

## CHEMICALS

### ***PROGRESS AND ACHIEVEMENTS***

#### Chemicals risk assessment

*Mechanisms for systematic evaluation, classification, and labeling of chemicals, including initiatives towards a harmonized system of classification and labeling of chemicals*

1. After the international agreement to set up Globally Harmonized System of labeling and classification of chemicals (GHS) at the Intergovernmental Forums and series of other chemicals related conferences such as Rio Conference in 1992, Mongolia has changed its national classification and labeling standards according to GHS and approved it officially in 2009.

Newly adopted GHS allows Mongolia to set up appropriate labeling and classification of chemicals and mixtures according to their physical, health and environmental hazards.

2. In order to restrict the applications of hazardous and toxic chemicals that pose potential threats to human health and surrounding environment, the list of chemicals of prohibited and limited applications in the territory of Mongolia has been updated on 2007, 111 chemicals were banned from use and 28 with limited applications .

*Initiatives for assessment of toxic chemicals, hazard and risk assessment, and participation in various international and regional initiatives*

3. The Government of Mongolia elaborated and adopted through the Parliament the Law on Hazardous and Toxic Chemicals on May 2006. This brought a remarkable change in regulations related to import, export, trans-boundary movements, production, transportation, storage, disposal, handle, monitoring of various toxic and hazardous chemicals in the country. The law stipulates among others, a compulsory risk assessment for activities that involve chemicals.

As follow up of this law provision, a risk assessment guideline and methodology was developed and EIA professional companies started conducting the chemicals risk assessments for various projects in accordance with the methodology. Chemicals risk assessment training has been organized this year in collaboration with the World Bank and various government officials, inspectors and specialists from environment impact assessment companies have attended the training.

*Strategies for exposure assessment and environmental monitoring and improvement in procedures for using toxicological and epidemiological data to predict and estimate the effects of chemicals on human health and the environment*

4. A nation-wide preliminary inventory of persistent organic pollutants (POP) has been conducted during 2004 -2005 period and POPs applications, sources, pollution extents and volumes have been identified. The government of Mongolia adopted and implementing the national program of POPs and its implementation plan to 2020 ([www.pops.int/implementation/nips/submissions/mongolia.pdf](http://www.pops.int/implementation/nips/submissions/mongolia.pdf)) on its session on May 3, 2006. The program has identified priority issues for reduction of POPs and as a follow up, the project “Capacity building for environmentally sound management and disposal of PCBs stockpiles”, is started on 2009 in collaboration with the UNIDO and financially supported by GEF.

5. In the framework of the East-South East Asia Regional forum on Best Available Techniques (BAT) and Best Environmental Practices (BEP) regional projects on “Introduction of BAT and BEP to the heat only power and industrial boilers that use solid fuels” and

“POPs pollution reduction from the metallurgical industry ”  
[www.unido.org/fileadmin/user\\_media/Services/Environmental\\_Management/Stockholm\\_Convention/POPs/TEchTransOpportunitiesOnPops.doc](http://www.unido.org/fileadmin/user_media/Services/Environmental_Management/Stockholm_Convention/POPs/TEchTransOpportunitiesOnPops.doc) have been developed jointly with participating countries and now well on the way for implementation.

*Information exchange and cooperation, data-quality assurance, application of assessment criteria, and linkages to risk management activities*

6. National Council for Policy Regulation of Hazardous and Toxic Chemicals with its permanent staffs was established under direct guidance of Prime Minister of Mongolia, by the Government resolution No. 314 in 2006, which aimed at providing professional supports on toxic and hazardous chemicals policies. The council coordinates inter-sectoral policy implementation on Hazardous and Toxic Chemicals.

7. An emergency response team functions within the National Emergency Management Agency (NEMA) to coordinate and provide necessary responses to the potential disasters in particular to hazardous and toxic chemicals and accidents and spills. Also NEMA has taken responsibility to inform and coordinate activities of government ministries through the Deputy Prime Minister who leads National Emergency Commission at the national level.

*Progress within the larger framework of Strategic Approach to International Chemicals Management (SAICM)*

8. The project “Updating National Chemicals Management Profiles, Development of a National SAICM Capacity Assessment, and Holding of a National SAICM Priority Setting”, which aims to identify current situation of Mongolia in chemicals management and set up priority areas on which the government should focus more and take necessary activities as well consultation workshops were undertaken by SAICM, Swiss government and UNITAR in Mongolia. Also, National Chemicals Management Profile of Mongolia has been developed in 2007 and published in 2008. For detailed information visit

[http://www2.unitar.org/cwm/publications/cw/np/np\\_pdf/Mongolia\\_National\\_Profile\\_2009.pdf](http://www2.unitar.org/cwm/publications/cw/np/np_pdf/Mongolia_National_Profile_2009.pdf).

9. Also, the first national forum on Hazardous and toxic chemicals and hazardous waste has been organized. The focus of this forum was to improve legal environment of chemicals and hazardous waste management, develop public awareness and involvement program while creating effective database, and build capacity in technical and technological infrastructure.

*Initiatives and innovations for risk reduction, particularly taking in to account the life cycle of the chemicals*

10. In order to disseminate laws, regulations, and other information on chemicals and hazardous substances to every citizen and the government agencies, MNET has developed a website [www.mne.mn/chemicals](http://www.mne.mn/chemicals) for public use. This website allows people to access to national laws, regulations, standards, and international conventions on chemicals. In addition to that material safety database of 250 chemicals that are widely used in Mongolia is installed and functions on this website. This database provides access to all chemicals related information such as hazard classifications, characteristics and toxicity of chemicals, emergency rescue and relief measures in case of chemical spills and disaster, first aid services, and hands-on-manuals as well guidelines for safe use, storage, transportation and disposal of a particular chemicals.

11. Life-cycle analysis of hazardous and toxic chemicals such as improper use of mercury in artisanal mining, improperly disposed plastic bags, burning of raw coal and disposed vehicle tires in Gher districts, disposal of batteries and accumulators, and chemicals used in tanneries has been conducted in last three years. Based on these findings, media campaigns on impacts of these chemicals to health and environment have been carried out throughout the country. Mercury use was banned in all mining and sodium cyanide use was banned in small and medium scale mining processes.

*Policy measures to phase out chemicals that pose unreasonable and unmanageable risk to human health and human environment, such as, ozone-depleting substances*

12. Mongolia adopted “National program on protection of ozone layer” in 1999 and had taken measures on limited use of ozone depleting substances. Control and management system of those substances were established in 2000. Every year, a national inventory of the chemicals and their imports were carried out for further measures. Within the national program, the government reduces CFCs annually with target to phase out completely by 2010. The imports of CFC of Annex A under Montreal Protocol were 21.2 ton in 1999 and it reduced to 0.8 ton in 2009.

13. Land and water pollutions are ever increasing due to wide use and disposal of plastic bags. To reduce impacts of disposed plastics, an import and use of plastic bags thinner than 0.025 mm was banned by the law on Limited use and importing of some plastic bags adopted by The Parliament of Mongolia in 2009 and it is in force from January 1, 2010.

*Policies and frameworks for prevention of accidents, preparedness and response*

14. The government has reformed the approval procedure for imports and exports of chemicals among government agencies to make a coordinated control over chemicals. Previously, Local governments municipalities used to give a consent for imports of hazardous and toxic chemicals on imports of other chemicals before 2007 that led to uncontrolled and uncoordinated imports of chemicals, sometimes imports of hazardous and toxic chemicals under name of ordinary chemicals at the customs. Then the government regulated and assigned exclusively MNET to grant permission of import of all chemicals and it gave an opportunity to solve above problems.

15. According to the Law on hazardous and toxic chemicals, entities and enterprises, which use hazardous and toxic chemicals in their business, should take all measures to prevent any related accidents and they are fully responsible for any consequences and damages occurred due to use of these kinds of chemicals. State Specialized Inspection Agency (SSIA) is responsible for enforcement and monitoring of the law provisions. Law provisions that given a right to ordinary citizen and NGOs to claim and sue on improper use of chemicals allow the public and NGOs to monitor all actions related with use of chemicals.

*Policies aimed at reducing the risks posed by lead, mercury and cadmium and other harmful heavy metals, including through a review of relevant studies, such as, the United Nations Environment Programme global assessment of mercury and its compounds*

16. In order to reduce the illegal use of mercury, the following measures have been taken:

The National Council for Policy regulation of Toxic and Hazardous Chemicals has discussed about the situations of increased negative impacts on public health and environment, which increasingly caused by pollutions of illegal use of acute toxic mercury use in mining extraction and processing. As follow up measure, the special order of the Minister of Environment and Tourism has been issued to prohibit the use of mercury for mining extraction and processing and it is now in force throughout the county.

17. Government of Mongolia had taken measures to prohibit use of mercury and cyanide on gold extraction in mining. Two inspections nationwide have been carried out during 2007-2008. As a result of these inspections, it revealed 53 hectares of area and dozens of wells were polluted by mercury and

cyanide and about 200 thousand tons of slime and waste materials in 120 places in 10 Provinces. About 1200 kg sodium cyanide and 35.2 kg mercury were confiscated from those small scale gold mines and it shut down 145 grinding mills that use mercury.

18. A Chemicals risk assessment guidelines on human health, environment and ecology was developed, printed and distributed to public under funding of UNEP in 2006. "Chemicals originated industrial accident risk assessment: a methodology and case study" has been conducted and published by the consulting company ENVIRON LLC within the framework of UNDP disaster management project in 2007.

19. MNET in collaboration with the General Police Department, has organized actions that appealed public to inform on bonus basis cases of illegal use and storage of chemicals and as results, confiscated 17 kg mercury and handed in to NEMA for further neutralization. In order to reduce the risk of hazardous chemicals and negative health and environmental impacts, MNET in collaboration with NEMA and SSIA has organized decontamination of chemical spills and pollution during 2008-2009. In the outline of this activity, four hazardous and toxic waste landfill sites have been created in the most polluted areas and total of 197,687 tons of slimes were neutralized and buried according to requirements. The Government has spent 3.7 billion tugrik on this contamination action. Thanks to cleaning and rehabilitation, 128,444 square meters of polluted land in 231 places scattered around 38 counties of 10 provinces were decontaminated

20. The Disaster Protection law regulates local governments are responsible for emergency response and preparedness plans at local level by government funding and private organization level by companies' own resource. Control and monitoring of these activities and law enforcement are carried out by local departments of the National Emergency Management Agency. Most departments have search and rescue teams. MNET and SSIA have been providing professional guidelines and trainings for those entities, which use chemicals.

21. In spite of these initiatives, mercury and sodium cyanide spillage happened in Khongor County of Darkhan-Uul Province in February 2007 was given a big lesson. As a follow up this lesson learned, the government has taken measures to strengthen its legal documents, conducting a nation-wide inventory of hazardous and toxic chemicals and monitoring of chemicals applications. UN OCHA and UNEP joint assessment team visited the spillage area and provided relevant recommendations and follow up actions have been taken place.

#### *Initiatives to reduce overdependence on the use of agricultural chemicals*

22. The government agencies such as MNET, Ministry of Food, Agriculture, and Light Industry and Ministry of Health are responsible for coordination of agricultural chemicals management in the country. Widely used chemicals in agriculture such as pesticides for plant protection, veterinary, sanitation purposes, chemical fertilizers for agricultural use, pest controls have been controlled by Ministry of Health, Ministry of Food, Agriculture and Light Industry, and Ministry of Nature, Environment and Tourism through establishing a list of permitted chemicals and its use volumes every year. This enables to monitor restricted applications of health and environmentally harmful pesticides. Moreover, updated and enforced a guideline on testing and use of pesticides, fertilizers, rodent poisons and disinfectants in 2009.

23. The private sector and local communities supported by environmental NGOs are encouraged to use eco-friendly solutions on alternatives of chemical pesticides and fertilizers. Instead of using pesticides for controlling the population of steppe rats (Brandt's vole), local citizens started practicing natural ways. That is to install poles with seat for carnivorous birds in the steppe to assist the birds to improve chances of catching those steppe rats which destroy pastures and agricultural field. This practice is spreading mainly in steppe zones.

24. On fertilizer, Ulziin Gol LLC a local company in Selenge Province has been supplying bio-fertilizer produced by earthworm since 2005. The Government supported this kind of initiatives and developed standards of MNS 4722-99 for bio-fertilizer and exempted equipments for bio-fuel and bio-fertilizer from customs and value added taxes until December 2012 under the policy to support SMEs.

### ***CURRENT EMERGING ISSUES, CHALLENGES AND TRENDS***

25. In spite of overall progress and actions taken on chemicals management, Mongolia faces many challenges in this field due to lack of experience and knowledge on chemical on the one side and weakness of Public and Private Partnerships (PPP) and public awareness in chemical management because of policies and regulations on PPPs and SMEs which were issued recently on the other side.

26. A challenging issue is a weak preparedness for potential toxic chemicals hazards, that means it needs to build/strengthen human capacity and increase supply of relevant techniques and equipment.

27. Prevention measures from chemicals hazards depend on the capacities of existing laboratories (requires relevant high technology and equipment) and information management systems. An assessment of service, capacity and quality of all existing governmental laboratories was conducted in 2008 and the result shows inadequacy of capacity and outdated laboratory equipment, which do not meet current demands and in addition, the government's inability to provide financial support to improve the situation.

### **Potential ways for improvement**

28. Overall gap analysis of policies, laws, regulations along with guidelines and manuals of chemicals should be conducted nationwide involving government agencies, NGOs, and private sector. It is need to elaborate legal environment for hazardous and toxic waste disposal.

29. The government is expected to develop and improve preparedness and response plans in case of chemical spills and accidents following OCHA/UNEP recommendation in the near future. For development of these activities, professionals with adequate experience are in short supply and capacity building and support in this field are needed through cooperation with international organizations and any interested donors and institutions.

30. It is a high priority to equip NEMA, SSIA, and Customs General Department with modern laboratories, portable measurement devices, personal protective equipment and reagents for chemicals test and establish adequate stocks of these equipment and materials. Also related training on operation of laboratory equipments and identifying of chemicals are needed in order to enhance control on chemicals. The Government of Mongolia is ready to work with the private sector and other international organizations.

31. Manuals and guidelines for chemical accidents and decontaminations activities, in line with today's modern technology and developments of chemicals, are required to

be in use of NEMA's everyday operations. Also huge investments in equipments and technologies for decontamination of chemical spills together with operation manuals and training are needed from other financial sources and at the same time from government budget.

32. By enhancing and capacity building of NGOs, they can improve the chemical control system nationwide. Especially, independent monitoring and watchdog activities by professional NGOs and their involvement in decision making process require improvement of the legal environment, particularly private sector's information disclosure for public use and the granting of more access to NGOs.

33. Upon stimulating academic and research institutes in chemicals, life-cycle analysis and impacts of chemicals and products containing hazardous chemicals to human health, environment, and society should be studied through public private partnership and there is a strong need to set up real economic incentives. The Government of Mongolia is keen to receive best practices and lessons learnt from other countries into the Mongolian situation via support by international development organizations and foreign countries.

34. Chemicals related information from private sector and government should be disclosed to public and other monitoring organizations. The government needs to support initiatives to establish proper reporting procedures and performance rating mechanism of companies using chemicals as well as creating incentive mechanism for any progress on productions based on life-cycle analysis of chemicals.

35. Not many studies have been done in Mongolia on impacts of chemicals and toxic and hazardous chemicals to human health, environment, and society and it still lacks wider dissemination of those few studies and at initial level. Therefore, manuals and guidelines based on professional studies and researches should be developed on the impacts to human health, environment, and society; symptoms and signs that appear during poisoning and environmental pollution; irreversible damages and hazards of chemicals to human health, environment, and society for officials and wider public use.

36. A centralized landfill site for hazardous and toxic waste should be established which uses environmentally sound methods of waste neutralization, sanitation and disposal