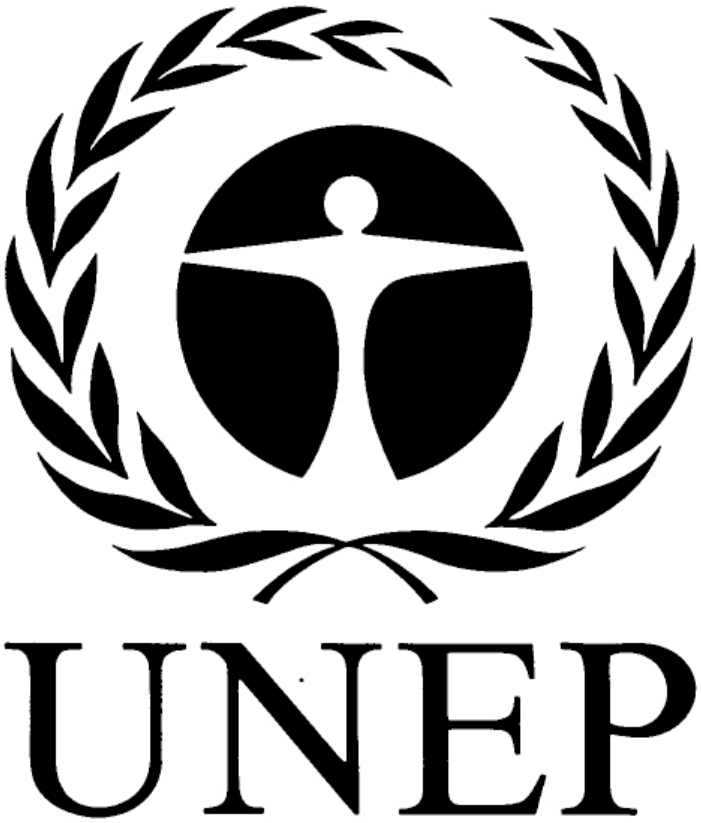
MIT MUNC

United Nations Environmental Programme (UNEP)

Background Guide

On the Question of Regulation of Heavy Metals



MIT Model United Nations Conference (MITMUNC) II
February 5-7, 2010
Cambridge, Massachusetts

1. Introduction

Recent news related to heavy metals is grim. An August 2009 article from The Times (London) cites nearly 800,000 deaths related to heavy metals poisoning in China, a 2008 Canadian study finds 6 out of 10 toys contained dangerous and illegal levels of lead, and in April 2008, the Australian government was sued for "turning a blind eye to lead poisoning".

While there is some debate as to the actual definition of "heavy metal", the term is commonly used to describe any metal or semimetal with potential human or environmental toxicity, as it will be defined during the course of this debate. There are about 23 "heavy metals" of concern that have been classified for residential and occupation exposure, namely antimony, arsenic, bismuth, cadmium, cerium, chromium, cobalt, copper, gallium, gold, iron, lead, manganese, mercury, nickel, platinum, silver, tellurium, thallium, tin, uranium, vanadium, and zinc. Small amounts of these elements are common in the environment and diet and are sometimes necessary for good health, but large amounts may cause acute or chronic toxicity (poisoning).

For some heavy metals, toxic levels can be just above the background concentrations naturally found in nature. Therefore, it is important to remain informed about the heavy metals and to take protective measures against excessive exposure. If unrecognized or inappropriately treated, toxicity can result in significant illness and reduced quality of life.

2. Health Hazards

Most heavy metals are considered toxic because they have no known benefit for human physiology such as lead, cadmium, and mercury. Other heavy metals such as zinc, cobalt, and iron are essential to human biochemical processes. Likewise, copper, manganese, selenium, chromium, and molybdenum are all essential dietary trace elements. Another subset, aluminum, bismuth, gold, gallium, lithium, and silver are often used in medicines, but can still be hazardous if taken in large quantities or for people who's bodily mechanism for elimination is impaired.

Exposure to heavy metals at toxic levels can occur in several ways: diet, environment, and occupation. Heavy metals may be contaminants in diet, such as trace amounts of mercury in fish or shellfish, or may leech into drink and food stores from containers, such as lead decanters.

3. Summary of Past UNEP Action

Heavy metals regulations falls under the jurisdiction the chemicals branch of the UNEP Division of Technology, Industry, and Economics. Historically UNEP regulatory efforts have been limited to mercury, lead, and cadmium.

4. Mercury

Mandate 21/5 by the UNEP Governing Council (GC) in 2001 initiated a global study of mercury, looking specifically at:

- The toxicology and health and environmental impacts of mercury
- Global natural and anthropogenic sources of mercury
- Environmental long-range transport and the origin, pathways, deposition and transformation of mercury on a global scale
- The sources of release of mercury to the environment, and the current production and use patterns of mercury as a global commodity
- Available prevention and control technologies and practices
- Ongoing actions and compile information about future plans at the national, subregional or regional levels for controlling releases, and limiting use and exposures, including waste management practices

The results of the study were presented at 2003 GC meeting and Mandate 22/4 given at that session encourages nations to individually take action regarding mercury pollution, and most notably, establishes the UNEP Mercury Programme. The UNEP Mercury Programme has the objective of assisting nations with mitigating mercury pollution, supporting capacity building, and working with partners to mobilize funding from various

sources to facilitate national and regional efforts. Mandate 23/9, ratified in 2005, like Mandate 22/4, encourages governments to take action against mercury pollution, and expands the concern to lead and cadmium. Mandate 24/3, corroborated in 2007, again encourages regional and national efforts to reduce mercury emissions, and establishes an ad-hoc open-ended working group with the goal of providing progress reports and recommendations to the GC. The working group first met in November 2007 and considered what types of response measures and strategies were available, the feasibility and effectiveness of voluntary and legally binding approaches and the options for implementation. As part of intersessional work at the request of the UNEP secretariat, the working group also called on governments, intergovernmental organizations, and nongovernmental organizations for relevant mercury statistics. The working group met for second time in October 2008, and discussed progress in developing a study on atmospheric emissions of mercury and progress in strengthening the UNEP Global Mercury Partnership. Most recently, in mandate 25/5, adapted in February 2009, nations agreed the possibility of a binding instrument on mercury.

5. Lead and Cadmium

Similarly to mercury, the UNEP GC has taken action on reducing exposure to lead and cadmium. In 2001, the GC urged nations to eliminate the use of lead in gasoline in mandate 21/6. Decision 22/4 in 2003 reaffirmed the call to abolish the use of lead in gasoline and expanded the call to phase out lead based paints and lead in other sources of exposure. Mandate 23/9, adapted in 2005, requests a review of scientific information pertaining to lead and cadmium. The interim review led to mandate 24/3, ratified in 2007, which calls for governments to work to reduce human exposure to lead and cadmium.

6. Questions to Consider

These questions are intended to serve as a guide to delegates for forming their nations policy on the topic.

- What is the residential exposure to cadmium, lead, and mercury in your country?
- If there is exposure, what are significant sources?
- What regulations are imposed on those sources?
- How are government policies on exposure enforced?
- Has your government played a role in the UNEP Governing Council?
- Does your government support international regulation?
- What is your government's position on a UNEP GC mandate 25/5, specifically the potential use of a binding instrument for mercury?
- Does your country support expanding UNEP regulation to heavy metals other than cadmium, lead, and mercury

7. Resources

- UNEP Heavy Metals Site -http://www.unep.org/hazardoussubstances/UNEPsWork/HeavyMetals/tabid/297/language/en-US/Default.aspx
- United Nations Systems Wide Earthwatch - http://earthwatch.unep.net/emergingissues/toxicchem/heavymetals.php
- UNEP Mercury Programme - http://www.chem.unep.ch/mercury/default.htm
- UNEP Lead and Cadmium Programme - http://www.chem.unep.ch/Pb_and_Cd/