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»HERA«: The Human and Environmental Risk Assessment Industry Initiative for chemicals used in Household Detergent and Cleaning Products

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Abstract

»HERA«, the Human and Environmental Risk Assessment initiative is a joint partnership between AISE, the European Detergent, Cleaning and Maintenance Product Association and CEFIC, the European Chemical Industry Council whose member companies supply detergent chemicals to the AISE companies. The objective of HERA is to demonstrate the feasibility of performing »targeted risk assessment« and in doing so to provide relevant safety information on household detergent and cleaning products and their ingredients to all interested parties. HERA will progress in two phases: Phase I will focus on the development of the targeted risk assessment methodology to be illustrated with some examples. In Phase II, the methodology will be applied to a wider range of ingredients. While the exercise is currently limited to chemicals used in detergent and cleaning products sold to the general public in Europe, we think it can serve as a pilot for reapplication in other chemical sectors or other geographies. This targeted risk assessment approach should be applied as the basis for risk management decisions.

Background

The chemical industry is a key industry whose products and services are essential to everyday life. They can be found in a wide range of applications from food, pharmaceuticals, clothing, to housing, automobiles and leisure activities.

In Europe alone the chemical industry has annual sales of Euro 385 billion and employs over 1.6 million people directly while supporting millions more throughout the economy.

In the 1980's, there was strong public concern about the possible impact of the chemical industry on the environment, especially from its manufacturing processes. The industry recognised that it had to improve its performance and introduced a voluntary initiative called Responsible Care. This became established in Europe from 1990 onwards and has helped to drive continuous improvement in all aspects of its health, safety and environmental performance. More recently the public have become concerned about the safety of chemical products both to human health and the environment. Responsible Care has also kept pace. Today, it embraces product stewardship – taking care of products throughout their life cycle.

Reducing the environmental impact of the manufacture, use and eventual disposal products and minimising adverse effects to human health are important elements of sustainable development.

In June 1992 as part of the United Nations conference on environment and development, the Rio summit with its chapter 19 of agenda 21 called for acceleration of chemical evaluation and exchange of information, as well as international effective risk management procedures and control regimes. Since the last 30 years, the EU has produced an extensive set of legislation on chemical safety for both environment and human health in the context of the internal market. The legislation has achieved its protective and single market goals in several areas but not in all. Various governments or inter-government bodies are looking into setting up their programs, e.g. OSPAR (the Oslo Paris Convention for Marine Environment). Producers, users and controllers of new and existing chemicals have assessed risk with varying degrees of knowledge and care. There

have been some voluntary industry programs of assessment at the national level like Germany and there are numerous research programs to try and improve current risk assessment practice as well as study new emerging issues. International activities like the OECD Global Harmonisation of Classification and the ILO Global Harmonisation of Labelling exercises are bringing the international dimension to chemical management policy discussions. Against this complex background there is an evident need for a framework that can demonstrably deal with the concerns. The recent informal and formal Environment Councils of Ministers in the EU asked the Commission to reform the EU Chemical Policy.

The chemical industry is responding to the global challenge. In 1998 the US industry agreed with the US EPA (Environmental Protection Agency) to provide hazard data for nearly 3000 existing High Production Volume (HPV) chemicals by 2004. In the same year the ICCA (International Council of Chemical Industry Associations) launched an initiative to co-ordinate and accelerate the process of data collection and initial hazard assessment for 1,000 HPV (high production volume) chemicals. The industry is committed to ensuring that all data gaps in the OECD SIDS (screening information data sets) for these chemicals will be filled in by the end of year 2004.

Finally, and in addition, CEFIC has committed to undertake initial risk assessments for prioritised substances under the banner of »Confidence in Chemicals« – a chemicals management initiative of Responsible Care.

The Industry Views

To provide reassurance about the safety of the product (i.e. a preparation)

and its ingredients (i.e. substances), use and exposure information must be coupled with hazard data in a transparent manner. Generation and wide publication of hazard data on chemicals, while certainly proactive in terms of information, may trigger more public fears about their use in consumer products and more suggestion of hazard based policies.

Risk assessment has been practiced for CEFIC and AISE member Companies for many years and has preceded various risk management actions. Industry thus considers the current complex legislative and political situation as an encouragement to share data and methods between users, suppliers and with interested parties more broadly. Also, we would like to get stakeholder input on the approach and eventually publish relevant safety information.

quire that all possible production systems and uses of a chemical be evaluated vis a vis all hazard endpoints. This is a long and complex process. There is increasing recognition that a more fragmented but more efficient way to address risk assessment of a chemical would be to focus on the most relevant uses, on areas of potential concern due to a particular exposure and/or a particular (eco)toxicological property and prepare for those a »targeted risk assessment«. HERA will offer examples of targeted risk assessment for chemicals primarily used in detergent and cleaning products sold to the general public. It will thus focus on consumer use exposure scenarios. For the environmental exposure the intention is to consider the total tonnage going down the drain after consumer use.

It is hoped that HERA can serve as a pilot targeted assessment exercise for wider application in other sectors and/or geographical areas.



MEMBERS OF THE STEERING AND TECHNICAL COMMITTEES (TODATE 04/00)

Akzo-Nobel	Petresa
BASF	Reckitt-Benckiser
Borax	Rhodia
Ciba	Shell
Clariant	Solvay
Cognis	Unilever
Colgate Palmolive	Wacker
Condea	
Condea Augusta	AISE
Degussa-Höls	CEFIC/
Diversey-Lever	CEFIC Sector Groups
Dow Corning	CESIO
FMC Foret	NVZ
Henkel	Verband Tegewa
McBride	SDA
Procter & Gamble	

Fig. 3

standable and considered to be feasible by all interested parties. Stakeholders will be informed and their input sought at various stages of this process. Time and resources permitting this targeted risk assessment tool will then be applied to a larger number of model substances.

In Phase II of the program after October 2000 the system will be broadened to encompass a wider range of detergent ingredients and products categories (Fig. 2). Communication means (e.g. website) are being established to allow for active discussion. Safety assessments which can of course be revisited if new data become available, will

HERA: The Concept

The Human and Environmental Risk Assessment initiative is a joint partnership between AISE and CEFIC (Fig. 1).



HUMAN AND ENVIRONMENTAL RISK ASSESSMENT ON INGREDIENTS FOR HOUSEHOLD CLEANING PRODUCTS

A European new joint Industry initiative between:

- A.I.S.E (European Detergent, Cleaning and Maintenance Products Association) and
- CEFIC (European Chemical Industry Council), suppliers of the raw materials

Fig. 1

HERA's intention is to provide relevant safety information to all interested parties in a fast and effective manner. It is intended to contribute to improving the current risk based approach of the EU chemical legislation by demonstrating that targeted risk assessment is feasible, fast and effective. Current EU legal procedures for risk assessment of substances as prioritised re-

HERA in Practice

From October '99 to October 2000, Phase I of HERA will focus on the development of the methodology for targeted risk assessment and its validation with a set of 3 model substances or groups of substances (an optical brightener alkyl sulphate surfactants and zeolites). The objective of this first phase is to define a rapid but still scientifically founded system under-

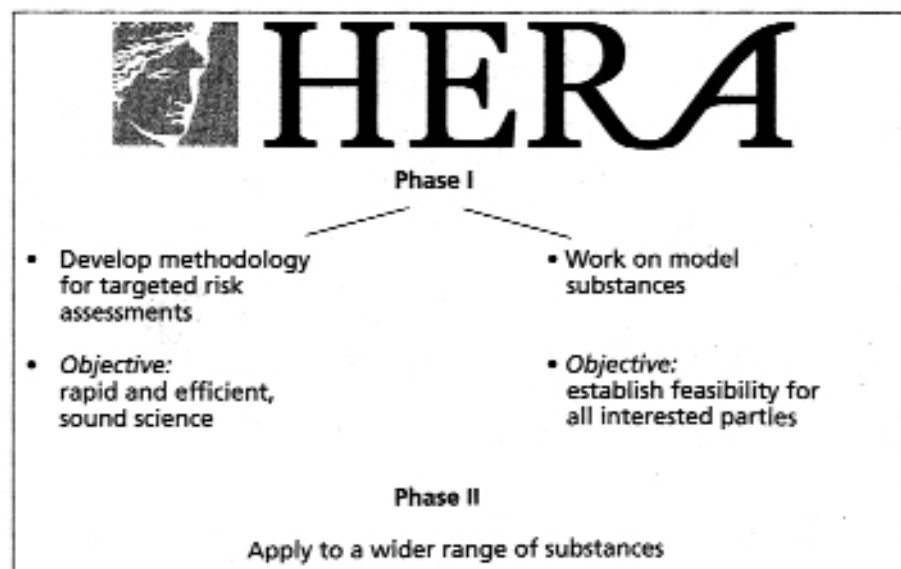


Fig. 2

eventually be published and will serve as basis for a renewed discussion on risk management tools and decisions where appropriate. In the process HERA participants (Fig. 3) intend to take account of all relevant aspects of other international activities in the chemical area, e.g. the ICCA and US HPV initiatives and the Alliance for Chemical Awareness, a US Industry initiative intended to facilitate communication with the public about the uses, risks, benefits and uncertainties about major chemicals.

Conclusion

The HERA initiative is a multi-faceted partnership that brought suppliers and formulators of chemicals together around a table to craft a voluntary program that should rapidly achieve important benefits. Further stakeholder input is being sought and there are many practical questions surrounding the program that still require discussion and resolution. But we believe that this initiative is an important and concrete step building on the EU risk based chemical policy. We are confident that, with the expertise from HERA experts, we shall be able to provide relevant safety information on large tonnage home products and the chemicals they contain to authorities and the public. Furthermore we are confident that HERA has the potential to serve as a pilot for application in other sectors and other geographical areas.

Progress in chemical management is possible. Industry voluntary initiatives, like HERA, are meaningful contributors.

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