base set of hazard and exposure information adequate to conduct risk assessment for all chemicals in commerce**
- **Risk assessment/risk management framework**
- **Improved transparency and flow of health and safety information to governments, industry and the public**
- **Capacity building for small and medium sized companies and governments in developing countries**
- **Partnerships between industry, IGOs and NGOs to achieve SAICM objectives**
- **Principles to guide industry advocacy on chemicals management regulations**

Global Product Strategy – Product Safety Summaries



- Improved access to hazard, exposure and risk information for better risk management decisions.
- Relatively easy for the public to comprehend.
- Flexibility to meet regional needs.
- Currently more than 1300 GPS Safety Summaries are already available on company websites

<http://reporting.responsiblecare-us.com/Search/PSSummarySearch.aspx>

- Does NOT replace Safety Data Sheet



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Example of a Dow Product Safety Assessment (TDI)



Product Safety Assessment: Toluene Diisocyanate

Product Safety Assessment

Toluene diisocyanate

Select a Topic:

[Names](#)

[Product Overview](#)

[Manufacture of Product](#)

[Product Description](#)

[Product Uses](#)

[Exposure Potential](#)

[Health Information](#)

[Environmental Information](#)

[Physical Hazard Information](#)

[Regulatory Information](#)

[Additional Information](#)

[References](#)

Names

- CAS No. 26471-62-5 Mixed isomers
- CAS No. 91-08-7 2,6-TDI
- CAS No. 584-84-9 2,4-TDI
- Toluene diisocyanate
- TDI
- 2,4-Toluene diisocyanate
- 2,6-Toluene diisocyanate
- 1,3-Diisocyanatomethyl-benzene
- 2,4-Diisocyanatomethyl-benzene
- VORANATE™ T-80 TDI

Product Overview

- Toluene diisocyanate (TDI) is a reactive chemical. TDI's isocyanate groups ($-N=C=O$) can be reacted with polymers that have alcohol ($-OH$) groups to make polyurethanes.¹
- TDI-based products are commonly used in automotive seating, furniture foam applications, mattress cushioning and specialty foam applications.² See [Product Uses](#).
- TDI is produced in closed systems with stringent process controls, which reduces the potential of workplace exposure. Consumers may be exposed to TDI via "do-it-yourself" applications in the United States (U.S.).³ See [Exposure Potential](#).

Description

TDI is a colorless to pale yellow liquid with a pungent odor. TDI can have different forms or isomers. TDI isomers have the same chemical formula $C_9H_8N_2O_2$, but the atoms are arranged differently. So, the term "TDI" represents the isomeric compounds along with mixtures of these isomers. The two commonly used isomers of toluene diisocyanate are 2,4-TDI and 2,6-TDI. Mixtures of 80% 2,4-TDI and 20% 2,6-TDI represent over 95% of the industrial usage,¹⁰ although TDI is commercially available in the following ratios:

- 100% 2,4-TDI
- 80% 2,4-TDI, 20% 2,6-TDI
- 65% 2,4-TDI, 35% 2,6-TDI

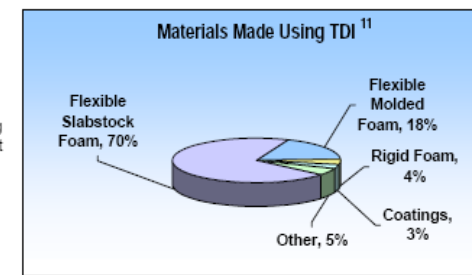
Dow currently sells VORANATE™ T-80, which is an 80/20 mixture of the 2,4 and 2,6 isomers, respectively.

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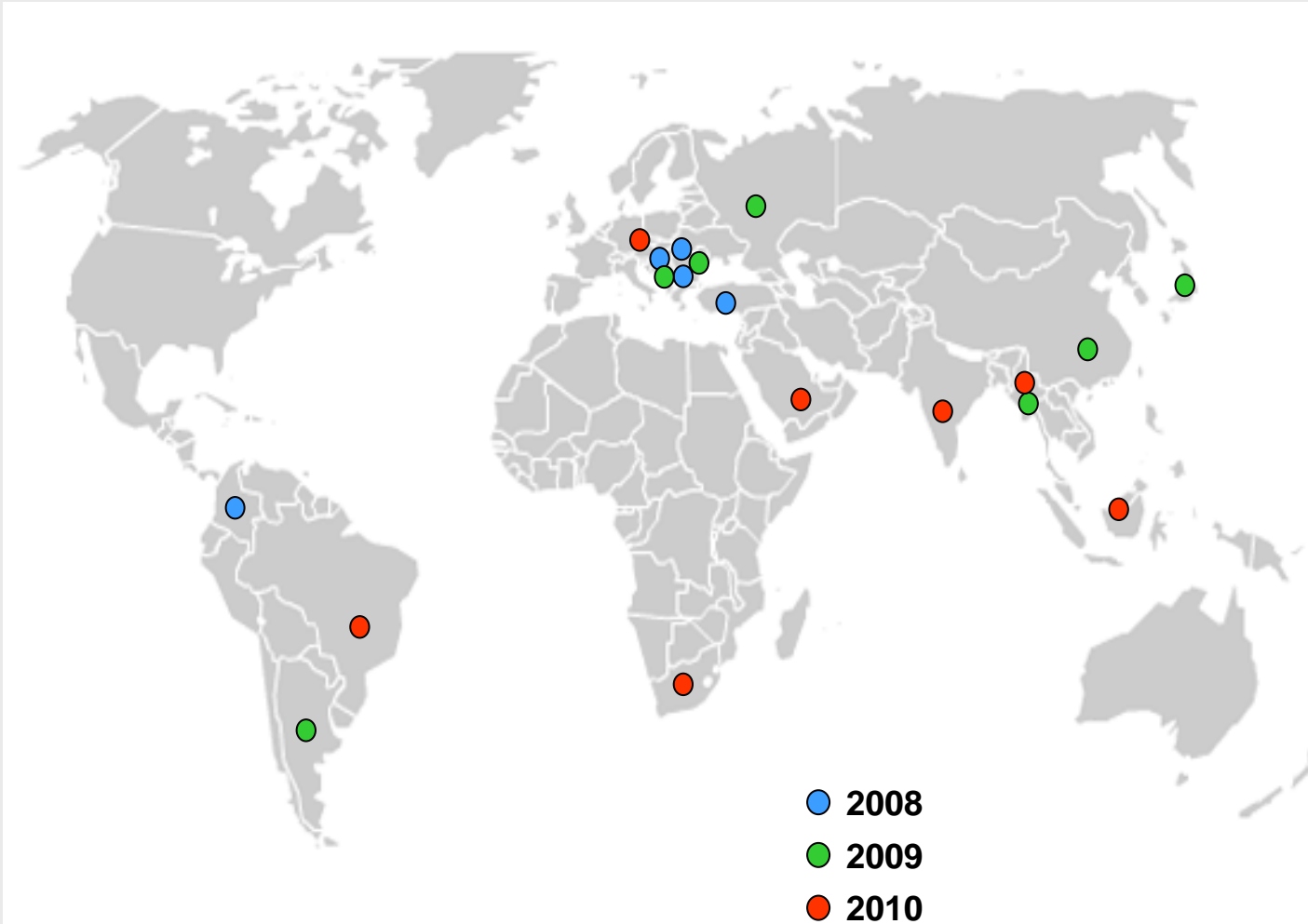
Product Uses^{11,12}

TDI is commonly used to manufacture:

- Flexible foams – used for the fabrication of bedding, furniture, automotive seating, flexible packaging and carpet underlay; this is the largest market application for TDI
- "Foamed-in-place" polyurethane plastics – ranging from soft and sponge-like to hard and porous for use in furniture, packaging, insulation and boat building
- Polyurethane coatings – used on leather, wire, tank linings and masonry
- Elastomers – used to produce adhesives, films and linings, and abrasive wheels and other mechanical items that require abrasion and solvent resistance
- Rigid, "pour-in-place" foams – for use in appliances, and, in smaller amounts, packaging
- Urethane sealants – used in construction applications



GPS Capacity Building Workshops



ICCA GPS / PS Workshops in Latin America



2008:

Colombia: October (Dow Speaker: Rita Carvalho)

Argentina: September (Dow Speaker: Erika Tada)

2009:

Argentina: September (Dow Speakers: Rita Carvalho & Maricel Levaggi)

Chile: October 2009 (Dow Speaker: Rita Carvalho)

2010:

Planned in Brazil: (Dow Speaker – TBD)

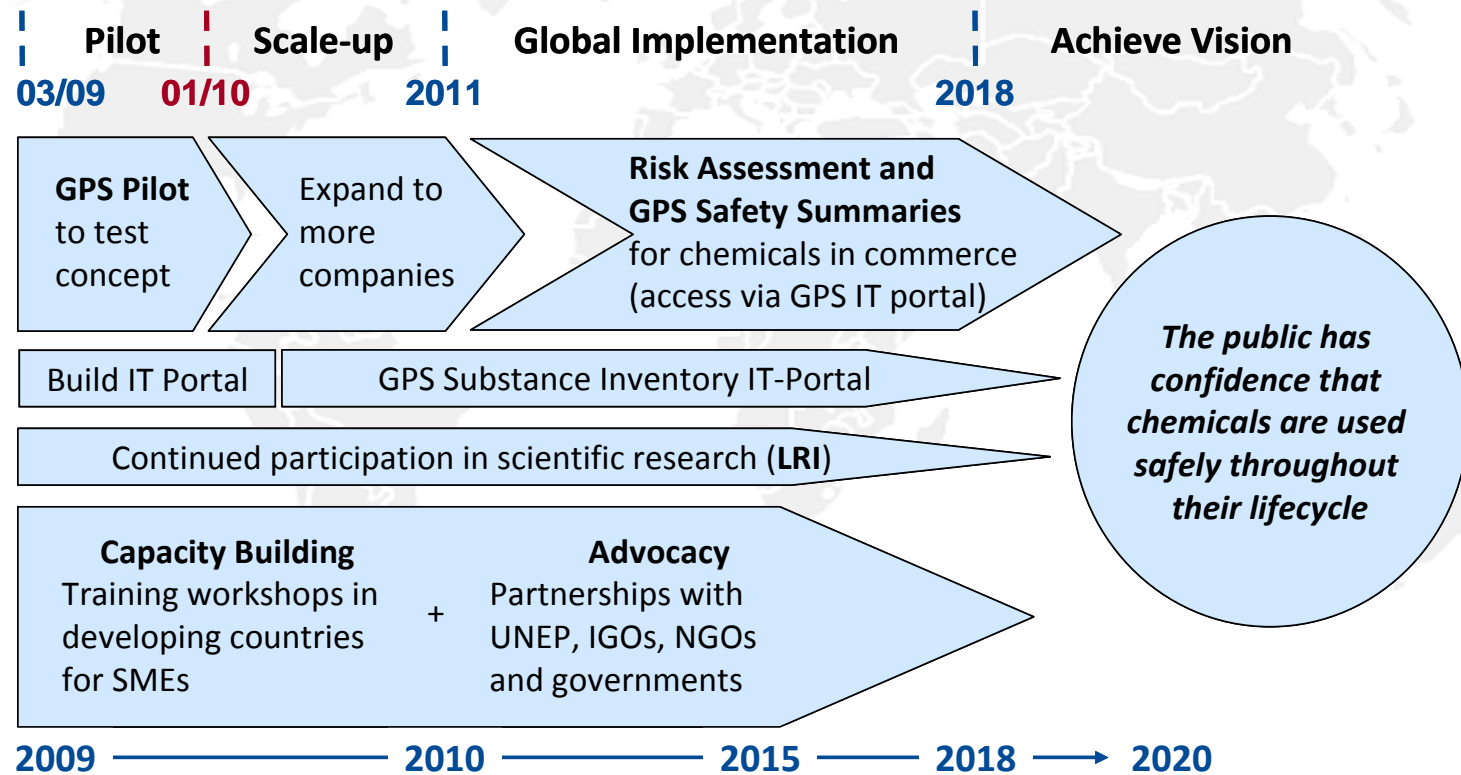
Capacity building workshops



Sample Agenda

- Introductions and Purpose
- Overview of Global Product Strategy and Implementation Plan
- ICCA Product Stewardship Guidelines
- Business Value of Product Stewardship
- Product Stewardship in Action
- Assessing and Managing Chemical Risks
 - Overview of Hazard, Exposure and Risk Assessment
 - Case Study I
 - Case Study II
- Summary and Wrap-up

GPS Implementation till 2020





Global Regulatory landscape

Weight of Global Regulatory Developments is becoming overwhelming.....



Principles for effective chemical management policy



- Must increase **public confidence**.
- Combine robust government **regulation and enforcement** with **voluntary industry initiatives**.
- Based on **risk and not hazard** alone.
- Chemicals should be **screened** to determine further information needs applying a **tiered, risk-based approach**.
- Should leverage **existing, available information**.
- Safety is a **shared responsibility** between government, industry, the value chain and consumers.
 - The chemical industry must be accountable for sharing scientific data and safety information.
- Should **promote data quality and transparency** and promote access to useful information by all interested parties.



Thank You.

References to "Dow" mean The Dow Chemical Company and its consolidated subsidiaries unless otherwise expressly noted

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