KNOWLEDGE MANAGEMENT AND INFORMATION SHARING FOR THE SOUND MANAGEMENT OF INDUSTRIAL CHEMICALS

Policy Brief, July 2019

The Strategic Approach to International Chemicals Management (SAICM) is a catalyst, connecting sectors and stakeholders, towards the goal of a chemical-safe, clean and healthy future by 2020. Strategic Approach stakeholders are currently reviewing the approach for the sound management of chemicals and waste beyond 2020, future objectives and milestones are to be informed by the 2030 Agenda for Sustainable Development. This policy brief provides insights that are intended to inform related stakeholder discussions.

saicm

THE GLOBAL GOALS
For Sustainable Development

BACKGROUND

« Knowledge and Information » is one of the five Strategic Objectives of SAICM.

SAICM's Overarching Policy Strategy recognizes that knowledge, information and public awareness are the foundations of sound decision-making, on the management of chemicals and products containing chemicals. However, the Policy Strategy also underlines that there is a lack of clear, timely and appropriate information easily accessible to local populations about the health and safety effects of chemicals.

It is for this reason, that knowledge and information sharing are critical components of the SAICM 2020 goal.

Since the inception of SAICM, there have been advances in the availability and quality of chemical safety information, but major information gaps remain in the accessibility of environmental health and safety (EHS) information for industrial chemicals. These include: the number of chemicals in commerce, the EHS information of chemicals in consumer products (including recycled products), the exposure scenarios; and risk assessment data on chemicals that are no longer on the market.

A collaborative analysis recently published by UNEP and the International Council of Chemical Associations (ICCA) aims to provide a comprehensive inventory of the publicly available databases on industrial chemicals in commerce. The study provides a thorough review and analysis of the existing databases on EHS information that are available to the public. In addition, the study discusses the scope, strengths, and limitations of each database. In this policy brief, we describe the study's most important findings.

NUMBER OF CHEMICALS IN COMMERCE GLOBALLY

40,000-60,000 Chemicals in Commerce

Using the most recent data available from the EU, US, Canada, Japan and China, the study makes an estimation of 40,000 to 60,000 industrial chemicals in commerce globally.

This study used the number of chemicals listed in USEPA TSCA Inventory, EU REACH registrations, Canada's DSL, and the chemical inventories for Japan and China (IECSC) to make the estimation of the total number of chemicals. Collectively, these chemical inventories include nearly 75% of all chemicals that are on sales globally, and greater than 90% of total, annual chemical-related research and development spending.

Furthermore, approximately 6,000 of these chemicals account for more than 99% of the total volume of industrial chemicals in commerce globally.

Definition of Chemicals in Commerce

There are different scopes and variable definitions of industrial chemicals in commerce.

This study used the definition of « chemicals in commerce » based on language taken from EU REACH and the US Toxic Substances Control Act (TSCA). The definition is as folllows: Any organic or inorganic substance of a particular molecular identity, including any combination of these substances occurring in whole or in part as a result of a chemical reaction or occurring in nature, and any element or uncombined radical that has been manufactured or processed above 1 metric tonne per annum, anywhere in the world, during the past ten years.

There are uncertainties on the current number of chemicals in commerce globally. Several factors contribute to the complications of estimating the number of chemicals in commerce, including:

A lack of chemical inventories for many countries in the world.

Uncertainty as to whether listed chemicals are actually on the market.

Varying volume thresholds for reporting.

Uncertain and variable definitions of chemicals in commerce (i.e., different scopes).

A lack of reporting or misreporting to government authorities.

THE EHS INFORMATION ON CHEMICALS IN COMMERCE

The EHS information on a majority of the highest production volume chemicals is publicly available. However, the level of hazard and risk assessment varies among chemicals. The study identifies more than 100 publicly available EHS information sources and provides detailed profiles of 41 of the largest and most comprehensive of them:

Information Portals

The seven information portals reviewed (the OECD, eChemPortal, IPCS INCHEM, California DTSC's CIT and TIC, the ICCA GPS Chemical Portal, AJCSD, and TOXNET) provide users with the capability of searching many disparate individual EHS information sources (collectively >100) simultaneously, thereby increasing global reach, scale and efficiency. An excellent example is OECD's eChemPortal which directs the users to sources of the globally available EHS information by searching the name of a chemical. Such portals represent a helpful starting point for those who need a quick overview of what information might be available on a particular chemical substance.

EHS Regulatory Decisions

Ten databases (ECHA's Substances Restricted Under REACH List and Candidate SVHC List, Canada's Categorization Results, California DTSC Candidate List, USEPA's SRS, South Korea's NCIS, Australia's AICS, New Zealand's HSNO Register and NZIoC, and China's IECSC) provide EHS-type regulatory decisions on specific chemicals. They do not provide users with EHS information per se. Of those ten, Canada's Categorization Results database may be the most relevant for many users because it presents regulatory decisions on all 23,000 plus chemical substances identified as being in commerce in Canada.

EPA's ACToR database

EPA's ACToR database is unique and distinct among the twenty-four primary EHS information sources because it is focused on helping users predict the toxicity of a chemical substance that currently lacks mammalian and ecotoxicity data. Databases such as ACToR, and the suite of new tools and methods available from them, will likely gain increasing use in the next few years and offer great promise for remaining information gaps.

ECHA'S CHEM

ECHA'S CHEM is the largest and most comprehensive of the EHS databases. It contains hazard, use, exposure, and risk management information for the 22,000+ chemicals produced by or imported into the EU. This is the most comprehensive database and provides information on both mammalian and environmental hazard, use, exposure, risk assessment and risk management information. Substantial hazard, use/exposure and risk information is available for chemicals at or above 1000 metric tonnes. Somewhat less information is available for lower volume substances, and substances below 10 metric tonnes have reduced information requirements. Even so, ECHA requires and makes publicly available an assessment of the risks of exposure for a full range of uses and exposure scenarios.

Chemicals in Consumer Products

Some of the databases reviewed (e.g., EWG's Skin-DeepTM, ChemSec's SIN list, GoodGuide, USEPA's Safer Choice Program, and those maintained by California's DTSC) have been developed for the express purpose of promoting safer alternatives to existing chemicals considered as possibly too hazardous or risky for consumer exposures. Furthermore, at least four of them (e.g., EWG's Skin-Deep, GoodGuide, National Library of Medicine's Household Products database (accessible from TOXNET) and California DTSC) place their focus on increasing transparency of the identity and hazard characteristics of chemicals used in specific consumer products.

CONCLUSIONS

A majority of sources include EHS information on a broad group of chemicals that are found in the environment, regardless of whether or not they remain in commerce.

However, major gaps exist in our EHS knowledge of certain chemicals, including chemical use-and-exposure scenarios, in particular:

- Lower production volume chemicals.
- The chemicals with Confidential Business Information claims.
- Chemicals in products and recycled products.
- Legacy chemicals.

More work is needed to address:

- The number of hazardous chemicals on the market which would need to be labelled according to the GHS.
- The number of chemicals with complete risk assessments that have been prepared at the international or national levels.
- The number of chemicals that are on priority lists for potential phase out or severe restriction.

MOVING FORWARD

The study is helpful in several ways:

- Identifying, categorizing and evaluating the EHS information on a wide range of industrial chemicals in commerce for use in Globally Harmonized System (GHS) implementation.
- Facilitating the development of strategies to gather local use-and-exposure information, which helps to conduct risk assessments and prioritize chemicals for further risk management.
- Providing easy access to the most comprehensive EHS information that is available on chemicals of interest, which allows for the identification and prioritization of missing data.
- Assisting with discussions on specific chemicals and chemical classes identified as concerns to SAICM (e.g., brominated flame retardants, perfluorinated chemicals, and others).

In order to fully implement SAICM's Strategic Objective on knowledge and information of chemicals, SAICM will continue its efforts together with all relevant stakeholders. This will ensure straightforward access to EHS information on all chemicals in commerce and address the existing knowledge gaps.

In moving forward, creating a global data repository of publicly available information on chemicals would significantly contribute to capacity-building efforts and facilitate the development of legislations on chemical safety where it is most needed.

FURTHER READING

Read the full study at: http://www.saicm.org/Portals/12/Documents/EPI/Knowledge_Information_Sharing_Study_UNEP_ICCA.pdf

https://www.icca-chem.org/chemical-industry-calls-for-global-data-sharing-on-chemicals-to-improve-chemical-safety-worldwide/

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