RESEARCH ARTICLE

# Enhancing the regulatory framework for upstream chemicals management in Malaysia: Some proposals from an academic perspective

In 2009, the Department of Environment (DOE) implemented the Environmentally Hazardous Substances (EHS) Notification and Registration Scheme aimed at strengthening upstream chemicals management by first collecting data on chemicals that are either imported to or manufactured in Malaysia. However, we noticed that this voluntary scheme was developed merely to collect data on chemicals and there is no clear roadmap on how the scheme can promote the regulatory framework for upstream chemicals management. As responsible academics concerned about chemicals management, we took the initiative to analyse the EHS Notification and Registration Scheme, and identified the critical features in the regulatory framework that need to be enhanced. In this paper, we elaborate on the EHS definition, and propose the term Environmentally Hazardous Chemicals (EHC) to replace EHS in the context of chemicals management. The intrinsic properties of the EHC that are in line with the GHS (Globally Harmonized System of Classification and Labelling of Chemicals) have been identified in this paper. We also propose a systematic approach to regulating chemicals which will also be capable of meeting the demands of chemical related conventions such as the Basel, Rotterdam, Stockholm and Minamata Conventions.

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## INTRODUCTION

The United Nations Conference on Environment and Development (or the Rio Summit) held in 1992 created a global platform for world leaders, representatives from governments, private sectors, non-governmental organizations, academics, professional bodies and organizations to discuss issues and concerns related to sustainable development.[1] The conference report known as Agenda 21 is an important document highlighting

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areas essential for sustainable development, one of which is chemicals management.

Chapter 19 of Agenda 21 is dedicated to discussing the environmentally sound management of toxic chemicals, including the prevention of international illegal traffic in toxic and dangerous products. Six programme areas are proposed in this chapter, where one of the programme areas is to strengthen national capabilities and capacities for management of chemicals.[1] Ten years after the Rio Summit, in 2002, the World Summit on Sustainable Development (WSSD) was held with the objectives of reviewing the goals and commitment of Agenda 21 and developing a plan of implementation to promote sustainable development. At the end of the summit, the Johannesburg Plan of Implementation was established, outlining the way forward to promote sustainable development. As far as chemicals management is concerned, the Johannesburg Plan of Implementation has set a goal that will facilitate establishment of sound chemicals management worldwide[2]:

> *"...by 2020, that chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment, using transparent science-based risk assessment procedures and science-based risk management procedures, taking into account the precautionary approach, as set out in principle 15 of the Rio Declaration on Environment and Development, and supporting developing countries in strengthening their capacity for the sound management of chemicals and hazardous wastes by providing technical and financial assistance."*

The WSSD goal brought to the fore the need to regulate and manage chemicals at the upstream level and in certain circumstances, the goal served as a driving force to accelerate the process to strengthen the national and/or regional chemicals management framework. One of the examples is the European Union (EU) REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) Regulation that was gazetted in 2006. Prior to the EU REACH Regulation, chemicals control in the EU was governed by various directives and regulations.[3] The EU Commission's White Paper outlining future chemicals policy was prepared in 2001, declaring that the EU chemical policy must ensure a high level of protection of human health and the environment, while ensuring the efficient functioning of the internal market and the competitiveness of the chemical industry.[4] The availability of chemical data was such that the EU had limited knowledge about the High Production Volume Chemicals (HPVCs).[5] When the EU REACH Regulation was gazetted on 18 December 2006, it introduced a single regulation with one consistent approach to controlling chemical risks to replace the ineffective and inefficient system of about 40 existing Community Directives and Regulations on chemicals with different rules for new and existing substances.[3] To adequately control the risks arising from the manufacture, import, placing on the market and use of substances, REACH reverses the burden of proof, shifting it from the authorities to industry when it comes to gathering information on chemical substances, using this information to assess the safety of chemicals and to select appropriate Risk Management Measures (RMMs).[6] The EU REACH Regulation can be seen as one of the EU efforts towards achieving the WSSD goal. Countries such as Korea and China, influenced by the EU REACH Regulation, have established similar systems known as Korea-REACH and China-REACH, respectively.[7]

As far as chemicals management in Malaysia is concerned, at present, the government of Malaysia has no plan to establish Malaysia-REACH. However, in its commitment to promoting safe use of chemicals and enhancing protection of human health and the environment, as well as to achieving the WSSD goal, Malaysia has carried out a few initiatives to enhance chemicals management, one of which is known as the Environmentally Hazardous Substances (EHS) Notification and Registration Scheme. It must be noted however, that this voluntary scheme was developed merely to collect data on chemicals and there is no clear roadmap on how the scheme can promote the regulatory framework for upstream chemicals management. We were thus prompted as responsible and concerned academic researchers of chemicals management to take the initiative to carefully analyse the EHS Notification and Registration Scheme, and we have identified the critical features in the regulatory framework for upstream chemicals management that need to be enhanced.

This paper will first briefly explain the scheme, after which the most salient features of the regulatory framework for upstream chemicals management are identified for discussion.

## THE ENVIRONMENTALLY HAZARDOUS SUBSTANCES (EHS) NOTIFICATION AND REGISTRATION SCHEME

In 2006, the Malaysian Department of Environment (DOE) collaborated with the Danish International Development Agency (DANIDA), within the ambit of the Malaysian-Danish Environmental Cooperation Programme 2003–2006, to conduct a study on Environmentally Hazardous Substances (EHS) in Malaysia. Three main outputs were derived from the study, namely i) a strategy and action plan for chemicals management in Malaysia; ii) training modules for chemicals management; and iii) EHS Notification and Registration Scheme. The strategy and action plan for chemicals management in Malaysia was published in 2009,[8] and it is currently being revised and updated by the Malaysian Ministry of Natural Resources and Environment (NRE). The new version, titled 'Strategy and action plan for chemicals management 2015–2020' will be officially released by NRE soon. The second output, the training modules for chemicals management, is now part of the annual training programme for DOE officers, with the Environment Institute of Malaysia (EiMAS) appointed as training providers. The third output, the EHS Notification and Registration Scheme, is the tool to obtain and gather EHS data and information from industries.

According to the DOE, very limited information is available on the nature and amounts of EHS present in