

# GHS Stocktaking Workshop for Southeast, East, and Central Asia



Beijing, P.R. China  
15-17 September 2010

## Final Report



unitar

United Nations Institute for Training and Research



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Swiss Confederation

Federal Office for the Environment FOEN



Federal Ministry for the  
Environment, Nature Conservation  
and Nuclear Safety



World Health  
Organization

The GHS Stocktaking Workshop for Southeast, East and Central Asia was a contribution to the *WSSD Global Partnership to Implement the GHS* and the 8<sup>th</sup> in a series of regional and sub-regional GHS workshops which are coordinated and supported through the *UNITAR/ILO Global GHS Capacity Building Programme* with extra-budgetary resources.

Special thanks are extended to the Governments of Switzerland and Germany, the European Union, AICM, and Sinochem for their financial contributions to the workshop and also to the Ministry of Industry and Information Technology (MIIT) of the Government of China for their in-kind contribution.

**For inquiries, please kindly contact:**

Chemicals and Waste Management Programme  
United Nations Institute for Training and Research  
Palais des Nations  
CH-1211 Geneva 10  
Switzerland  
Website: [www.unitar.org/cwm](http://www.unitar.org/cwm)

## Table of Contents

Workshop Summary .....	1
Opening Statements .....	5
Session 1: Introductory Presentations.....	9
Session 2: Status of GHS Implementation in Southeast, East and Central Asia .....	11
Session 3: Linkages between the GHS and International Chemicals Conventions.....	15
Session 4: Needs and Role of the Health Sector in GHS Implementation .....	17
Session 5: The Role of Industry, and Public Interest and Labour Organizations in GHS Implementation .....	19
Session 6: Challenges and Opportunities of GHS Implementation .....	23
Session 7: Results of Working Group Discussions and Workshop Conclusions.....	25
Annex 1: Workshop Agenda .....	35
Annex 2: List of Participants .....	39



## Workshop Summary

*The workshop involved 120 participants from 20 regional countries.*

The “GHS Stocktaking Workshop for Southeast, East, and Central Asia” was held 15-17 September 2010 in Beijing, PR China. It was organized through the collaboration of the Ministry of Industry and Information Technology (MIIT) of China, UNITAR, ILO and WHO, with financial support from the Government of Switzerland, the Government of Germany, and the European Union, as well as contributions from AICM and Sinochem. The event involved about 120 participants from 20 countries, representing government delegates from countries of Southeast, East and Central Asia, relevant industry and public interest groups (including labour organizations and NGOs), IGOs, research bodies, and bilateral and multilateral development cooperation agencies.<sup>1</sup>

The main goal of the workshop was to bring together key representatives from governments, business and industry, and public interest and labour organizations to discuss GHS implementation and capacity needs. Specific objectives of the workshop included, *inter alia*:

- to take stock of the status of GHS implementation in Southeast, East and Central Asia;
- to share experience and approaches to GHS implementation;
- to explore areas for collaboration and training;
- to ensure that health services are informed about GHS;
- to examine existing institutions and initiatives relevant for GHS implementation; and
- to develop joint and shared approaches to capacity building at the national and regional levels.

*The workshop provided latest information regarding the GHS and on the current state of implementation in the region.*

The first part of the workshop provided the latest information regarding the GHS, as well as background on the current state of implementation in the region and the role of stakeholders. The second part was focused on the challenges of GHS implementation and reviewed the linkages between the GHS and international chemicals conventions. The third part of the workshop (undertaken mainly in working groups) addressed areas of collaboration – both nationally and regionally - and reviewed the current challenges to GHS implementation, the steps that should be taken to address the challenges, and the future issues that will be faced.<sup>2</sup>

---

<sup>1</sup> The list of participants may be found in Annex 2.

<sup>2</sup> The workshop agenda may be found in Annex 1.

During the three days, participants considered GHS implementation issues related to technical aspects, legal considerations, implementation process issues, and regional communication and information sharing needs. Recommendations and outcomes stemming from the discussions included, *inter alia*, the need to communicate the results of GHS classifications (and consider the need for a harmonized regional or international list of classified chemicals), share and coordinate implementation approaches (e.g. related to transition periods and implementation time-frames), strengthen regional and inter-regional information exchange and collaboration, and increase training and capacity-building activities (targeting SMEs in particular) nationally and regionally.

All materials related to the workshop may be accessed at: <http://www.unitar.org/cwm/ghs/events/asia-stocktaking-workshop>.



## Strengthening National and Regional Capacities to Implement the GHS in ASEAN - Phase II

2010-2012

### 1. Project Overview



In the context of the UNITAR/ILO Global GHS Capacity Building Programme, and funded by the European Union, a 3-year project to strengthen national and regional capacities to implement the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) in countries of the Association of Southeast Asian Nations (ASEAN) is taking place from 2010-2012.

The project builds on the successful first phase conducted from 2005-2007 (which trained more than 1,500 government, industry, and non-governmental beneficiaries).

The project aims to strengthen capacities to implement the GHS in four countries (Indonesia, Malaysia, Philippines, and Thailand) of the Association of Southeast Asian Nations (ASEAN). Support activities will also take place in the People's Republic of China. Regional activities to strengthen capacities for GHS implementation will involve all 10 ASEAN countries, as well as China and selected countries from Central and East Asia.

**Content:**

- Project Overview
- The GHS
- ASEAN
- International Support for GHS Capacity Building
- Project Goals and Objectives
- Key project activities
- Results and Beneficiaries

### 2. The GHS

The UN Globally Harmonised System of Classification and Labelling of Chemicals (GHS) is considered as a foundation for sound chemicals management and is a logical and comprehensive approach to standardising and harmonising the classification and labelling of chemicals. It includes criteria and guidelines for:

- Defining health, physical, and environmental hazards of chemicals;
- Creating classification processes that use available data on chemicals for comparison with the de-

finer hazard criteria; and

- Communicating hazard information, as well as protective measures, on labels and Safety Data Sheets (SDS).

The GHS is an important tool that countries can draw upon to develop national chemical hazard communication systems by providing a basis for the establishment of comprehensive chemical safety programmes. It represents an important step in harmonising national

and regional chemical hazard classification and communication systems and has a great potential to improve chemical safety across all relevant sectors. GHS implementation efforts can also serve to support the implementation of other international chemicals agreements in particular the Basel, Montreal, Rotterdam and Stockholm Conventions and the Strategic Approach to International Chemicals Management (SAICM).





*The project is funded by the European Union*

**PROJECT INFORMATION NOTE - July 2010**

## Why is the GHS Important?

An important aspect of protecting human health and the environment from potentially toxic chemicals is the development of national systems that ensure that chemicals are properly classified and labelled and that safety data sheets are made available, in particular in the workplace. These communication tools provide workers, consumers and the public with important information about the hazards of chemicals (hazard communication) and thus help to trigger precautionary protective behaviour. For this to be effective, messages must be comprehensible and accompanied by appropriate supporting measures. The Globally Harmonized System of Classification and Labelling of Chemicals (GHS) is an internationally-agreed tool for chemical classification and hazard communication.

Countries around the world are using the GHS to develop national chemical hazard communication systems where those infrastructures are weak or lacking, and will need to align existing regulations and procedures with the provisions of GHS. Additionally, implementation of the GHS may require strengthening, updating or establishing appropriate national legislation. The GHS is also compatible with other international instruments such as the ILO Chemicals Convention 170, the Rotterdam, Basel and Stockholm Conventions, as well as the Strategic Approach to International Chemicals Management (SAICM).

GHS is also included as a SAICM work area in the Global Plan of Action, including 8 distinct activities. In particular, SAICM GPA activity #250 states "Make available sufficient financial and technical resources to support national and regional GHS capacity-building projects in developing countries and countries with economies in transition." Participants at the International Conference on Chemicals Management (ICCM) have stressed the importance of training and capacity building for implementing the GHS as part of SAICM, indicating further international recognition of the importance of countries and regions moving forward to include GHS capacity building and implementation into overall chemicals management strategies and national SAICM implementation programmes. The GHS is an important tool that can contribute to achieving sustainable development and the Millennium Development Goals (MDGs) and facilitates the implementation of multi-lateral environmental agreements (MEAs).





## Opening Statements

The inaugural session of the workshop was moderated by Mr. Yuan Longhua, Deputy Director-General at the Department of Raw Materials Industry, Ministry of Industry and Information Technology (MIIT) of China.

*This workshop constitutes a very significant opportunity for enhancing national capacities on GHS implementation in the countries of the region.*

The workshop was opened by Mr. Chen Yanhai, Director General at the Ministry of Industry and Information Technology (MIIT) of China, who also delivered the keynote address of the workshop. In his address he welcomed the participants on behalf of MIIT and the Honorable Minister of MIIT, Mr. LI Yizhong. He added that this workshop constituted a very significant opportunity for enhancing national capacities on GHS implementation in the countries of the region. Mr. Chen expressed his gratitude to UNITAR and ILO for planning and organizing the workshop, and acknowledged the financial support of the European Union, the Governments of Switzerland and Germany, Sinochem Corporation, and the Association of International Chemical Manufacturers (AICM), as well as the logistical arrangements provided by the China National Chemical Economic Technical Development Center. He noted the importance of a harmonized system of classification and labelling which enhances international cooperation, constituting a consensus shared by all of the international community. He added that the Chinese Government has always paid great attention to environmental protection, people's health and safety, and sustainable development and that it actively supports the GHS. Furthermore, he said that China is one of the members of the Subcommittee of Experts on the GHS (SCEGHS) and since they joined the SCEGHS, many relevant departments and organizations have actively promoted GHS implementation in China. However, much progress still needs to take place to reach full implementation of the GHS, in particular reviewing or adjusting current laws, regulations and standards related to work safety, occupational hazards, environmental protection, and also to improving the data systems and basic research on chemical hazards. In conclusion, he expressed his certitude that the workshop will generate new ideas and results, which will play a very important role in promoting the implementation of GHS in the region. He reaffirmed his gratitude to UNITAR, ILO, WHO, the donors, the speakers and all the participants, wishing them all a successful workshop.

*Switzerland appreciates China's willingness to share experiences with countries from Asia and undertake activities as part of this process.*

Mr. Christoph Lang, First Secretary at the Embassy of Switzerland in China, thanked China and UNITAR/ILO for the excellent preparation of the workshop. He expressed the appreciation of his Government to see China committed to a leadership role in the further development and implementation of the GHS at the regional level. He added that Switzerland appreciates China's willingness to share its experiences with countries from Asia and to undertake activities as part of this process. He said that the sustainable management of chemicals is a key priority for Switzerland, not only at the national level, but also internationally, stressing that Switzerland is host to the main international institutions and conventions for chemicals and waste management, such as the secretariats of the Basel, Rotterdam, and Stockholm Conventions, UNEP Chemicals, the SAICM Secretariat, UNITAR and WHO. He added that chemicals are crucial for our daily life and for sustainable development. Therefore, international cooperation is

important and setting an international standard for sound chemical classification and hazard communication can act as a show-case for such cooperation. He said that Switzerland is convinced that the multilateral approach taken by the GHS is the most effective and most efficient and this is why Switzerland is committed to its implementation. He concluded by wishing a constructive and successful workshop to all participants and saying that it would be a significant step forward towards the common goal of international cooperation.

*The EU has been one of the main donors for GHS implementation in the region.*

Mr. Joao Santos, First Secretary of the Delegation of the European Union in China, noted the importance of the initiative of UNITAR/ILO to hold this workshop in China as part of a project to strengthen capacity building at the national and regional levels to implement the GHS in Asia, undertaken with financial support from the EU. He added that the EU has been one of the main donors for GHS implementation in the region and provided an overview of the situation in the EU regarding GHS implementation and explained, *inter alia*, the Regulation on the Classification, Labelling and Packaging of Substances and Mixtures (CLP) and the REACH Regulation. He then highlighted the importance of the global trade in chemicals which is growing very strongly, with the EU and Asia being leading exporters and importers. The removal of non-tariff trade barriers is one aspect of GHS and CLP, but they also improve the protection of workers, consumers and the environment. Mr. Santos concluded by saying that the EU was proud to sponsor this initiative and wished the participants a productive and interesting workshop.

*Germany welcomes worldwide, consistent implementation of the GHS.*

Ms. Cordula Geintz, Second Secretary at the German Embassy, said in her opening remarks that Germany is thankful to the Government of China for the organization of this important event and that it was a pleasure for the German Government to be one of the international supporters. She explained that the chemicals industry has always been a key driver for economic success in Germany and that the country has learned from the public debate in the 1970s about environmental pollution and hazardous incidents how to move forward with the sound management of chemicals. She said that her Government strongly believes that sound chemicals management is a prerequisite, not only for a safe and sustainable manufacturing and use of chemicals and chemical-based products but also in order to protect human health and the environment. She stated that the German Government welcomes the worldwide consistent implementation of the GHS and are glad to support this workshop as a contribution to the WSSD Global Partnership for Capacity Building to Implement the GHS. She concluded by wishing all participants a successful workshop.

Dr. Michael O'Leary, WHO Representative in China, expressed his pleasure to provide the opening remarks to this workshop on behalf of WHO. He explained that chemical products are widely used in almost all societies and bring many benefits to humankind, but can cause harm to health and the environment if used incorrectly. This risk can be reduced by giving people clear information about how to use chemical products safely and that information needs to be communicated to the user in a clear and unambiguous way. WHO considers that the GHS is an important measure for protecting the health of everyone who uses chemical products, whether they are workers (including health work-

*WHO is contributing to implementation of the GHS in a number of ways.*

ers) or consumers, and that WHO is contributing to implementation of the GHS in a number of ways (e.g. UN SCEGHS, the International Chemical Safety Cards, and the most recent edition of the WHO Recommended Classification of Pesticides by Hazard). He added that this workshop is the opportunity to share experiences and expressed the wish that representatives from countries that have not yet implemented the GHS take encouragement from the discussions to move ahead. He concluded by thanking UNITAR, ILO and MIIT for organizing the workshop, and also the Governments of Germany and Switzerland, and the European Union, for their financial support.

*Successful GHS implementation can contribute to broader sustainable development goals.*

On behalf of the UNITAR/ILO Global GHS Capacity Building Programme, Ms. Anne Herbert, Director of the ILO Regional Office for China and Mongolia, expressed the appreciation of the two organizations for the long-standing association for chemicals management with the Government of China. She also thanked the participants for taking part in the workshop, which is a contribution to the *World Summit for Sustainable Development (WSSD) Global Partnership for Capacity Building to Implement the GHS* and building upon the recommendations made at the 2007 regional conference held in Jakarta. She acknowledged the support of the Governments of Switzerland and Germany, the European Union, and the Association of International Chemical Manufacturers (AICM) for financing this Workshop, and the participation of other partners including the WHO. She added that successful GHS implementation can contribute to broader sustainable development goals and to help reach the Millennium Development Goals (MDGs). Ms. Herbert added that the three day workshop constituted the opportunity to share experiences, analyze progress, and address next steps for GHS implementation both nationally and regionally. She concluded by wishing all participants a successful workshop.



## Session 1: Introductory Presentations

This session, which provided information related to the workshop and latest GHS developments, was moderated by Mr. Pavan Baichoo, Technical Officer, ILO.<sup>3</sup>

*The workshop is part of a new regional project supported by the EU during 2010-2012.*

Mr. Jonathan Krueger, UNITAR Senior Specialist, provided an introduction to the workshop, explaining that it was part of a new regional project supported by the European Union during 2010-2012. He reviewed the organizational arrangements for the workshop and acknowledged the financial support of the Governments of Switzerland and Germany, the European Union, AICM and SinoChem. The workshop involves approximately 120 participants from 20 countries in Southeast, East and Central Asia, representing governments, relevant industry and public interest groups (including labour organizations and NGOs), IGOs, and research bodies. His presentation outlined the workshop objectives, which consisted, *inter alia*, to share experiences and approaches to GHS implementation; explore areas for collaboration and training; ensure that health services are informed about the GHS; examine existing institutions and initiatives relevant for GHS implementation; and develop joint and shared approaches to capacity building at the national and regional levels.

*Implementation progress/plans in various countries and regions, including the EU, New Zealand, Australia and the U.S.A, were reviewed.*

An update on the latest developments regarding the GHS was given by Dr. Peter Dawson, Principal Scientist, Environmental Risk Management Authority (ERMA) of New Zealand. His presentation reviewed implementation progress/plans in various countries and regions, including the EU, New Zealand, Australia and the United States. He explained the “building block approach” and the different levels of implementation and what countries are implementing using the building block approach. He presented international activities, including the UN SCEGHS, its members and observer countries and organizations. Regarding technical developments in the GHS, he explained the different versions of the Purple Book and reviewed the updates from Rev.2 to Rev.3, especially regarding the classification criteria and labelling. He concluded by presenting the biennium workplan of the SCEGHS (2009-2010), stressing the different implementation issues that were being addressed.

Ms. Mehdi Siari, UNITAR Training Associate, provided an overview of UNITAR and the Chemicals and Waste Management Programme, noting that this workshop was the 8<sup>th</sup> in a series of regional and sub-regional GHS workshops coordinated and supported through the *UNITAR/ILO Global GHS Capacity Building Programme*. She explained the different components of the Programme, as well as the WSSD Global Partnership for GHS Capacity Building initiated by UNITAR, ILO and OECD in 2002. Her presentation focused on UNITAR/ILO work to support developing and transition countries to build capacities for GHS implemen-

---

<sup>3</sup> All presentations made during the workshop are available at: <http://www.unitar.org/cwm/ghs/events/asia-stocktaking-workshop/presentations>.

*UNITAR/ILO engage in activities at the global, regional and national levels, and develop guidance, awareness raising and training materials for GHS implementation.*

tation, engage in activities at the global, regional and national levels, and develop guidance, awareness raising and training materials for GHS implementation. She presented the past and current projects conducted by UNITAR/ILO around the world and summarized the activities of the second phase of the GHS project in four ASEAN countries, as well as China. She explained the UNITAR/ILO project methodology, which includes, *inter alia*, GHS training and awareness raising workshops, national situation and gap analyses, and the development of national GHS implementation strategies. She concluded by outlining the resources provided by the UNITAR/ILO Programme, stressing the importance of strengthening capacities for effective GHS implementation.

*GHS information is a key element in sound chemicals management.*

The final presentation in this session was given by Dr. Reiner Arndt, UNITAR Senior Advisor, who provided a background on international chemicals conventions and sound chemicals management. He also gave an overview of the Strategic Approach to International Chemicals Management (SAICM), stressing its Global Plan of Action which includes 273 activities covering the full life cycle of chemicals from production to waste. He then gave an overview of GHS benefits and explained the use of GHS information as a key element in sound management of chemicals. Under this point, Dr. Arndt reviewed the priorities, scope and responsibilities of sound chemicals management, stressing the role of the different actors involved. He listed some examples of general chemicals legislation, including for workers (e.g. ILO 170) that is also related to the GHS. He concluded by providing some examples of sound chemicals management, especially within the EU.

During the discussion session, questions were raised by participants related to the definitions used in the GHS and the fact that classification results can be different from one country to another. Some participants were concerned about whether the UN SCEGHS will issue a single list of classified chemicals in the future. UNITAR responded that sometimes different data leads to different classifications and that the interpretation of data can also differ. It was suggested to have the correct data with the adequate interpretation to minimize this problem. The elaboration of a single list could be a solution and is currently being considered by the SCEGHS, but from the experience in the EU in establishing this kind of list, it can be difficult and time consuming. The representative of Consumers International said that labels should be comprehensive to all and asked if they should not be specified to each country, adding that the structure of the chemicals industry can be a challenge, in particular for SMEs. Dr. Arndt explained that all chemical producers have the obligation to label and that industry associations and governments should support SMEs, adding that training is the key to understanding labels.

## Session 2: Status of GHS Implementation in Southeast, East and Central Asia

This session introduced the results of a study on GHS implementation in the region and provided an opportunity for countries to provide additional updates regarding their situation; the session was moderated by Ms. Veronica Chow, Ministry of Manpower, Singapore.

*Most of the countries surveyed have a national GHS committee involving all relevant ministries.*

Professor Hiroshi Jonai, Nihon University, Japan, presented the results of a survey on GHS implementation, conducted in July/August 2010 in collaboration with GHS focal points in the following countries: Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam, and Japan. The survey included questions related to ministries involved in GHS implementation or coordination committees, the current legal status in different sectors, transition or phase-in periods from existing systems to GHS, training and capacity building activities, plans for 2011-2012, and information on related activities (e.g. building block approach, international cooperation on GHS implementation, etc). Prof. Jonai explained that most of the countries surveyed have a national GHS committee involving all relevant ministries but that so far none of the countries has introduced the GHS in all four related sectors (industry, agriculture, transport, consumers). Six countries (Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam) have prepared or considered to implement the GHS, while it has been partly implemented in Japan (industrial sector). Other observations show that most of the countries have no comprehensive system to classify and label chemicals, so the GHS is still new to them. Furthermore, there are some countries implementing regulations on the transport of dangerous goods, but mainly for air and sea transport. In conclusion, he noted that capacity building activities for GHS implementation in the region will require human resources and budgetary support to raise awareness on the GHS in all sectors. He observed that in some countries there is no GHS focal point and he urged participants to consider this workshop as a good opportunity to create networks for communication.

*A second regional survey reported the status of GHS implementation in China, Central Asian countries, and Korea.*

The second presentation was made by Professor Jaewook Choi, Director of the Institute for Occupational & Environmental Health at Korea University, with the findings of the second part of the regional survey on the status of GHS implementation in China, Central Asian countries, and Korea. In Korea, interviews were conducted by a GHS expert with the relevant government departments such as Ministries of Labour and Environment. Regarding the status of GHS for China and countries in Central Asia (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan), the websites of relevant Ministries and Agencies of each country as well as some websites of international bodies (e.g., APEC, UNECE, WSSD) were used as the principal resource. In addition he gave some figures on the comparison of GHS classification results in Korea, Japan and the EU. He concluded by listing some of the challenges ahead in the implementation of the GHS.

Dr. Peter Dawson, ERMA New Zealand, presented the experience with GHS implementation in New Zealand, done through the HSNO Act which regulates all hazardous substances in all sectors (except transport). He reviewed the relevant regulations under the Act, noting that its revision will clarify how HSNO codes equate to GHS categories. He discussed issues related to implementation, especially for classification and hazard communication (such as the shortage of experts and the issue of hazard based versus risk based labelling), and reviewed the next steps that New Zealand will take for GHS implementation.

The following presentations were made by five countries undertaking a capacity building project to implement the GHS, with the assistance of UNITAR/ILO and the financial support of the EU. The presentations consisted of a brief overview of the challenges facing the GHS implementation in each country, the lessons learnt from such experiences, and the future key issues to be faced.

*In Indonesia, a new regulation concerning the GHS was published in September 2009.*

Mr. Eko Pratomo, Ministry of Industry of Indonesia, explained that a new regulation concerning the GHS had been published in September 2009. The transition period for the new SDS format in accordance with the GHS will be September 2010 for single substances and December 2013 for mixtures and the Federation of the Indonesian Chemical Industry (FIKI) is assigned as the "Help-Desk" for GHS implementation. He reviewed the results of the first GHS capacity building project in Indonesia, undertaken with the assistance of UNITAR/ILO between 2005 and 2007, as well as the main activities of the new project to be implemented in 2010-2012. Mr. Pratomo gave an overview of the implementation objectives in his country and the roles and responsibilities of the different agencies. He explained the procedures used, including an inter-ministerial team, promoting the GHS in the provinces, and the national workplan for GHS implementation in Indonesia.

*Malaysia noted that ASEAN countries must share experiences, knowledge and information.*

Ms. Mui Huei Gan, Ministry of International Trade and Industry, Malaysia, presented the challenges facing GHS implementation for government, industry and NGOs including a lack of expertise and experienced classifiers and translators. There is also lack of coordination between the different ministries and low awareness among industry (especially SMEs) and NGOs. She added that researchers and academia are supporting capacity building for GHS implementation and that training programmes and a database for information sharing will be established. At the regional level, ASEAN countries must share experiences, knowledge and information. She explained that GHS is considered by the government to be beneficial to the country (e.g. for Malaysia's competitiveness in trade, human well being and environmental health) and that the country will be innovative and creative in implementing the GHS, even with limited resources. She acknowledged the generous support of countries and organizations (e.g. AOTS, UNITAR/ILO, WHO, APEC, etc.) and said that GHS implementation is complex, requiring strong commitment to ensure continuity and sustainability. Regarding future key issues for GHS implementation in Malaysia, she said that different government authorities are governed by different legislations and international guidelines in the control of chemical substances and thus different sectors may have different timelines for implementation.



*The Philippines has learned that collaboration among all stakeholders is needed for successful GHS implementation.*

Ms. Angelita Arcellana, Department of Trade and Industry of the Philippines, summarized the main challenges as a lack of awareness and knowledge of stakeholders and the hazards of chemicals; a lack of resources and technical expertise of government in GHS classification and labeling; a lack of resources for SMEs to comply with GHS; a lack of specific legislation which can cover the four sectors of GHS; a lack of training for stakeholders; and a lack of information and educational campaigns on the GHS. However, she said that the selection of the Philippines by UNITAR as one of the pilot countries in ASEAN for its GHS training and capacity building in 2005 paved the way for GHS implementation initiatives. The country has learned that collaboration among all stakeholders (government, industry, and civil society) is needed for successful GHS implementation. The comprehensibility testing conducted during the first GHS project emphasized the need for awareness raising and capacity building of all stakeholders to improve the understanding of GHS-based hazard communication tools. A national GHS implementation plan was developed indicating the activities to be undertaken, the responsible or concerned government agency, industry, or civil society group, the resources needed and the timetable for effective implementation. In conclusion, she listed the key future issues for GHS implementation including harmonization at the international level for agricultural inputs such as pesticides; the use of the building block approach and cut-off value/concentration limits; the development of a database with an updated priority list of industrial chemicals, consumer chemical products and pesticides; and determining a source of funding for continuous awareness raising and capacity building.

*Thailand translated the Purple Book and signal words and hazard statements for labelling in to Thai.*

Ms. Aurus Kongphanich, Food and Drug Administration, Ministry of Health of Thailand, outlined the lead agencies for each sector of the GHS and their respective roles. She explained the roles and responsibilities of the inter-ministerial coordination mechanism and its respective committees. She summarized some of the achievements of these committees (including the Hazardous Substance Committee - Subcommittee on GHS), including the translation of Purple Book and the standardization of signal words and hazard statements for labelling in Thai. The National Coordinating Committee on Chemical Safety - Policy and Plan Subcommittee contributed, *inter alia*, to enhancing GHS awareness and the identification of GHS as a priority (and integrated into the 3<sup>rd</sup> National Master Plan for Chemical Management). She explained Thailand's National Strategic Map for GHS Implementation (2007-2011), outlining the different aspects of the strategy (administrative, legal, etc). The Ministry of Industry and the Ministry of Public Health are currently considering issuing ministerial notifications on GHS application of hazardous substances for industrial and consumer product sectors, respectively. Regarding the transition period, she informed that the proposed period is 1 year for substances and 5 years for mixtures and products (regulated under Hazardous Substance Act). She concluded by listing some of the GHS training activities at the government level, as well as for the private sector and labor and civil society organizations.

*In China next steps for GHS implementation will include setting up a coordination mechanism that will be responsible for developing national strategies on the GHS.*

The last presentation in this session was given by Ms. Jiang Jian, Petrochemical and Chemical Industry Division, Department of Raw Materials Industry of MIIT of China, who provided an overview of the current situation regarding GHS implementation. The lead department for GHS implementation in China is the Ministry of Industry and Information Technology (MIIT), and other participating departments include: Ministry of Foreign Affairs; National Development and Reform Commission; Ministry of Finance; Ministry of Environmental Protection; Ministry of Transport; Ministry of Railway; Ministry of Agriculture; Ministry of Health; General Administration of Customs; State Administration for Industry and Commerce; General Administration of Quality Supervision, Inspection and Quarantine; and the State Administration of Work Safety (SAWS). She highlighted some of the existing laws, regulations and standards on chemicals in China and added that there are some testing laboratories to assist the work, including: the Shanghai Research Institute of Chemical Industry Testing Center; Chinese Center for Disease Control and Prevention; and the Chinese Research Academy of Environmental Science. Regarding the challenges and opportunities of GHS implementation, she explained that there are some inconsistencies in GHS-related laws and regulations that need to be adjusted and that the revision of national standards cannot always be synchronized with the development of the GHS. She added that since GHS implementation involves various departments there is a need to establish a coordination mechanism and integrate resources, noting a lack of basic data on chemicals. Ms. Jiang explained that the administrative and production costs of implementation of the GHS are high due to the large numbers of SMEs in China; thus the transition period between the current system and the GHS will be long. She said that there is low awareness about the GHS and a lack of resources for GHS management and training. She said that the next steps for GHS implementation will include setting up a coordination mechanism for the implementation of GHS that will be responsible for developing national strategies on the GHS. She acknowledged the cooperation with UNITAR/ILO for a national capacity building project to implement the GHS in China starting in 2010 and added that her Government will maintain cooperation and communication with international agencies related to GHS implementation.

During the discussion session, several participants supported the proposal to improve regional communication and information sharing for GHS implementation, possibly through establishment of a regional forum. In addition, Professors Jonai and Choi took the opportunity to request from the countries who have not yet responded to the survey to kindly provide information related to GHS implementation in their countries as soon as possible.

### Session 3: Linkages between the GHS and International Chemicals Conventions

The objective of this session was to explain the linkages between the GHS and the main international chemicals and waste management conventions. The session was chaired by Mr. Tarcisio Hardman Reis, Programme Officer at the Secretariat of the Rotterdam Convention.

Dr. Reiner Arndt, UNITAR, reviewed the linkages between the “GHS and the Rotterdam and Stockholm Conventions, and ILO Chemicals Convention 170”. For each of the three conventions, he listed the articles and paragraphs that relate to the GHS (e.g. requirements for classification, labelling, safety data sheets, or hazard information provisions) and gave examples related to GHS implementation under the conventions. Finally, he reviewed the ILO Chemicals Control Kit designed for SMEs in (developing) countries.

*The GHS is linked to chemicals conventions such as Basel, Rotterdam, Stockholm and ILO 170.*

Dr. Peter Peterson, UNITAR, presented the linkages between the GHS and the Basel Convention on the Transboundary Movement of Hazardous Wastes and their Disposal. Some of the opportunities for collaboration between GHS and the Basel Convention include improving capacities for managing both chemicals and hazardous wastes using one systematic method; establishing partnerships involving all stakeholders in developing regulatory policies for chemicals and waste; and enabling greater consistency in international treaties and national regulatory requirements covering the entire product chain (which can contribute to strengthening global principles for the sound management of chemicals and waste thus protecting human health and environment). He concluded that more research is required to strengthen the framework for application of the GHS to the classification of wastes.

An overview of the relationship between the GHS, international chemicals management, sustainable development and the Millennium Development Goals (MDGs) and was also given by Dr. Peterson. He explained the “mainstreaming” principle, which results, *inter alia*, in the inclusion of chemicals in national and sector development strategies thereby assisting to achieve the MDGs and advance national development policies. He reviewed each of the eight MDGs to explain the impact and importance of sound chemicals management helping to reach their objectives. The GHS is a valuable tool to help achieve some of the recommendations, such as in MDG #7 related to “ensuring environmental sustainability”. In conclusion, he said that the GHS hazard classification system, communication and educational component, pictograms and precautionary statements are major drivers of chemical safety - the GHS within an integrated chemicals management programme can lead to more effective national and global governance of chemicals throughout their lifecycles and, in coordination with international chemicals agreements, provides an essential component of procedures for achieving sustainable development.

*GHS implementation within an integrated chemicals management programme can lead to more effective national and global governance of chemicals.*



## Session 4: Needs and Role of the Health Sector in GHS Implementation

This session was dedicated to considering the needs and role of the health sector in GHS implementation. The session was chaired by Ms. Aurus Kongphanich from the Food and Drug Administration, Ministry of Public Health of Thailand, and featured presentations on the GHS and public health and control banding (the international chemical control kit).

*The health sector is both a user of GHS information and can contribute to GHS implementation.*

Ms. Joanna Tempowski, Scientist, World Health Organization (WHO), explained the importance of the health sector in GHS implementation. She pointed out that chemical exposures cause the loss of 7.2 million years of healthy life per annum and efforts to prevent and mitigate exposure can, therefore, make important contributions to reducing the disease burden. She reviewed the GHS key components and highlighted the health-related information found on labels and the safety data sheets (SDS). She explained that the health sector was both a user of GHS information and could contribute to GHS implementation. Health workers are users of GHS information in two ways. Since they themselves use a range of chemical products (e.g. disinfectants and sterilants), the hazard and precautionary information provided under GHS is important for self-protection. In addition, health workers need to treat people exposed to chemicals and for this the availability of information on ingredients, hazards and first aid was essential. She added that the health sector is a source of data on exposures and can identify when there might be a need to modify implementation. For example, how exposures occur, what are the toxic effects – these need to be adequately reflected. During her presentation, Ms Tempowski also stressed the importance of poisons centres in maintaining product databases, centralizing collection of data about human exposures and acting as centre of expertise about toxic effects of chemicals and treatment of exposure. She then outlined the WHO support for GHS implementation, and described the WHO Recommended Classification of Pesticides by Hazard and the International Chemical Safety Cards (ICSCs), both of which include GHS classifications. In conclusion, Ms Tempowski said that chemical products bring benefits but may also harm human health; the GHS provides a tool to protect health by informing users about hazards. GHS information is an important resource for the health sector and vice-versa and therefore the health sector should be included in national discussions about GHS implementation.

The second presentation was made by Mr. Pavan Baichoo, Technical Officer at the International Labour Organization (ILO), regarding “control banding” and the International Chemicals Control Toolkit. He explained that there are many chemical hazards in the workplace and that employers need guidance on how to protect workers; however, the availability of technical expertise and monitoring equipment may be limited. To address these challenges, “control banding” – an occupational risk assessment and risk management instrument – was developed by occupational hygienists and toxicologists. It can be used without on-site technical experts and expensive exposure measurements and is suitable for small and medium sized enterprises (SMEs). He explained that control banding

*The International Chemicals Control Toolkit is designed for SMEs in developing countries with the aim of providing simple and practical means to prevent and reduce risks of chemicals.*

has three elements (hazard, risk of exposure and control measures) and is called “control banding” because these are grouped into bands. In addition, the International Chemicals Control Toolkit is designed for SMEs in developing countries with the aim of providing simple and practical means to prevent and reduce risks of chemicals. He explained the five stages of toolkit operation, hazard classification, and the selection of control approaches. He provided the participants some links on the subject, including the link to the website of the “Programme on Safety and Health at Work and the Environment Safety” of ILO which provides full details on the International Chemical Control Toolkit.

During the discussion, a number of issues were raised by participants. In relation to the WHO Recommended Classification of Pesticides by Hazard, this is a classification of pesticide chemicals rather than formulated products, and is based largely on acute toxicity. The GHS classifications are also those for acute toxicity. It was suggested that users of pesticides that were potentially carcinogenic or reproductive toxicants might be misled by a low hazard classification based on acute toxicity. Ms Tempowski stated that, in fact, where data were available about longer term hazards such as carcinogenicity, this was taken into account in the classification (so that a pesticide with a low acute toxicity would have a higher classification (1a) if it was also carcinogenic).

## Session 5: The Role of Industry, and Public Interest and Labour Organizations in GHS Implementation

This session provided the opportunity for representatives of industry bodies and public interest and labour organizations to provide information about GHS implementation from their perspectives. The session was moderated by Mr. Jonathan Krueger, UNITAR.

*More still needs to be done to help SMEs engage in GHS implementation.*

Ms. Hui Hua Wang, Singapore Chemical Industry Council (SCIC), reviewed the importance of the chemical industry in Singapore and explained the GHS task force in Singapore. She highlighted Singapore's road map for GHS implementation, with activities planned until the end of 2013. She explained that the GHS is seen as an obligation by industry, and that knowledge and awareness within government needs further enhancement, especially for policy makers. Additionally, while existing preparation and training for the GHS are currently working well, more still needs to be done to help SMEs engage in GHS implementation. In conclusion, she noted that there remains a lack of expertise and competent persons – both in industry and government – related to classification, SDS, and labels and she expressed the wish to see clearer guidance regarding the transition from old to new labelling requirements.

*The "building block approach" allows the selection of hazard classes and categories to design a label that combines appropriate hazard and risk communication.*

Mr. Siang-Hee Tan, Croplife Asia, provided a background on agricultural chemicals and explained current labelling requirements, noting that use of the "building block approach" is essential to prevent the hazard-based approach of the GHS from undermining the risk based instructions provided on labels. The "building block approach" allows the selection of hazard classes and categories to design a label that combines appropriate hazard and risk communication. It can also help to avoid overloading labels with contradictory messages. He said that while the GHS provides an opportunity for globally harmonized hazard communication, pesticide labels remain the primary communication tool for the farmer. He added that for safe and effective handling, the messages on health and safety should be clear and transparent. In conclusion he said that the GHS could be a positive step forward in globalization of regulations but that it should not undermine the extensive risk assessment process by which agricultural chemicals are already regulated (both hazards and risks need to be evaluated and communicated clearly and appropriately to the user) and that appropriate transition arrangements are essential to avoid market disruption.

*AICM has been dedicated to the promotion and implementation of the GHS in China by providing technical advice.*

Ms. Christina Liu, Association of International Chemical Manufacturers (AICM), remarked that since 2002, AICM has been dedicated to the promotion and implementation of the GHS in China by providing technical advice to the development of regulations and standards and bringing the best international practice. AICM has advocated for reasonable transition period for substances and mixtures had provided input to the development of the Chinese national standards regarding GHS, including GB 15258 (General rules for preparation of precautionary label for chemicals), GB 13690 (General rules for classification and hazard communication of chemicals), and GB/T 16483 (Safety data sheet for chemical products content and order of sections). To conclude, she made some addition-

al suggestions on behalf of AICM, including, *inter alia*, the importance of having greater harmonization of the regulations and standards in China, the need for a reasonable transition period for mixtures, and that Chinese standards be updated in a timely way and harmonized with changes to the GHS.

*The experience of Japan could act as a reference for those countries still planning to introduce the GHS.*

Mr. Masahiko Hanzawa, Japan Chemical Industry Association (JCIA), summarized the situation of GHS implementation in Japan, including the timeframe for implementation and the results of the classification of substances. He explained that JCIA have been actively participating, including in relation to legal issues (such as strengthening information infrastructure and undertaking education before enforcement of the law and setting a transition period to allow time for this preparation), as well as at the level of cooperation between stakeholders (such as the adjustment of enforcement periods and the specification of controlled substances between related regulations by competent authorities, including the important role of industry associations). Regarding future key issues for GHS implementation in Japan, he highlighted the differences between enterprises concerning their ability to adapt to the GHS, the necessity to strengthen support for SMEs, and the issue of differences in classification. In conclusion, he hoped that the experience of Japan could act as a reference for those countries still planning to introduce the GHS.

*It is important for workers to know the hazards specific to chemicals in use, as well as have information about the specific protective measures required to avoid adverse effects that might be caused.*

Mr. Yustinus Bukit Martyr, Chemical, Energy, Mines, Oil & Gas and General Workers Union (FSP-KEP), provided the perspective of labour organizations highlighting the importance for workers to know the hazards specific to chemicals in use, as well as information about the specific protective measures required to avoid adverse effects that might be caused by those hazards. He affirmed the benefits of implementing the GHS and the importance of labels and safety data sheets. He suggested that international organizations (such as ILO, UNITAR) provide training material and chemical safety recommendations, codes and guidelines related to the GHS in particular for the areas of occupational health, safety and prevention and the treatment of poisoning. He suggested that governments need to use legal enforcement to protect workers, especially those who handle chemicals and are the most exposed to chemical hazards and added that companies should provide training on handling, storing, and transporting chemicals, provide appropriate personal protective equipment and first-aid facilities, and provide training to treat accidents.

*A survey of consumers organizations showed that there is significant demand for GHS capacity building at the regional, sub-regional and national levels.*

Ms. Keya Ghosh, Consumers International-Kuala Lumpur Office (for Asia Pacific & the Middle East), gave a presentation on the perspective of consumers organizations on GHS implementation. She explained that that manufacturing of bulk chemicals has increased in Asia in the last ten years and that, given the structure of industry in the region, there is a need for sound chemicals management and implementation of the GHS. A regional survey of consumers organizations in Asia showed that there is significant demand for GHS capacity building at the regional, sub-regional and national levels and that there is an urgent need for training and human, financial and technical resources. She suggested that strengthening existing networks and working groups at different levels should be undertaken by including chemical safety and GHS issues. She concluded by highlighting the importance of linking regional and international NGO and la-



bour union networks for GHS information dissemination, access to information, and sharing of experiences with GHS implementation.

*GHS elements need to be translated in to national languages and NGOs can assist by providing information and undertaking awareness campaigns about the GHS.*

Ms. Muazama Burkhanova, Foundation to Support Civil Initiatives (FSCI)/IPEN, gave a presentation on the “NGO Vision for GHS Implementation”. She stated that GHS implementation was important as it affects manufacturers, suppliers, transporters and users of chemicals. She provided an update regarding GHS implementation Eastern Europe, the Caucasus’ and Central Asia highlighting that the GHS was discussed in the context of the Custom Union between Belarus, Kazakhstan and Russia. In Central Asia, countries are still preparing for implementation and many countries are facing problems in implementing the GHS (mainly related to a lack of information on the GHS and its importance, lack of information about GHS labeling elements such as signal words and pictograms, and a lack of timeline for implementation). GHS elements need to be translated in to national languages and NGOs can assist by providing information and undertaking awareness campaigns about the GHS. NGOs can also work with industry and governments to adapt labels to new regulations and work with all stakeholders to ensure the inclusion of precautionary statements that help to prevent or minimize the adverse effects of hazardous chemicals on human health.

During the discussion session, the speakers were asked to answer questions of participants. A representative of the Chinese delegation noted that transport and storage issues were not explicitly addressed in this workshop.

# Developing a National GHS Implementation Strategy

A Guidance Document to support implementation of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

September 2010 Edition

 Knowledge to lead



 **unitar**  
United Nations Institute for Training and Research



**IOMC**

INTERNATIONAL PROGRAMME ON THE SOUND MANAGEMENT OF CHEMICALS  
A coordinated programme involving ILO, IAEA, WHO, UNEP, WHO, WHO and WHO

## Session 6: Challenges and Opportunities of GHS Implementation

This session was dedicated to addressing key challenges and opportunities of GHS implementation. Participants were requested, in working groups, to reflect on national experiences with GHS implementation across the key sectors from the perspective of government, industry, and public interest and labour organisations. Participants divided in to groups to discuss challenges and opportunities around four separate themes.

*Participants were suggested to consider the current technical challenges to GHS implementation.*

For each theme, a short “thought starter” presentation, with suggested guidance questions intended to stimulate discussion, was provided. For theme 1 on “*Technical aspects*” of GHS implementation, participants were suggested to consider the current technical challenges to GHS implementation (e.g. differences in classification results using GHS criteria; application of the ‘building block’ approach; lack of agreed international lists of classified chemicals, etc), what steps needs to be taken by stakeholders (especially government and industry) to overcome these challenges in a coordinated way, and what further technical issues will be faced in the future and how should all stakeholders prepare to address them.

*What are possible transition periods for implementation of the GHS and what are the obligations for imported chemicals?*

The second theme for the working group discussions was related to the “*Legal aspects*” of GHS implementation. For this theme, participants were invited to discuss the scope of legislation required, including the areas covered, which building blocks are used and what are the responsibilities of the different key actors. In addition, participants were invited to think about how the GHS is regulated, using national experiences as examples. For example, are new laws created or were existing laws modified? What are possible transition periods for implementation of the GHS and what are the GHS obligations for imported chemicals? How will legal GHS implementation be assured (e.g. by support/guidance to industry, list(s) of classified substances, awareness raising and training, sanctions for violation, etc)?

*What are national experiences with progress towards GHS implementation?*

For theme 3 on “*Implementation process issues*”, participants were invited to discuss their national experiences with progress towards GHS implementation. Issues that could be considered included: what is the framework for monitoring and evaluation, what resources are available, what is the role of the competent authorities, the value of having national “road maps” (and what if they are different?), how to use the building blocks, and the role of the different sectors in GHS implementation.

*What regional communication and information sharing issues will be faced in the future?*

For theme 4 on “*Regional Communication and Information Sharing*” it was suggested that participants discuss the current regional communication and information sharing challenges to GHS implementation (e.g. identification of regional focal points; platforms for regional information exchange, etc), what steps could be taken by stakeholders to overcome these challenges in a coordinated way (e.g. regional platforms for information exchange, tracking of progress, learning from experiences to date, and planning for the future), and what further regional communication and information sharing issues will be faced in the future and how should all stakeholders prepare to address them.

## Session 7: Results of Working Group Discussions and Workshop Conclusions

The last session of the workshop was dedicated to reporting the working group discussions on the four themes (technical aspects, legal issues, implementation issues, and regional communication and information sharing). The session was moderated by Professor Mazlin Bin Mokhtar, Universiti Kebangsaan Malaysia (UKM), who gave thanks to all participants for their input and to the chairs and rapporteurs of the various working groups. He welcomed the efforts made by the participants to come up with concrete solutions to challenges and propose ways to move forward with GHS implementation in the region.

### 7.1 Theme 1: Technical aspects for GHS implementation

#### *Current challenges*

##### **For Government:**

- The process of classification and different sets of data
  - better guidance is needed on how to interpret or what set of data to be used
  - set up a GHS working group to develop a harmonised list of chemicals of high concern based on the existing classifications from Japan, Korea and EU
- No available list of industrial chemicals (criteria such as high production volume, common definitions agreed by countries, carcinogenicity, etc.)
  - the ASEAN Secretariat or APEC could assist to develop an ASEAN list
- Use of different building blocks by different countries
  - Set up a working group to take into consideration the experience of countries in implementing GHS
  - Look into process of GHS implementation
  - Fixed guidelines would be useful

##### **For Industry:**

- Laboratory data produced in some countries are not accepted internationally – there is a need for mutual recognition agreement
- The issue of confidential business information (CBI) and when it can be used
- Does waste need to be harmonized with GHS? There is a need for guidelines to consider it as mixtures or as a separate classification

- In the long term, consider classification of domestic wastes as industrial wastes
- Consider a legally-binding instrument and mechanism for implementation in the longer term

**For Public interest and labour organizations:**

- Need for capacity-building
  - Training programmes that will lead to standards
  - Lack of technical experts within the region
- Use of dual languages for SDS
- Too many precautionary statements
  - Limited to up to 6 phrases (criteria for prioritization?) in some countries
- Different supplier with different SDS – how to harmonize?

***Steps to be taken***

Regarding the steps to be taken by stakeholders to overcome these challenges in a coordinated way, she reported the following:

- Need for a close partnership among government and industry
- Use of UNITAR guidance documents (e.g. the Companion Guide to the Purple Book, Guidance on how to implement a GHS National Strategy, etc)
- Need for train-the-trainers approaches
- Specialized training for the private sector, consumer products and the health sector
- Inventory of where resources are in terms of expertise (government and industry)
- improved access to existing training materials (e.g. UNITAR/ILO)
- Use of best practices for implementing GHS
- Coordination within and between regions (e.g. ASEAN, APEC)
- Clearing-house for information exchange (UNITAR?)

- Develop an acceptable database of chemicals (e.g. OECD web Portal)
- Develop software to classify mixtures (METI-Japan) - to be translated into English
- Government to involve and provide incentives to academia as part of the pool of technical experts

### ***Issues for the future***

Finally, the recommendation of the working groups regarding the further technical issues that will be faced in the future and how stakeholders should prepare to address them, she reported the following:

- What is the coping mechanism of countries to adopt changes?
  - Need for countries to observe/discuss before implementing
- Nanomaterials/articles
  - Research, information exchange among countries – APEC scientific group
- To create an “e-group” for participants in this meeting to follow up on workshop recommendations
- Ensure regular updates on GHS implementation (e.g. UNECE website)
- International organizations need to harmonize GHS within their systems (e.g. FAO, WHO, etc.)
- Testing by using alternatives
- Seek technical support to improve laboratory tests
- Risk communication – “right to know and obligation to inform”.

After the summary presentation, the floor was opened for discussion. A representative from the Chinese delegation explained that a list for industrial chemicals is important and that it could better define the GHS. He also stated that for the classification of substances, the objective is to *harmonize* but the experience of countries in the region showed some differences. He supported the recommendation to establish a list of harmonized classified substances in the UN SCEGHS. Other participants suggested setting up a GHS working group under the Asia-Pacific Economic Cooperation (APEC) Secretariat and/or the ASEAN Secretariat, and the idea of an “e-group” for the participants of the workshop was also raised. A participant from Japan confirmed that Japan will undertake further GHS training in the region. Other participants asked questions related to the availability of training tools and resources. Jonathan Krueger, UNITAR, en-

couraged the member countries in the UN SCEGHS to participate in the discussions about establishing a list of classified chemicals and he encouraged the ASEAN countries to approach the ASEAN Secretariat regarding a GHS working group (or integrating the GHS in to existing working groups). He confirmed that UNITAR is finalizing basic and advanced training courses on the GHS that will be available in 2011, in addition to the other existing guidance and support documents. UNITAR indicated that it would be willing to assist to establish an “e-forum” for participants of the workshop to share information and experiences with GHS implementation but also encouraged countries to use the UNECE GHS website to access more information and provide regular updates to be published on that website.<sup>4</sup>

## **7.2 Theme 2: Legal aspects for GHS implementation**

Mr. Goh Choo Ta (UKM) presented the results of the working group discussions on theme 2, “legal aspects for GHS implementation”. He noted that it can be difficult to distinguish between recommendations for government, industry and NGOs, but that most of the recommendations under this theme emphasize the role of government since they are responsible for the legal aspects of GHS implementation.

The recommendations made by the working groups for the legal aspects were the following:

- If the GHS is incorporated into existing legislations (either via ministerial notifications, or administrative orders, etc), the competent authority must then ensure that GHS elements are adequately addressed. This can be done by having stakeholder consultation workshops and public comments.
- Appropriate building blocks should be identified.
- Competent authorities should organize awareness raising seminars for the decision makers. The content of the seminars should cover an introduction to the GHS, why we need the GHS and benefits of GHS implementation (including enhancement of protection of human health and the environment as well as facilitating chemical trade across borders).
- GHS related legislation should cover all hazardous chemicals.
- Competent authorities should establish mechanism to strengthen inter-

---

<sup>4</sup> [http://www.unece.org/trans/danger/publi/ghs/implementation\\_e.html](http://www.unece.org/trans/danger/publi/ghs/implementation_e.html)



agency collaboration to ensure that all relevant agencies within the country are aware of GHS and later to share their knowledge and experiences that contribute to the GHS implementation.

- Competent authorities should establish mechanisms to incorporate latest version of the GHS Purple Book into their respective regulations.
- Competent authorities should identify appropriate transition periods for GHS implementation. While countries are free to determine their respective transition periods based on their needs, the *decisions* about those transition periods should be conveyed to (and if possible, coordinated with) other countries and organizations.
- GHS training should be part of the GHS-related regulations to ensure competency of the classifiers and users.
- Competent authorities should allow “over labeling”.
- Competent authorities should establish inspection tools to ensure GHS compliance for which two possible approaches could be to have enforcers that carry out inspections at company premises or to inspect chemical labels and SDS that are available on the market.

In conclusion, Mr. Goh said that enforcement can be a driving force for GHS implementation. He added that if the awareness of social responsibilities is lacking, then the ‘right to know’ should be complemented by enforcement.

During the discussion session, several participants suggested that the approach of updating the Purple Book every two years is confusing because it is not practical to also update legislation every two years. A participant from Singapore agreed that those countries implementing the GHS find it difficult to adapt to the latest versions of GHS because it is very costly and difficult for industry to change the labels. A participant from Indonesia raised the issue of “overlabelling” where in some cases several pictograms are found in a same product. A participant from the Chinese delegation asked if the GHS could be “upgraded” to be a Convention (such as for POPs). Reiner Arndt, UNITAR, replied that is highly unlikely (and perhaps not desirable) to make the GHS in to a legally binding instrument, as national approaches are needed; however, as discussed in the workshop, there already are links between the existing chemicals conventions and the GHS.

### **7.3 Theme 3: GHS implementation issues**

The results of the discussions on the third theme, “implementation issues”, were presented by Muazama Burkhanova (FSCI/IPEN).

#### ***Current challenges***

- The issue of labelling of consumer products
- How to implement GHS in countries not yet implementing (e.g. how to obtain the necessary technical expertise)
- Linking GHS to mainstreaming and sound chemicals management in general
- Lack of regular meetings on GHS
- Low awareness among policy-makers
- Need to share updates among different countries.

#### ***Steps to be taken***

- Designate a “GHS Champion” in each country
- Create a GHS Task Force or Committee, including relevant ministries, industry, academia and civil society
- Engage all relevant stakeholders
- Develop a national policy of GHS implementation
- Develop a Road Map to promoting the GHS (including a gap analysis, development of guidelines, capacity building, awareness raising, etc.)
- Compliance assistance - set standards
- Develop national/international collaborations – experts group
- Develop indicators to show the way forward
- Access the resources and time needed for implementation
- Engage in comprehensibility testing to gauge the worker’s perception – workers, supervisors and managers level
- Capacity-building and training, including inspection (workplace, market control), different seminar for workers, industry to provide a ‘help desk’

Translate the Purple Book (proofread and peer-reviewed)

### ***Issues for the future***

- Mainstreaming of chemicals
- Governments will need to have ownership and accountability
- Good coordination will be needed within countries (useful to have focal points)
- Continued support from international organizations
- Need for multinationals to be on-board –added value
- Cooperation with industry and multinationals
- Strategies for how to make the GHS a reality

During the discussion session, participants (especially from East Asia), stressed the importance of coordination among the different ministries involved in GHS implementation and the important roles of NGOs. The issue of the GHS Purple Book only being available in the United Nations official languages was also discussed. Many countries expressed difficulties to find competent translators and the required funds to translate the Purple Book and other GHS guidance documents into local languages. A participant from China provided an overview of GHS coordination in his country, explaining the role and responsibilities of the involved departments.

### **7.4 Theme 4: Regional Communication**

The summary of the results of discussions under Theme 4 on “regional communication” was provided by Mr. Foon Weng Lian (FOMCA), as the following:

#### ***Current challenges***

- Regional information dissemination is not adequately addressed.
- Lack of cooperation between all stakeholders and also among regions.
- Confidential data in the business is not being disclosed.
- The number of GHS experts is insufficient.
- Lack of funds to complete implementation strategies.
- Commitment from all the stakeholders not consistent.

### ***Steps to be taken***

Participants suggested six tools/approaches to be used for sharing information at the regional level:

- More meetings are needed.
- Develop a website which can be accessed by all the sectors.
- Use electronic platforms as a forum for providing relevant updates on the GHS, lists of laboratories which can conduct chemical testing, etc.
- Develop case studies of country experience for the educational purposes of other countries.
- Exchange GHS implementation tools, such as the software developed by Korea and Japan.
- Increase capacity building and awareness of all sectors

### ***Issue for the future***

- Governments will need to procure data from enterprises and industries and make it available online (either for free or for a charge).
- Where to access more funds?
- Train-the-trainer programmes (especially for classification and labeling) for all the sectors must be increased.

During the discussion session, a participant from China asked about the measures to be taken to make GHS implementation more effective. Many participants agreed that the use of electronic media could contribute significantly to the dissemination of information, in particular for the ASEAN region. A participant from Kazakhstan noted that Central Asian countries are not members of ASEAN and therefore a mechanism for collaboration among regions should be considered. Participants re-affirmed the importance of holding regional workshops and trainings, at which the media should also be engaged. One participant suggested holding a high-level regional meeting, involving the head of the ASEAN Secretariat, regional offices of ILO, WHO, donors such as the EU, etc. Jonathan Krueger, UNITAR, suggested that countries could get in touch with the ASEAN Secretariat to involve them more closely in the national GHS activities but that a second regional workshop was planned by UNITAR/ILO for 2012. Prof. Mokhtar recommended that participants should examine *existing* platforms and networks to build GHS in to those as well.

### ***Closing Remarks***

Prof. Mokhtar congratulated the participants for their fruitful efforts during the discussions and welcomed the progress made since the last regional meeting in Jakarta in 2007. He expressed sincere appreciation to the workshop organizers and invited the participants to get in touch with their national competent authorities once back in their respective countries to follow-up on the implementation of the GHS.

Mr. Jonathan Krueger expressed the appreciation of UNITAR/ILO for the support of MIIT and WHO, as well as the sponsors of the workshop (the EU, Swiss and German governments, AICM and Sinochem Corporation) and the China National Chemical Economic Technical Development Center for providing the logistical arrangements for the workshop. He thanked all participants for the constructive discussions and indicated that UNITAR would follow-up on the recommendations made as the region continued to move forward with GHS implementation.

The workshop was closed by Ms. Jian Jiang, MIIT, China, who thanked all participants for coming to Beijing for the three days to discuss and share experiences with GHS implementation. She thanked the workshop co-organizers and sponsors for their commitment to making the meeting a success and invited all participants back to Beijing in the future.



## Annex 1: Workshop Agenda

Time	Session
	<b>Wednesday, 15 September 2010</b>
08.30	Registration
09.00	<p><b>Welcome and Opening remarks</b></p> <p><i>Moderator:</i> Mr. Yuan Longhua, Deputy Director-General, Dept. of Raw Materials Industry, MIIT, PR China</p> <p>Mr. Chen Yanhai, Director-General, Dept. of Raw Materials Industry, MIIT, PR China</p> <p>Mr. Christoph Lang, First Secretary, Embassy of Switzerland</p> <p>Mr. João Santos, First Secretary, Delegation of the European Union to China and Mongolia</p> <p>Ms. Cordula Geinitz, Second Secretary, Embassy of Germany</p> <p>Dr. Michael O'Leary, WHO Representative in the People's Republic of China</p> <p>Ms. Ann Herbert, Director, ILO Office for China and Mongolia <i>(on behalf of UNITAR-ILO)</i></p>
<b>10.00</b>	<b>Coffee Break</b>
<b>10.30</b>	<b>Session 1 : Introductory Presentations</b>
	<p>Moderator: <b><i>Pavan Baichoo, ILO</i></b></p> <p>Introduction to the Workshop, <b><i>Jonathan Krueger, UNITAR</i></b></p> <p>Update and Latest Developments on the GHS, <b><i>Peter Dawson, ERMA, New Zealand</i></b></p> <p>The UNITAR/ILO Programme for Capacity Building to Implement the GHS, <b><i>Mehdia Siari, UNITAR</i></b></p> <p>GHS as a Basis for the Sound Management of Chemicals, <b><i>Reiner Arndt, UNITAR</i></b></p> <p>Discussion</p>
<b>12.30</b>	<b>Lunch Break</b>
<b>14.00</b>	<b>Session 2: Status of GHS Implementation in Southeast, East and Central Asia</b>
	Moderator: <b><i>Veronica Chow, Ministry of Manpower, Singapore</i></b>

	<p>Presentation of Status Report on GHS Implementation in Southeast, East and Central Asia  <b>Hiroshi Jonai, Nihon University, Japan</b>  <b>Jaewook Choi, Korea University</b></p> <p>Experience with GHS implementation in New Zealand, <b>Peter Dawson, New Zealand</b></p> <p>Introduction of GHS Implementation in China, <b>Jiang Jian, MIIT</b></p> <p>Lessons learned to date in 4 Project countries  <b>Delegate of each country: Indonesia, Malaysia, Philippines, Thailand</b></p> <p>Discussion</p>
<b>15.30</b>	<b>Coffee Break</b>
15.45	Session 2 continued
<b>16.15</b>	<b>Session 3: Linkages between the GHS and International Chemicals Conventions</b>
	<p>Moderator: <b>Tarcísio Hardman Reis, Secretariat of the Rotterdam Convention</b></p> <p>GHS and the Rotterdam and Stockholm Conventions and ILO Convention 170, <b>Reiner Arndt, UNITAR</b></p> <p>GHS and the Basel Convention, <b>Peter Peterson, UNITAR</b></p> <p>GHS: International Chemicals Management, Sustainable Development and the Millennium Development Goals (MDGs), <b>Peter Peterson, UNITAR</b></p> <p>Discussion</p>
<b>17.30</b>	<b>Adjournment Day 1</b>
<b>18.30</b>	<i>Evening reception hosted by the Government of the People's Republic of China</i>



	Thursday, 16 September 2010
09.00	<b>Session 4 : Needs and Role of the Health Sector in GHS Implementation</b>
	<p>Moderator: <i>tbc</i></p> <p>Why the GHS is Important for Public Health, <b>Joanna Tempowski, WHO</b></p> <p>Control Banding, <b>Pavan Baichoo, ILO</b></p> <p>Discussion</p>
10.00	<b>Coffee Break</b>
10.15	<b>Session 5: The Role of Industry, and Public Interest and Labour Organizations in GHS Implementation</b>
	<p>Moderator: <b>Mazlin Bin Mokhtar, Universiti Kebangsaan Malaysia (UKM)</b></p> <p>The Perspectives of Industry:</p> <p><b>Hui Hua Wang, Singapore Chemical Industry Council (SCIC)</b>  <b>Siang-Hee Tan, Croplife Asia</b>  <b>Christina Liu, Association of International Chemical Manufacturers (AICM)</b>  <b>Masahiko Hanzawa, Japan Chemical Industry Association (JCIA)</b></p> <p>The Perspective of Labour Organizations, <b>Yustinus Bukit Martyr, Chemical, Energy, Mines, Oil &amp; Gas and General Workers Union (FSP-KEP)</b></p> <p>The Perspective of Consumer Organizations, <b>Keya Ghosh, Consumers International Asia-Pacific</b></p> <p>The Perspective of NGOs, <b>Muazama Burkhanova, Foundation to Support Civil Initiatives (FSCI)/IPEN</b></p> <p>Discussion</p>
12.30	<b>Lunch Break</b>
14.00	<b>Session 6: Challenges and Opportunities of GHS Implementation</b>
	<p><b>Theme 1: Technical aspects</b></p> <p>Presentation</p> <p>Working groups</p>
15.30	<b>Coffee Break</b>
15.45	<p><b>Theme 2: Legal aspects</b></p> <p>Presentation</p> <p>Working groups</p>

17.30	Adjournment Day 2
-------	-------------------

Friday, 17 September 2010	
09.00	<b>Theme 3: Implementation process issues</b> Presentation Working groups
10.30	Coffee Break
10.45	<b>Theme 4: Regional Communication and Information Sharing</b> Presentation Working groups
12.30	Lunch Break
14.30	<b>Session 7: Workshop Conclusions and Follow-up activities</b>
	Moderator: <i>tbc</i>  <b>Summary Presentation 1:</b> Technical aspects of GHS Implementation  <b>Summary Presentation 2:</b> Legal aspects of GHS Implementation  <b>Summary Presentation 3:</b> GHS implementation process issues  <b>Summary Presentation 4:</b> Regional communication and Information Sharing  Discussion and Conclusions
17.30	Adjournment of Workshop

## Annex 2: List of Participants

### 1. Governments

#### BRUNEI DARUSSALAM

Mohamad Tahir, Mr. Noorilham  
Senior Health Inspector  
Occupational Health Division  
Ministry of Health  
Block 2G-05, Ong Sum Ping Condominium  
Bandar Seri Begawan  
Brunei Darussalam  
Tel: 673 2230042  
Fax: 6732230037  
Email: [ahm8215@yahoo.com](mailto:ahm8215@yahoo.com)

#### CAMBODIA

Chan, Mr. Borin  
Vice President of Institute of Standards of  
Cambodia  
Ministry of Industry Mine and Energy  
No. 538 National Road No.2 Sangkat Chak Ang  
Re Leau  
Khan Mean Chey  
Phnom Penh  
Cambodia  
Tel: (855) 12 751 571  
Fax: (855) 23 425 052  
Email: [chanborin@isc.gov.kh](mailto:chanborin@isc.gov.kh)

Yi, Mr.(Dr.) Kannitha  
Deputy Director of DOSH  
Occupational Safety and Health Dept.  
Ministry of Health  
No. 3 Russian Federation Blvd, Phnom Penh,  
Phnom Penh  
Cambodia  
Tel: (855) 16 890 098  
Email: [kannitha.yi@gmail.com](mailto:kannitha.yi@gmail.com)  
Email: [kannithaash@yahoo.com](mailto:kannithaash@yahoo.com)

Kol, Mr. Hero  
Vice Director of Preventive Medicine  
Department  
Ministry of Health  
#151-153, Kampuchea Krom Avenue (128)  
Phnom Penh 12252  
Cambodia  
Tel: 855 23 426146  
Fax: 855 23 722184  
Email: [khero@online.com.kh](mailto:khero@online.com.kh)  
[herokol@yahoo.com](mailto:herokol@yahoo.com)

#### CHINA, PEOPLE'S REPUBLIC OF

Meng, Mr. Jianhong  
Deputy Director of the Department of Treaty  
and Law  
Ministry of Foreign Affairs  
Beijing  
PR China  
Tel:86 10 65963251  
Fax:86 10 65963257  
Email: [meng\\_jianhong@mfa.gov.cn](mailto:meng_jianhong@mfa.gov.cn)

Shao, Mr. Ji  
Staff of the Department of Industry  
National Development and Reform  
Commission  
Beijing  
PR China  
Tel:86 10 68501640  
Fax:86 10 68502778  
Email: [shaoji@ndrc.gov.cn](mailto:shaoji@ndrc.gov.cn)

Chen, Mr. Yanhai  
Director-General of the Department of Raw  
Materials Industry  
Ministry of Industry and Information  
Technology  
Beijing  
PR China  
Tel: 86 10 68205560  
Email: [chenyh@miit.gov.cn](mailto:chenyh@miit.gov.cn)

Yuan, Mr. Longhua  
Deputy Director-General of the Department of  
Raw Materials Industry  
Ministry of Industry and Information  
Technology  
Beijing  
PR China  
Tel:86 10 68205561  
Fax: 86 10 68205561  
Email: [yuanlh@miit.gov.cn](mailto:yuanlh@miit.gov.cn)

Jiang, Ms. Jian  
Director of the Department of Raw Materials  
Industry  
Ministry of Industry and Information  
Technology  
Beijing  
PR China  
Tel: 86 10 68205568  
Fax: 86 10 68205568  
Email: [jiangj@miit.gov.cn](mailto:jiangj@miit.gov.cn)

Chen, Mr. Kaimin  
Director Level of the Department of Raw  
Materials Industry  
Ministry of Industry and Information  
Technology  
Beijing  
PR China  
Tel: 86 10 68205569  
Fax: 86 10 68205568  
Email: [chenkm@miit.gov.cn](mailto:chenkm@miit.gov.cn)

Luo, Mr. Qiming  
Senior Staff of the Department of Raw  
Materials Industry  
Ministry of Industry and Information  
Technology  
Beijing  
PR China  
Tel: 86 10 68205571  
Fax: 86 10 68205568  
Email: [luoqm@miit.gov.cn](mailto:luoqm@miit.gov.cn)

Li, Mr. Weijia  
Deputy Director-General Level of the  
Department of Work Safety  
Ministry of Industry and Information  
Technology  
Beijing  
PR China  
Tel: 86 10 68205374

Zhang, Mr. Yuangang  
Director Level of the Department of Work  
Safety  
Ministry of Industry and Information  
Technology  
Beijing  
China  
Tel: 86 10 68205383

Ge, Ms. Haihong  
Assistant Researcher  
Chemical Registration Center of the Ministry of  
Environmental Protection  
Beijing  
China  
Tel: 86 10 84915306  
Fax: 86 10 84913897-1054  
Email: [gehh@crc-mep.org.cn](mailto:gehh@crc-mep.org.cn)

Yin, Mr. Jie  
Assistant Researcher  
Chemical Registration Center of the Ministry of  
Environmental Protection.  
Beijing  
China  
Tel: 86 10 84917656  
Fax: 86 10 84913897  
Email: [yinj@crc-mep.org.cn](mailto:yinj@crc-mep.org.cn)

Chen, Mr. Zhengcai  
Director Level of the Bureau of Water  
Transport  
Ministry of Transport  
Beijing  
China  
Tel: 86 10 65292225  
Fax: 86 10 65292638

Duan, Mr. Xiaorui  
Senior Staff of the Bureau of Water Transport  
Ministry of Transport  
Beijing  
China  
Tel: 86 10 65292637  
Fax: 86 10 65292638  
Email: [spurduan@163.com](mailto:spurduan@163.com)

Hai, Mr. Tao  
Director of the Bureau of Transport  
Ministry of Railway  
Beijing  
China  
Tel: 86 10 51845192  
Fax: 86 10 51844192  
Email: [victory1188@126.com](mailto:victory1188@126.com)

Xu, Ms. Jianning  
Professor of the Institute for Occupational  
Health and Poison Control  
Chinese Center for Disease Control and  
Prevention  
Beijing  
China  
Tel: 86 10 83132918  
Email: [jnx999@263.net](mailto:jnx999@263.net)

Liu, Mr. Chenkai  
Deputy Director  
General Administration of Customs  
Beijing  
China

Wang, Mr. Lipeng  
Senior Staff  
Dalian Customs  
Dalian  
China  
Tel: 86 411 88016025  
Fax: 86 411 88016036  
Email: [dlhg\\_wanglipeng@customs.gov.cn](mailto:dlhg_wanglipeng@customs.gov.cn)

Cao, Ms. Yufang  
Senior Staff of the Department of Supervision  
on Inspection  
General Administration of Quality Supervision,  
Inspection and Quarantine (AQSIQ)  
Beijing  
China  
Tel: 86 411 82261938  
Email: [caoyf@aqsiq.gov.cn](mailto:caoyf@aqsiq.gov.cn)

Chen, Mr. Huimin  
Doctor/Professor  
Chinese Academy of Inspection and Quarantine  
Beijing  
China  
Tel: 86 10 85783268

Qiu, Mr. Kaidong  
Senior Staff of the Department of No.3  
Supervision  
The State Administration of Work Safety  
Beijing  
China  
Tel: 86 10 64463239  
Fax: 86 10 64463239  
Email: [qiukd@chinasafety.gov.cn](mailto:qiukd@chinasafety.gov.cn)

Mu, Ms. Jingxia  
Engineer  
Chemical Registration Centre of the State  
Administration of Work Safety  
Qingdao  
China  
Tel: 86 532 83786456  
Fax: 86 532 83786574  
Email: [mujx.qday@sinopec.com](mailto:mujx.qday@sinopec.com)

Chen, Mr. Jun  
Engineer  
Chemical Registration Centre of the State  
Administration of Work Safety  
Qingdao  
China  
Tel: 86 532 83786556  
Fax: 86 532 83786574  
Email: [mujx.qday@sinopec.com](mailto:mujx.qday@sinopec.com)

Yin, Mr. Xun'an  
Senior Staff of Production Management  
Department  
China Petroleum & Chemical Corporation  
Beijing  
China  
Tel: 86 10 59969371  
Fax: 86 10 59760164  
Email: [yinx@sinope.com.cn](mailto:yinx@sinope.com.cn)

Fan, Mr. Jun  
Senior Staff of Production Management  
Department  
China Petroleum & Chemical Corporation  
Beijing  
China

Ma, Ms. Ying  
Senior Engineer  
Beijing Research Institute of Chemical Industry  
Beijing  
China  
Tel: 86 10 59202232  
Fax: 86 10 64287757  
Email: [may.bjhy@sinopec.com](mailto:may.bjhy@sinopec.com)

Tang, Mr. Yuebing  
Senior Engineer  
Beijing Research Institute of Chemical Industry  
Beijing  
China  
Tel: 86 10 59202521  
Fax: 86 10 64273692  
Email: [tangyb.bjhy@sinopec.com](mailto:tangyb.bjhy@sinopec.com)

Guo, Ms. Yanling  
Engineer  
Beijing Research Institute of Chemical Industry  
Beijing  
China

Zhang, Ms. Xueling  
Deputy Director/Senior Engineer of the  
Department of Energy Save  
Chinese National Petroleum Corporation  
Beijing  
China  
Tel: 86 10 59984783  
Fax: 86 10 62095414  
Email: [zhangxueling@cnpc.com.cn](mailto:zhangxueling@cnpc.com.cn)

Lin, Ms. Jiong  
Deputy Director/Senior Engineer of the  
Refining Branch  
Chinese National Petroleum Corporation  
Beijing  
China  
Tel: 86 10 59982723  
Fax: 86 10 62099591  
Email: [linjiong@petrochina.com.cn](mailto:linjiong@petrochina.com.cn)

Li, Mr. Hua  
Senior Security Manager of China Offshore Oil  
and Gas Development and Utilization Company  
China National Offshore Oil Corporation  
Beijing  
China  
Tel: 86 10 84521679  
Fax: 86 10 84521197  
Email: [lihual@cnooc.com.cn](mailto:lihual@cnooc.com.cn)

Zhao, Mr. Xibao  
Senior Engineer of China Blue Chemical Ltd.  
China National Offshore Oil Corporation  
Beijing  
China  
Tel: 86 10 84527295  
Fax: 86 10 84527300  
Email: [zhaoxb@cnooc.com.cn](mailto:zhaoxb@cnooc.com.cn)

Jiao, Mr. Yang  
Director of the Department of QHSE  
China National Offshore Oil Corporation  
Beijing  
China  
Tel: 86 10 84523582  
Fax: 86 10 64015057  
Email: [jiaoyang@cnooc.com.cn](mailto:jiaoyang@cnooc.com.cn)

Zhao, Ms. Yuyan  
Engineer  
Shenyang Research Institute of Chemical  
Industry  
Shenyang  
China  
Tel: 86 24 62353771  
Fax: 86 24 62353478  
Email: [zhaoyuyan@sinachem.com](mailto:zhaoyuyan@sinachem.com)

Zhou, Mr. Houyun  
Professional Senior Engineer  
China National Chemical Corporation  
Tel: 86 10 64415052  
Email: [zhouhy@cheminfo.gov.cn](mailto:zhouhy@cheminfo.gov.cn)

Xu, Ms. Yaqing  
Engineer  
China National Chemical Corporation  
Email: [duoduo4283@yahoo.cn](mailto:duoduo4283@yahoo.cn)

Mei, Mr. Jian  
Professional Senior Engineer  
China Petroleum and Chemical Industry  
Federation

Dai, Mr. Wei  
Legal Director  
China Consumers' Association  
Beijing  
China  
Tel: 86 10 63253153  
Fax: 86 10 63253199  
Email: [dai.w@vip.sohu.com](mailto:dai.w@vip.sohu.com)

Liang, Ms. Jin  
Engineer  
China National Chemical Information Centre  
Beijing  
China  
Tel: 86 10 64444101-867  
Fax: 86 10 64440380  
Email: [liangjin@cheminfo.gov.cn](mailto:liangjin@cheminfo.gov.cn)

Ge, Mr. Xiaojun  
Deputy Director  
China National Chemical Information Centre  
Beijing  
China  
Tel: 86 10 64423369  
Fax: 86 10 64440380  
Email: [gxj@cheninfo.gov.cn](mailto:gxj@cheninfo.gov.cn)

Liu, Mr. Gang  
Director/professor of Testing Centre  
Shanghai Research Institute of Chemical  
Industry  
Shanghai  
China  
Tel: 86 21 52500134  
Fax: 86 21 52801361  
Email: [lgsh33@gmail.com](mailto:lgsh33@gmail.com)

Chen, Mr. Yimiao  
Journalist  
China Industry News  
Beijing  
China  
Tel: 86 10 88368486-2031  
Fax: 86 10 68349306  
Email: [cym113@yahoo.com.cn](mailto:cym113@yahoo.com.cn)

Pang, Ms. Liping  
Journalist  
China Chemical Industry News  
Beijing  
China  
Tel: 86 10 82032064  
Fax: 86 10 82039212  
Email: [pangyifan@yahoo.cn](mailto:pangyifan@yahoo.cn)

Xin, Mr. Xiao  
Journalist  
China Chemical Industry News  
Beijing  
China

Zhang, Mr. Yihong  
President  
China Industry Net  
Beijing  
China  
Tel: 86 10 82961878  
Fax: 86 10 62909652  
Email: [zhangyh-3000@163.com](mailto:zhangyh-3000@163.com)

#### **DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA (D.P.R. KOREA)**

Choe, Mr. Pok Nam  
Head of Information Section  
Hygiene Research Institute of Academy of  
Medical Science, People's Republic of Korea  
Tang Sang-Dong, Mangyongdae District,  
Pyongyang  
DPR Korea  
Tel: 850-2-1811ext.3827222  
Email: [med.intl@co.chesin.com](mailto:med.intl@co.chesin.com)

Kim, Mr. Hyon ThaeK  
Head of Environment Management Research  
Unit  
Environment and Development Center of  
Ministry of Land and Environment Protection  
Inhung-Dong, Moranbong District,  
Pyongyang  
DPR Korea  
Tel: 850-2-1811ext.3827222  
Email: [hyong.chol.ri@undp.org](mailto:hyong.chol.ri@undp.org)

#### **GERMANY**

Geinitz, Ms. Cordula  
Second Secretary, Climate and Renewable  
Energy Counsellor  
German Embassy in Beijing  
No. 17, Dong Zhi Men Wai Da Jie,  
Chao Yang District  
Postal Code: 100600  
Beijing  
PR China  
Tel: (+86)10 8532 9000  
Fax: (+86)10 6532 5336  
Email: [wi-5@peki.diplo.de](mailto:wi-5@peki.diplo.de)

#### **INDONESIA**

Ariani, Ms. Auliyah  
Food Chemistry Laboratorist  
Center for Chemical and Packaging, Ministry of  
Industry  
Balai Kimia Street No.1, Pekayon, Pasar Rebo  
East Jakarta  
Indonesia  
Tel: 62 21 8717438  
Fax: 62 21 8714928  
Email: [aul\\_rn@yahoo.com](mailto:aul_rn@yahoo.com)

Estikasari, Mrs. Sondang Widya  
Head of Section of Surveillance of Product and  
Hazardous Substances  
Directorate of Product and Hazardous  
Substances Control  
The National Agency of Drug and Food Control  
Percetakan Negara No.23  
Jakarta  
Indonesia  
Tel: 62 21 4245395  
Fax: 62 21 4228921  
Email: [sondangwe@yahoo.com](mailto:sondangwe@yahoo.com)

Pratomo, Mr. Eko  
Upstream Chemical Industry  
Ministry of Industry  
Jl. Gatot Subroto KAV. 52-53 16th Floor,  
Jakarta 12950  
Jakarta  
Indonesia  
Tel: 62 21 5252225  
Fax: 62 21 5252225  
Email: [ekoprato08@yahoo.com](mailto:ekoprato08@yahoo.com)

#### **KAZAKHSTAN**

Taizhanov, Mr. Kainar  
Head of Division of Committee of Technical  
Regulation and Metrology  
Ministry of Industry and New Technology  
11, Orynbor str  
Astana  
Kazakhstan  
Tel: +7 7172 793311  
Fax: +7 7172 241303  
Email: [sonldeb@mail.ru](mailto:sonldeb@mail.ru)

## REPUBLIC OF KOREA

Doo, Mr. Yong-Kyoon  
Deputy Director  
Risk Assessment Division  
Environmental Health Risk Research  
Department  
National Institute of Environmental Research  
Environmental Research Complex, Kyungseo-  
Dong, Seo-Gu,  
Incheon 404-170  
Republic of Korea  
Tel: 82 32 560 7211  
Fax: 82 32 568 2031  
Email: [d9864@korea.kr](mailto:d9864@korea.kr)

## KYRGYZSTAN

Akaev, Mr. Zamirbek  
Head of Drug Information Centre, Dept of  
Drug Provision and Medical Equipment  
Dept of Drug Provision and Medical  
Equipment  
Ministry of Health  
25, Tretiya Liniya Street, 720044  
Bishkek  
Kyrgyz Republic  
Tel: 996 312 21 92 76  
Mobile: +996 543 068755  
Fax : 996 312 21 92 76  
Email : [ddp-me@elcat.kg](mailto:ddp-me@elcat.kg)

Murzubraimov, Mr. Bektemir  
Director of Institute of Chemistry and  
Chemical Technology  
National Academy of Sciences of the Kyrgyz  
Republic  
720071, KGZ-Bishkek-pr.Chui 267  
Bishkek  
Kyrgyz Republic  
Tel: 996 312 391948  
Fax: 996 312 391986  
Email: [BMurzubraimov@yandex.ru](mailto:BMurzubraimov@yandex.ru)

## LAOS

Mountivong, Mr. Bounpone  
Deputy Director of Division  
Ministry of Labor and Social Welfare  
Vientiane  
Lao PDR  
Tel: 856 20 2236690  
Fax: 856 21 213287  
Email: [bounponemtv@yahoo.com](mailto:bounponemtv@yahoo.com)

Phimmasone, Ms. Bounkham  
Head of Chemical and Poisoning Substances  
Unit, Narcotic, Chemical and Cosmetic  
Control Division  
Food and Drug Dept  
Ministry of Health  
Vientiane  
Lao PDR  
Tel: (856 21) 21 4013-14  
Fax: (856 21) 21 4015  
Email: [bounkham\\_plm@yahoo.com.au](mailto:bounkham_plm@yahoo.com.au)

## MALAYSIA

Bin Mohd Mokhtar, Mr. Anuar  
Engineer  
Department of Occupational Safety & Health  
(DOSH)  
DOSH Selangor, 7th Floor, Wisma Consplant  
2, Jalan SS 16/1  
47500 Subang Jaya, Selangor  
Malaysia  
Tel: 603 56380340  
Fax: 603 563 89159  
Email: [anuar\\_m@mohr.gov.my](mailto:anuar_m@mohr.gov.my)

Chiong, Ms. Yuh Lian  
Senior Assistant Director  
National Pharmaceutical Control Bureau,  
Ministry of Health  
Lot 36, Jalan University  
46200 Petaling Jaya  
Selangor  
Malaysia  
Tel: 603 7883 5433  
Tel: 6012 551 1085  
Fax: 603 7956 7075  
Email: [chiong@bpfk.gov.my](mailto:chiong@bpfk.gov.my)  
[yuhlian@hotmail.com](mailto:yuhlian@hotmail.com)

Gan, Ms. Mui Huei  
Deputy Director  
Chemical and Petrochemical Products Unit,  
Ministry of International Trade and Industry  
Sectoral Policy II Division, 8th Floor, Block  
10, Government Offices Complex, Jalan  
Duta, 50622  
Kuala Lumpur  
Malaysia  
Tel : 603 62034773  
Fax : 603 62012341  
Email : [bmhgan@miti.gov.my](mailto:bmhgan@miti.gov.my)



## **MONGOLIA**

Surenjav, Unursaikhan Ms.(Dr.)  
Director of Toxicology Centre  
Public Health Institute  
Ministry of Health  
Enhtaivan Street-17, Bayanzurkh district  
Ulaanbaatar  
Mongolia  
Tel: 976 99189454  
Fax: 976 11 450218  
Email: [unursaikhan\\_suren@yahoo.com](mailto:unursaikhan_suren@yahoo.com)

## **MYANMAR**

Moe Moe Thin, Ms.(Dr.)  
Drug Control Officer, F.D.A  
Dept. of Health, Food and Drug  
Administration, NAY PYI TAW, Myanmar  
No. 47, Ministry of Health,  
NAY PYI TAW  
Myanmar  
Tel: 95 067 431137; 95 067 431136  
Fax: 95 067 431134  
Email: [thin.augustgirl.moe@gmail.com](mailto:thin.augustgirl.moe@gmail.com)

## **NEW ZEALAND**

Dawson, Dr. Peter Alistair  
Principal Scientist  
Hazardous Substances, Environmental Risk  
Management Authority (ERMA)  
BP House, 20 Customhouse Quay, PO Box  
131, Wellington 6140  
New Zealand  
Tel: 64 4 9184833  
Fax: 64 4 914 0433  
Email: [peter.dawson@ermanz.govt.nz](mailto:peter.dawson@ermanz.govt.nz)

## **PHILIPPINES**

Arcellana, Ms. Angelita  
Chief Investments Specialist  
Board of Investments, Department of Trade  
and Industry  
385 Sen. Gil Puyat Avenue  
Makati City  
Philippines  
Tel: (63) 2-890-9329  
Fax: (63) 2-897-3080  
Email: [afarcellana@boi.gov.ph](mailto:afarcellana@boi.gov.ph)  
[afarcellana@yahoo.com](mailto:afarcellana@yahoo.com)

Pua, Ms. Dolores  
Supervising Transportation Development  
Officer  
Department of Transportation and  
Communications / Government  
Unit 69, 6th Floor, Columbia Tower, Ortigas  
Avenue  
Mandaluyong City  
Philippines  
Tel: 632 727 17 03  
Fax: 632 727 17 03  
Email: [dollygpua@yahoo.com](mailto:dollygpua@yahoo.com)

Rivera, Ms. Ana Trinidad  
Engineer, Supervising Health Program Officer  
Environmental and Occupational Health  
Office, National Center for Disease Prevention  
and Control  
Department of Health  
San Lazaro Compound, Rizal Avenue, Sta.  
Cruz  
Manila  
Philippines  
Tel : 632 7329966  
Fax : 632 7329966  
Email : [rivera\\_attf@yahoo.com](mailto:rivera_attf@yahoo.com)

## **SINGAPORE**

Chow, Ms. Li Yee  
Senior Assistant Director (Health Risk  
Control)  
Ministry of Manpower  
Block C, 120 Kim Seng Road  
Singapore  
Tel: +65 6876 5296  
Fax: (65) 6317-1140  
Email: [veronica\\_chow@mom.gov.sg](mailto:veronica_chow@mom.gov.sg)

Yap, Mr. Tien Siang  
Senior Manager  
Professional Quality/WSH  
Corporate Headquarters  
Health Sciences Authority  
11 Outram Road  
Singapore 169078  
Tel: 65 6213 0817  
Fax: 65 6213 0749  
Email: [YAP\\_Tien\\_Siang@hsa.gov.sg](mailto:YAP_Tien_Siang@hsa.gov.sg)

## SWITZERLAND

Lang, Mr. Christoph I.  
First Secretary  
Embassy of Switzerland in Beijing  
Sanlitun Dongwujie 3, 100600  
Beijing  
PR CHINA  
Tel: 86 10 8532 8888 ext. 8869  
Mob: +86 13651135167  
Fax: 86 10 6532 4353  
Email: [christoph.lang@eda.admin.ch](mailto:christoph.lang@eda.admin.ch)

## TAJIKISTAN

Nazarov, Mr. Kholmakhmad  
Head of Dept. of Dangerous Infections  
State Sanitary Epidemiological Surveillance  
Ministry of Health  
8, Chapaeva str  
Dushanbe  
Tajikistan  
Tel: 992 37 2274947  
Fax: 992 37 2215507  
Email: [minzdrav.rakhimova@yandex.ru](mailto:minzdrav.rakhimova@yandex.ru)

Nazarov, Mr. Shams  
Chief, Utility and Protection of Atmosphere  
Control Division  
Focal point of SAICM from Tajikistan  
Committee of Environment under the  
Government of Republic of Tajikistan  
Str. Shamsi, 5/1, Dushanbe 734034  
Dushanbe  
Tajikistan  
Tel: 992 907 747709  
Fax: 992 37 2361353  
Email: [shams\\_n63@list.ru](mailto:shams_n63@list.ru)

Nazarov, Mr. Timur  
Director Scientific-production center Tabiat  
Committee of Environment under the  
Government of Republic of Tajikistan  
(Monitoring and standards)  
Str. Shamsi, 5/1  
Dushanbe 734034  
Tajikistan  
Tel: 992 37 2230855  
Email: [timur\\_n44@list.ru](mailto:timur_n44@list.ru)

## THAILAND

Arunrungsivech, Mrs. Tippawan  
Senior Scientist  
Hazardous Substances Control Bureau, Dept.  
of Industrial Works,  
Ministry of Industry  
75/6 RAMA VI Road, Ratchathewi  
Bangkok Bangkok10400  
Thailand  
Tel: 66 2 2024230  
Fax: 66 2 2024230  
Email: [tippawan.a@diw.mail.go.th](mailto:tippawan.a@diw.mail.go.th)

Kongphanich, Ms. Aurus  
Pharmacist  
Chemical Safety Group  
Bureau of Cosmetics and Hazardous Substance  
Control  
Food and Drug Administration  
Ministry of Public Health  
Tiwanon Road, Nonthaburi  
Thailand  
Tel: 662 5907289  
Fax: 662 5907287  
Email: [aurus@fda.moph.go.th](mailto:aurus@fda.moph.go.th)

Mitroupathump, Mrs. Jariya  
Department of Industrial Works (DIW),  
Ministry of Industry  
75/6 RAMA VI Road, Rajthevce  
Bangkok Bangkok10400  
Thailand  
Tel: 62 (0) 2 202 4230  
Fax: 62 (0) 2 202 4230  
Email: [jariya.m@diw.mail.go.th](mailto:jariya.m@diw.mail.go.th)

Phakpanich, Mr. Somnuek  
Labour Specialist at senior professional level  
Dept. of Labour Protection and Welfare,  
Ministry of Labour  
22/22 Boromrajchonnanee Road Chimplee  
Talingchan  
Bangkok  
Thailand  
Tel: 66 2448 9128-39 ext. 227  
Fax: 66 24489170  
Email: [pieak08@hotmail.com](mailto:pieak08@hotmail.com)

## **TURKMENISTAN**

Myratdurdyeva, Mrs. Ayjeren  
Lead Specialist of Epidemiology and  
Parazitology Department  
State Sanitary-epidemiologic service,  
Ministry of Health and Medical Industry  
20 Archabil shayoly  
Ashgabat 744036  
Turkmenistan  
Tel: 99312 40 05 94  
Fax: 99312 40 06 08  
Email: [sei@online.tm](mailto:sei@online.tm); [NUJ@euro.who.int](mailto:NUJ@euro.who.int)

Ovezberdiyeva, Ms. Amangul  
Senior Specialist  
The Research and Production Center of  
Ecological Monitoring  
Ministry of Nature Protection of Turkmenistan  
#15 Bitarap Turkmenistan, 744000  
Ashgabat  
Turkmenistan  
Tel: 99 312 351764  
Fax: 99 312 351764  
Email: [amangul@yandex.ru](mailto:amangul@yandex.ru)

## **VIETNAM**

Nguyen, Ms. Thi Lien Huong  
Deputy Director General  
Health Environment Management Agency,  
Ministry of Health  
Alley 135 Nui Truc street, Ba Dinh District  
Hanoi  
Vietnam  
Tel: 844 37368396  
Fax: 844 37367379  
Email: [huongtl.nguyen@gmail.com](mailto:huongtl.nguyen@gmail.com)

Pham, Mr. Hoai Long  
Officer  
Vietnam Chemicals Agency  
Ministry of Industry and Trade  
No 91, Dinh Tien Hoang street  
Hanoi  
Vietnam  
Tel: 84.4.2220.5136  
Fax: 84.4.2220.5038  
Email: [longph@moit.gov.vn](mailto:longph@moit.gov.vn)

Tran Thi Thanh, Ms. Xuan  
Senior Officer  
Directorate for Standards, Metrology and  
Quality  
Vietnam Standards and Quality Institutue  
(VSQI)  
No 8 Hoang Quoc Viet Road, Cau Giay  
District, Ha Noi, Vietnam  
Hanoi  
Vietnam  
Tel: (84-4) 38 361 467  
Fax: (84-4) 38 361 771  
Email: [thanhxuan@vsqi.gov.vn](mailto:thanhxuan@vsqi.gov.vn)

## **UZBEKISTAN**

Hakimov, Mr. Valihan  
Head of Regional Directorate of Health  
Health  
Amir Umarhon, 19, 710000  
Andijan  
Uzbekistan  
Tel: +998 7422 45690  
Fax: 9.9874224316  
Email: [and-hva@mail.ru](mailto:and-hva@mail.ru)

## 2. Industry, Labour and Non-Profit Civil Society Groups

### ASSOCIATION OF INTERNATIONAL CHEMICAL MANUFACTURERS (AICM)

Liu, Ms. Christina  
Hazardous Chemical Taskforce Leader,  
Regulatory Affairs Committee  
Association of International Chemical  
Manufacturers Ltd. (AICM)  
Momentive Performance Materials  
No. 227 Libing Road, Zhangjiang Hi-tech  
Park, Pudong New Area  
Shanghai 201203  
PR China  
Tel: 86-21-38604791  
Fax: 86-10-50793739  
Email: [qing.liu@momentive.com](mailto:qing.liu@momentive.com)

Wan, Ms. Eva  
EH&S Product Regulatory Specialist  
Dow Chemical (China) Investment Limited;  
Association of International Chemical  
Manufacturers Ltd.(AICM)  
Room 1101, Tower W3, Oriental Plaza, No.1  
East Chang An Avenue, Dong Cheng District,  
Beijing 100738  
PR China  
Tel: 86-10-87279212; 86 139 115 28628  
Fax: 86-10-85279299  
Email: [ewwan@dow.com](mailto:ewwan@dow.com)

Wang, Ms. Bing  
Chair, Regulatory Affairs Committee  
Association of International Chemical  
Manufacturers Ltd.(AICM)  
Bayer Materials Science  
18th Floor Citigroup Tower, No.33, Huayuan  
Shiqiao Road, Pudong Shanghai 200120  
P.R. China  
Tel: 86-21-61466734  
Fax: 86-10-61468629  
Email: [bing.wang@bayermaterialscience.com](mailto:bing.wang@bayermaterialscience.com)

Zheng, Mr. Peijie  
Regulatory Affairs Director  
Association of International Chemical  
Manufacturers Ltd.(AICM)  
W1-207, Oriental Plasa, No. 1, East Chang'an  
Ave.,  
Beijing, 100738  
PR China  
Tel: 010-85181893  
Fax: 010-85181891  
Email: [jason@aicm.cn](mailto:jason@aicm.cn)

### CONSUMERS INTERNATIONAL (FOR ASIA PACIFIC & THE MIDDLE EAST)

Ghosh, Ms.(Dr.) Keya  
Centre Head, Calcutta Resource Centre, CUTS  
International (India)  
Consumers International-Kuala Lumpur Office  
(for Asia Pacific & the Middle East)  
3,Suren Tagore Road, 2nd Floor  
Kolkata 700019  
India  
Tel: 91 33 2460 4987/4985; 09831219339  
Fax: 91-33-24604987  
Email: [kg@cuts.org](mailto:kg@cuts.org);  
[keya.ghosh@rediffmail.com](mailto:keya.ghosh@rediffmail.com)

### THE CENTER 'COOPERATION FOR SUSTAINABLE DEVELOPMENT', PUBLIC FUND, KAZAKHSTAN

Mustafina, Ms. Vera  
Director  
The Center "Cooperation for Sustainable  
Development", Public Fund, Kazakhstan  
32, Abay ave., office 217  
Almaty, 050032  
Kazakhstan  
Tel: 7 727 2558421  
Fax: 7 727 2676472  
Email: [csd.vera@gmail.com](mailto:csd.vera@gmail.com)

### CENTER FOR CHEMICAL SAFETY « ECOMIR »

Beibitova, Dr. Amina  
Director  
Center for Chemical Safety Ecomir  
111, 31 Astana  
Kazakhstan  
Tel : 77 172406 487  
Email : [son1deb@mail.ru](mailto:son1deb@mail.ru)

### CROPLIFE ASIA

Tan, Mr. Siang Hee  
Executive Director  
CropLife Asia (Plant Science Industry)  
17A, Everton Road, 087393  
Singapore  
Tel: 65 62211615  
Fax: 65 62221615  
Email: [sianghee.tan@croplifeasia.org](mailto:sianghee.tan@croplifeasia.org)

**FEDERATION OF MALAYSIAN  
CONSUMERS ASSOCIATION (FOMCA)**

Foon, Mr. Weng Lian  
Programme Executive  
Federation of Malaysian Consumers  
Association (FOMCA)  
No.1D-1, Bangunan SKPPK, Jalan SS 91/17  
47300 Petaling Jaya, Selangor  
Malaysia  
Tel: 603 7875 3168  
Fax: 603 7875 2168  
Email: [foon@forumair.org.my](mailto:foon@forumair.org.my)  
[fomca@fomca.org.my](mailto:fomca@fomca.org.my)

**FOUNDATION TO SUPPORT CIVIL  
INITIATIVES (FSCI)**

Burkhanova, Ms. Muazama  
Chair  
Foundation to Support Civil Initiatives (FSCI)  
Shotemur str. 73a-19  
Dushanbe  
Tajikistan  
Tel: 992 37 2215857  
Fax: 992 37 2215857  
Email: [mburkhanova@mail.ru](mailto:mburkhanova@mail.ru),  
[muazamab@gmail.com](mailto:muazamab@gmail.com)

**GLOBAL VILLAGE OF BEIJING**

Jiang, Ms. Chao  
Program Coordinator  
Global Village of Beijing  
Room 301, Building C, 12 Yumin Road,  
Chaoyang District  
Beijing  
PR China  
Tel: 8610-82252046  
Fax: 8610-82252045  
Email: [jjiangchao@gvbchina.org.cn](mailto:jjiangchao@gvbchina.org.cn)

**GREENPEACE CHINA**

Ma, Mr. Tianjie  
Campaigner, Toxics  
Greenpeace China  
3/F Julong office Building, Block 7, Julong  
Garden, 68 Xinzhong Street, Dongcheng  
District  
Beijing  
Tel: 8610-65546931  
Fax: 8610-65546932  
Email: [ma.tianjie@greenpeace.org](mailto:ma.tianjie@greenpeace.org)

Zhang, Ms. Miao  
Campaigner  
Greenpeace China  
3/F Julong office Building, Block 7, Julong  
Garden, 68 Xinzhong Street, Dongcheng  
District  
Beijing  
Tel: 8610-65546931-137  
Fax: 8610-65546932  
Email: [zhang.miao@greenpeace.org](mailto:zhang.miao@greenpeace.org)

**Chemical, Energy, Mines, Oil & Gas  
and General Workers Union (FSP-  
KEP)**

Bukit, Mr. Yustinus Martyr  
Vice Chairman, Chemical, Energy, Mines, Oil  
& Gas and General Workers Union Unit  
Halliburton Energy Services Indonesia  
Jakarta Selatan  
Indonesia  
Tel: 62 811 938040  
Fax: 62 811 7801154  
Email: [yustinus.bukit@halliburton.com](mailto:yustinus.bukit@halliburton.com)

**INSTITUTE FOR ENVIRONMENT &  
DEVELOPMENT (LESTARI), UNIVERSITI  
KEBANGSAAN MALAYSIA (UKM)**

Mokhtar, Mr.(Prof.) Mazlin Bin  
Professor & Principal Fellow & Director  
Insitute for Environment & Development  
(LESTARI)  
Universiti Kebangsaan Malaysia (UKM)  
43600 UKM BANGI  
Selangor  
Malaysia  
603-8921-4144  
603-8925-5104  
[mazlin@ukm.my](mailto:mazlin@ukm.my); [mazlinmokhtar@yahoo.com](mailto:mazlinmokhtar@yahoo.com)

Goh, Mr. Choo Ta  
Research Fellow  
Institute for Environment & Development  
(LESTARI)  
Universiti Kebangsaan Malaysia (UKM)  
43600 UKM Bangi  
Selangor  
Malaysia  
Tel: 603-8921-4149  
Fax: 603-8925-5104  
Email: [gohchoota@ukm.my](mailto:gohchoota@ukm.my)

**JAPAN CHEMICAL INDUSTRY  
ASSOCIATION (JCIA)**

Hanzawa, Mr. Masahiko  
General Manager  
Japan Chemical Industry Association  
Sumitomo Rokko Bldg. 1-4-1 Shinkawa,  
Chuo-ku, Tokyo, 104-0033  
Tokyo  
Japan  
Tel : (81) 3 3297 2567  
Fax: (81) 3 3297 2612  
Email: [mhanzawa@jcia-net.or.jp](mailto:mhanzawa@jcia-net.or.jp)

Shimizu, Mr. Nobuyuki  
General Manager  
Japan Chemical Industry Association  
Sumitomo Rokko Bldg. 1-4-1 Shinkawa,  
Chuo-ku, Tokyo, 104-0033  
Tokyo  
Japan  
Tel : (81) 3 3297 2567  
Fax: (81) 3 3297 2612  
Email: [nshimizu@jcia-net.or.jp](mailto:nshimizu@jcia-net.or.jp)

**JAPAN CHEMICAL DATABASE LTD.**

Sano, Mr. Hiroshi  
Technical consultant  
Japan Chemical Database Ltd.  
3-9,Kanda Jinbo-cho, Chiyoda-ku  
Tokyo  
Japan  
Tel: 81 3 3239 5901  
Fax: 81 3 3239 5322  
Email: [sanohiroshi39@hotmail.com](mailto:sanohiroshi39@hotmail.com)

**KOREA CHEMICALS MANAGEMENT  
ASSOCIATION**

Cho, Mr. Sam Rae  
Management Director  
Korea Chemicals Management Association  
3F Uil B/D 1623-2 Seocho-Dong Seocho-Gu  
Seoul 137-070  
Republic of Korea  
+82 2 3019 6702  
+82 2 587 2204  
[chosr@kcma.or.kr](mailto:chosr@kcma.or.kr)

**KOREA UNIVERSITY**

Choi, Dr. Jae Wook  
Professor  
Korea University  
126-1 Anam-Dong Seongbuk-Gu  
Seoul 136-705  
Republic of Korea  
Tel: +82 2 926 4704  
Fax: +82 2 920 6442  
Email: [shine@korea.ac.kr](mailto:shine@korea.ac.kr)

Kim, Ms. Kyong-hee  
Management Director  
Environment Health, Graduate School of  
Public Health, Korea University  
126-1 Anam-Dong Seongbuk-Gu Seoul,  
136-705 Seoul  
Republic of Korea  
Tel: 82 2 926 4704  
Fax: 82 2 920 6442  
Email: [kimmadam\\_2000@hanmail.net](mailto:kimmadam_2000@hanmail.net)

Lee, Mr. Seung Kil  
Management Director  
Korea University  
Graduate School of Public Health  
126-1 Anam-Dong Seongbuk-Gu  
Seoul 136-705  
Republic of Korea  
Tel: +82 2 920 6440  
Fax: +82 2 920 6442  
Email: [makekorea@korea.ac.kr](mailto:makekorea@korea.ac.kr)

**PETROVIETNAM FERTILIZER &  
CHEMICALS CORPORATION (PVFCCo) –  
VIETNAM NATIONAL OIL AND GROUP**

Tran, Mr. Lieu  
Expert on HSE  
Petrovietnam Fertilizer & Chemicals  
Corporation (PVFCCo)  
Vietnam National Oil and Group  
2-4-6 Le Thanh Ton St., Ben Nghe ward,  
Dist.1  
Hochiminh City  
Vietnam  
Tel: (84) 083 8256258; 84 0908 341 061  
Fax: (84) 083 8256269  
Email: [tlieu@pvfcco.com.vn](mailto:tlieu@pvfcco.com.vn)

### **SINGAPORE CHEMICAL INDUSTRY COUNCIL (SCIC)**

Wang, Mr. Hui Hua  
Co-Chair Singapore GHS Taskforce/Chairman  
Regulatory Affairs Committee, SCIC  
8 Jurong Town Hall Road, #25-04  
The JTC Summit  
Singapore 609434  
Tel: 65 68672091  
Fax: 65 68672099  
Email: [wang.hui.hua@pcs-chem.com.sg](mailto:wang.hui.hua@pcs-chem.com.sg)

Yeung, Ms. Cissie  
Regional Product Stewardship Manager, AP of  
Shell Eastern Petroleum Ptd. Ltd.  
Singapore Chemical Industry Council (SCIC)  
Shell House, 83 Clemenceau Avenue,  
Singapore 239920  
Tel: 65 6384 8798/ 9783 9902  
Fax: 65 6384 8750  
Email: [cissie.yeung@shell.com](mailto:cissie.yeung@shell.com)

### **TECHNOLOGY NIHON UNIVERSITY TOKYO**

Jonai, Dr. Hiroshi  
Professor  
Department of Medical care and Welfare  
Engineering Graduate School of Science and  
Technology Nihon University Tokyo  
1-8-18 Kanda-Surugadai, Chiyoda  
Tokyo  
Japan  
Tel: 81 332 590 879  
Fax : 81 332 590 879  
Email : [jonai@medwel.cst.nihon-u.ac.jp](mailto:jonai@medwel.cst.nihon-u.ac.jp)

### **UNILEVER THAI SERVICE LTD.**

Suvanaphen, Mr.(Dr.) Preecha-korn  
Regulatory Affairs Asia Region Counsellor  
Unilever Asia Pte Ltd  
Unilever Thai Services Ltd  
18 Scb Park Plaza West Bldg, Jutujak Rd,  
Bangkok 10900  
Thailand  
Tel: 662 5543263-4  
Fax: 662 5122986  
Email: [preecha.suvanaphen@unilever.com](mailto:preecha.suvanaphen@unilever.com)

## **3. International and Regional Organizations**

### **EUROPEAN UNION (EU)**

Santos, Mr. João  
First Secretary  
Delegation of the European Union to China  
and Mongolia  
No 15 Dongzhimenwei Street,  
Beijing 100600, China  
Tel: (86-10) 84548164  
Fax: (86-10) 84548011  
Email: [joao.santos@ec.europa.eu](mailto:joao.santos@ec.europa.eu)

### **INTERNATIONAL LABOUR ORGANISATION (ILO)**

Herbert, Ms. Ann D.  
Director  
ILO Office for China and Mongolia  
1-10 Tayuan Diplomatic Office Building  
14 Liangmahe Nan Lu  
Beijing 100600  
China  
Tel: 86 10 6532 5091  
Fax: 86 10 6532 1420  
Email: [herbert@ilo.org](mailto:herbert@ilo.org)

Baichoo, Mr. Pavan  
Technical Officer, Occupational Safety  
Programme on Safety and Health at Work and  
then Environment (SafeWork)  
International Labour Organisation  
Route des Morillons 4  
CH-1211 Geneve 20  
Switzerland  
Tel: (41) 22 794 6722  
Fax: (41) 22-794-6878  
Email: [baichoo@ilo.org](mailto:baichoo@ilo.org)

### **SECRETARIAT OF THE ROTTERDAM CONVENTION**

Hardman Bezerra Ferreira Reis, Mr. Tarcísio  
Programme Officer  
Secretariat of the Rotterdam Convention  
Chemin des Anémones, 15  
1219 Geneva  
Switzerland  
Tel : 41229178341  
Fax: 41227973454  
Email: [thardmanreis@pic.int](mailto:thardmanreis@pic.int)

**UN INSTITUTE FOR TRAINING AND  
RESEARCH (UNITAR)**

Arndt, Mr. (Dr.) Reiner  
Training Advisor  
UNITAR  
Palais des Nations  
1211-CH Geneve 10  
Switzerland  
Tel: (41) 22-917-8471  
Fax: (41) 22-917-8047  
Email: [reiner.arndt@unitar.org](mailto:reiner.arndt@unitar.org)

Krueger, Mr (Dr.). Jonathan  
Senior Specialist  
UNITAR  
Palais des Nations  
1211-CH Geneve 10  
Switzerland  
Tel: (41) 22-917-8166  
Fax: (41) 22-917-8047  
Email: [jonathan.krueger@unitar.org](mailto:jonathan.krueger@unitar.org)

Li, Ms. Hang  
Training Associate  
UNITAR  
Beijing, China  
Tel: (86) 13501102939  
Email: [hang.li@unitar.org](mailto:hang.li@unitar.org)

Peterson, Mr. (Dr.) Peter John  
Training Advisor  
UNITAR  
Palais des Nations  
1211-CH Geneve 10  
Switzerland  
Tel: (41) 22-917-8524  
Fax: (41) 22-917-8047  
Email: [peter.peterson@unitar.org](mailto:peter.peterson@unitar.org)

Siari, Ms. Mehdi  
Training Associate  
UNITAR  
Palais des Nations  
1211-CH Geneve 10  
Switzerland  
Tel: (41) 22-917-8166  
Fax: (41) 22-917-8047  
Email: [Mehdia.SIARI@unitar.org](mailto:Mehdia.SIARI@unitar.org)

**WORLD HEALTH ORGANIZATION  
(WHO)**

O' Leary, Dr. Michael  
WHO Representative in China  
WHO China Office  
Tel: 00861065327192  
Fax: 00861065322359  
E-mail: [olearym@who.int](mailto:olearym@who.int)

Tempowski, Ms. Joanna  
Scientist  
Evidence & Policy on Environmental Health  
(EPE), WHO  
20, Avenue Appia  
CH-1211 Geneva 27  
Switzerland  
Tel: +41 22 791 3571  
Fax: +41 22 791 4848  
Email: [tempowskij@who.int](mailto:tempowskij@who.int)







**unitar**

United Nations Institute for Training and Research

The United Nations Institute for Training and Research (UNITAR) was established in 1965 as an autonomous body within the United Nations with the purpose of enhancing the effectiveness of the United Nations through appropriate training and research. UNITAR is governed by a Board of Trustees and is headed by an Executive Director. The Institute is supported by voluntary contributions from governments, intergovernmental organizations, foundations and other non-governmental sources.



The International Labour Organization is the UN specialized agency which seeks the promotion of social justice and internationally recognized human and labour rights. It was founded in 1919 and is the only surviving major creation of the Treaty of Versailles which brought the League of Nations into being and it became the first specialized agency of the UN in 1946. The ILO formulates international labour standards, provides technical assistance and promotes the development of independent employers' and workers' organizations and provides training and advisory services to those organizations. Within the UN system, the ILO has a unique tripartite structure with workers and employers participating as equal partners with governments in the work of its governing organs.