



To EU Member States' experts
To the Environment Delegates of the EU Member States at the EU

Brussels, 31 March 2008

Environmental and Health NGOsⁱ appeal: Support a broad export ban and safe storage of mercury

The coalition of environmental and health NGOs welcomed the Commission's proposal of an EU mercury export ban and the safe storage of surplus mercury. We also welcomed the European Parliament's first reading position which strengthened several key aspects of the regulation for better human health and environmental protection. The Council Common Position, although it clarifies certain parts, misses a real opportunity to close loopholes and ensure that no metallic mercury is leaving the EU.

We urge you to support the direction shown by the European Parliament and strengthen the Regulation in the following crucial areas¹:

1. The proposed bans should be implemented as soon as possible.

The later the implementation date, the more mercury will go onto the world market. The EU is the world's largest source of mercury exports, most of which go to developing countries where it is often haphazardly used and released, contaminating workers and their families, local communities and global food supplies. The EU has been the frontrunner in the global debate and this proposed regulation has been its flag. Now the US – which has been blocking negotiations towards a legally binding treaty at global level - is discussing an export ban of metallic mercury to be implemented by 1 January 2010² – much earlier than the Common position proposed date! The EU must maintain its leadership position in the global debate.

2. Mercury compounds and cinnabar ore should be banned from EU exports

- **Compounds** comprise a key ongoing use of mercury in the EU, and are therefore a major loophole in the proposal. Recent data shows that more than 100 tonnes of mercury compounds were exported to various geographic regions – most of which went to Asia-Pacific states (around 75 tonnes)³
- If the EU does not close this loophole, another 50-100 tonnes⁴ of mercury per year could be exported from the EU to the world market, recovered from calomel, and contradicting the objective of this regulation. Extracting metallic mercury from calomel is a financially viable operation from which traders could profit.⁵
- Including compounds under the ban will ensure the regulation is consistent. Although storage of the compound calomel⁶ is requested in the EC proposal, its export is not currently included in the proposed ban.

¹ For more information please see earlier letter

http://www.zeromercury.org/EU_developments/070426NGOS_1stReadingENVI_Hg_Export_ban.pdf

² HR 1534, Mercury Export Ban Act of 2007 (Engrossed as Agreed to or Passed by House), <http://thomas.loc.gov/cgi-bin/query/D?c110:2::/temp/~c110CJzTu4::>

³ Information Paper from the Commission Services, 6 March 2008, DG Environment

⁴ Mercury flows and safe storage of surplus mercury, August 2006, Concorde East/West for EC DG ENV, p.8

⁵ A recent report prepared for the European Commission indicates the mercury compound 'calomel' is generated in significant quantities in the EU, most commonly in emission control systems at metal smelters. Calomel can readily be processed into commodity mercury at locations outside the EU, thus the ability and experience needed to process and trade calomel for this purpose already exists, Concorde East/West, Mercury Flows and Safe Storage of Surplus Mercury, August 2006, pp. 30-31.

⁶ IPPC Reference Document on Best Available Techniques in the Non-Ferrous Metals Industries, European Commission, December 2001, p. 134.

- **Cinnabar** is the mineral where mercury is naturally found. Therefore including cinnabar in this export ban ensures that primary mining of mercury, which would introduce further mercury to the market, is discouraged.
- Calomel (mercurous chloride), mercuric chloride, phenylmercuric acetate, and mercuric oxide are all consumed in the general range of 10-25 tonnes in the EU. Sometimes these go under various trade names that may conceal their mercury content. Under the Council Common Position, such compounds could still be exported from the EU for mercury recovery in third countries, for which the economic incentive could be strong⁷

3. Export of mercury-containing products prohibited for sale in the EU, should be banned

- The EU Impact assessment of this regulation states that *“Even with restrictions in place in the EU it is still possible for these products to be produced within the Community and then exported to other countries. Once exported, the mercury contained in these products could end up in waste streams and finally in the environment”*.

The EU must avoid double standards. By exporting these products the EU circumvents its own legislation and creates a health and environmental problem.

- Products such as sphygmomanometers and barometers contain large amounts of liquid metallic mercury. Not including these products in the ban constitutes a loophole in the legislation.
- Mercury-containing products make a major contribution to mercury spills, release at disposal, and hence both direct health risks and environmental contamination.
- The economic impact from banning export of mercury-containing products already restricted in the EU is likely to be small, as stated in the EU Impact Assessment.⁸
- As an example, manufacture of new mercury barometers and thermometers are banned in 2009 after the recently adopted directive 2007/51/EC comes into force⁹. If mercury containing products are not included, manufacturers can continue to export relatively large quantities of mercury via these products and thereby circumvent the objective of the EU export ban.
- Mercury-containing products which are resold or donated from the EU because they are no longer acceptable in our market undermine the EU's own efforts, in which it leads the international community, to phase mercury out of global use.

Products obsolete in the EU could arguably be classified hazardous waste regulated under the Basel Convention. For example, a Nigerian computer dealers business association say that 75% of imported used computer equipment is “junk” and not economically repairable or resalable, ending up as the worst global examples of waste mismanagement, where leaching of toxins and emissions of dioxins, PAHs and heavy metals has been observed from formal and informal dumps.¹⁰

The resale and donation of these products contravene ethical principles:

- o that past and current producers and /or donors of these products should be held responsible for end of life management;
- o that all users of the products (eg. health care workers) have a right to a safe environment; that all those affected by the products have the right to a healthy global environment;
- o that informed consent on the risks and costs of mercury exposure from all affected are enforced¹¹.

For example, in 2003, the German Red Cross sent 5000 thermometers to Santa Fe/Argentina as “disaster aid” after a major flood. Recipients in Santa Fe are now having difficulties in treating such thermometers which have since become waste¹².

⁷ Personal communication with expert.

⁸ Impact Assessment – accompanying document to the proposal for a regulation on the banning of the exports and the safe storage of metallic mercury COM (2006) 636 final, p.44

⁹ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:257:0013:01:EN:HTML>

¹⁰ BAN, “The Digital Dump”, October 2005, p. 2-3

¹¹ The Global Movement for Mercury Free Health Care, Health Care Without Harm, October 2007, “Export of Obsolete Devices”, p23. <http://www.noharm.org/globalsoutheng/mercury-report-download>.

¹² Personal communication with Argentinean NGO, Centro de Proteccion a la Naturaleza

- The EU already banned the export of mercury-containing soaps for this reason under Regulation EC 304/2003¹³. This provision would apply the principle to all banned mercury products instead of painfully doing it one at a time.
- Mercury-free alternatives to virtually all mercury-containing products are available which are cost-effective, especially when the costs of environmental and human health protection and proper disposal are taken into account.

4. Liquid Metallic mercury should be temporarily stored in continuously-monitored secure sites located where immediate intervention can take place if necessary, awaiting developments on research (e.g. solidification) for safe disposal.

The Council's Common Position to decide on the final disposal of metallic mercury appears premature

- Liquid waste disposal is prohibited under the EU Landfill Directive, owing to the risks these wastes entail. Disposal of liquid metallic mercury in salt mines raises serious concerns over environmental safety over the very long-term¹⁴.
- The Commission is currently co-financing MAYASA to implement the LIFE preparatory project MERSADE, with the aim of evaluating facilities available in the current storage area, designing a prototype for storing metallic mercury and a monitoring plan for 50 years, and studying a line for transforming liquid metal mercury into a more stable form. The project began in late 2006¹⁵.
- In the USA, investigations into the safe disposal of mercury has been underway for years.¹⁶ The most recent studies conclude that the safest option is to store mercury in above-ground facilities where continuous monitoring occurs, alongside other specified safety conditions, which is why the pending export ban bill in the US authorizes storage of the excess mercury at government facilities¹⁷. At the moment, the US is anticipating storage of at least 40 years.¹⁸
- Storing liquid mercury above ground is cheap and safe, based upon the decades of such storage at the government stockpiles in the US, and the smaller amounts routinely stored at operating chlor-alkali facilities.
- Research to develop technology for chemically stabilising metallic and oxidised mercury is still underway in Sweden, but no commercial solution is available yet¹⁹ and several other technical scale processes to solidify mercury are already on the market²⁰. As solubility of mercury

¹³ Regulation (EC) No 304/2003 of 28 January 2003, concerning the export and import of dangerous chemicals, Annex V, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:063:0001:0026:EN:PDF>

¹⁴ EEB Conference report "EU mercury surplus management and Mercury-use restrictions in measuring and control equipment", October 2006, p.23

¹⁵ <http://www.mayasa.es/ing/mersade.asp>

¹⁶ USEPA (1997) – Mercury Study, Report to Congress. EPA-452/R-97-003. US Environmental Protection Agency, Washington DC, USA; 199

¹⁷ US EPA Preliminary Analysis of Alternatives for the Long Term Management of Excess Mercury, August 2002, <http://www.epa.gov/ORD/NRMRL/pubs/600r03048/600r03048.pdf>

¹⁸ Record of Decision for the Final Mercury Management Environmental Impact Statement; Notice <http://a257.g.akamaitech.net/7/257/2422/14mar20010800/edocket.access.gpo.gov/2004/pdf/04-9726.pdf>

¹⁹ http://www.sakab.se/upload/dokument/pdf/Laddningsbara%20filer/Forskning%20&%20utveckling/Mercury_immobilization.pdf

²⁰ Encapsulation/ solidification of liquid Hg

- http://www.albuw.ait.ac.th/Group_R/Mercury/report-3/pdf_link/Encapsulation1.pdf
- <http://www.pubs.bnl.gov/documents/22164.pdf>
- <http://www.bnl.gov/bnlweb/pubaf/pr/2001/bnlpr053101.htm>
- <http://www.p2pays.org/ref/26/25256.pdf>
- Technologies for Immobilizing High Mercury Subcategory Wastes
- <http://www.epa.gov/epaoswer/hazwaste/ldr/mercury/imoblzn2.pdf>

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Some recent US patents:

- Christelle Riviere-Huc, Vincent Huc, Emilie Bosse (2008) Method for stabilisation of metallic mercury using sulphur. USPTO Application #: 20080019900 <http://www.freshpatents.com/Method-for-stabilisation-of-metallic-mercury-using-sulphur-dt20080124ptan20080019900.php> (French company!)
- Robin M. Stewart, John E. Litz, Thomas Broderick (2002) Method and apparatus for stabilizing liquid elemental mercury. <http://www.patentstorm.us/patents/6403044-fulltext.html>

An earlier approach

- Oji, L. (1998) Mercury disposal via sulphur reactions. J. Env. Eng. 124 (10), 945-952

sulphide is lower by tens of orders of magnitude, handling of a heavy solid powder is much safer. Therefore, the final storage of mercury sulphide seems to be the most preferable option.

- Salt mines are dry solid structures, but serious accidents can happen – in the German salt mine in Asse, where they were storing nuclear waste, water started leaking in the mine but this was discovered only 15 years later(!). The weight of the mountain mass on the cavities in the mine exerted sufficient pressure on the salt to make it deform like viscous plastic. The rock covering the salt mine was lowered by 5 meters, and opened the way for underground waters towards the galleries.^{21,22} Other cases where salt mines have collapsed have been reported.²³
- Salt mines can collapse even after 100 years of operation, because of natural causes such as earthquakes even of low scale²⁴. Flooding can also occur - which could lead to potential collapsing, but also increasing the risk for environmental pollution since flasks could eventually corrode.^{25, 26}.

Until safe disposal techniques are developed and fully evaluated, metallic mercury should be stored temporarily so it can be retrieved

- A framework of minimum conditions for storage should be set up, ensuring continuous monitoring, minimum safety standards, regular and transparent reporting, advance planning and projections, assurance of delivery, and penalties for failure
- Responsibility for safe final disposal should remain with Member States and the chlor-alkali industry as appropriate
- In March 2006, the European Parliament called for legally-binding measures to ensure safe storage of excess mercury in secure, continuously-monitored sites, located to allow immediate intervention if necessary. It also underlined the importance of the 'polluter-pays' principle regarding surplus mercury storage.
- The pending US legislation will require the government storage facilities to be permitted under the federal hazardous waste law.

5. Information should be provided periodically by the relevant industry and Member States on the movement of mercury and the quantities involved, including exports and imports of elemental and compound mercury between Member States, and between the EU and external countries. Information should start being collected immediately and before the effective export ban date.

6. The regulation should be based on Art. 175 of the EC Treaty and allow Member States to implement stricter measures, as early as appropriate, since the proposed policy is driven by environment and not commercial policy considerations.

²¹ Der Spiegel, (17/2007) - 23.04.2007 <http://service.spiegel.de/digas/find?DID=51292029> – full article in FR and DE in annex.

²² Asse II: Went in operation as a potash mine 1906. Two "sister" mines Asse I and Asse III flooded in 1906 and 1923. Started operation as a "research disposal facility" for nuclear waste in 1967. Out of operation since 1978 because of missing license, Water intrusion since 1988, in danger of collapsing. Documentation by Greenpeace Germany: http://www.greenpeace.de/fileadmin/gpd/user_upload/themen/atomkraft/asseii.pdf

²³ 1. Teutschenthal (a so-called Backfill Mine or Disposal Mine) used for storing hazardous waste since 1995 has partially collapsed in 1996 (after similar incidents in 1916 and 1940): Official documentation by the mining company: <http://www.grube-teutschenthal.de/versatz.htm>, <http://www.grube-teutschenthal.de/historie.htm>

2. Morsleben: The underground repository for low level nuclear waste in the former German Democratic Republic. Morsleben have been re-licensed for waste disposal only in 1991(after the re-unification) but went out of operation in 1998 because of danger of partially collapsing. Partly collapsed in 2001.

Coverage in the Newspaper WELT:

http://www.welt.de/print-welt/article460884/Atommuell-Endlager_Morsleben_droht_der_Einsturz.html

Documentation by Greenpeace Germany:

http://www.greenpeace.de/fileadmin/gpd/user_upload/themen/atomkraft/morsleben.pdf

²⁴ <http://pubs.usgs.gov/fs/FS-032-96/>, <http://ny.water.usgs.gov/pubs/fs/fs01798/FS017-98.pdf>

²⁵ <http://www.springerlink.com/content/07u1k0137txue72m/>

²⁶ Example: Asse mine. Water intrusion since 1988. Reason: Too extensive mining. Distance between overlying rock formations and the mined potash layers was too small. The creeping of the salt lead to the opening of new water-leading paths. - Institut für Gebirgsmechanik (2007) Gebirgsmechanische Zustandsanalyse des Tragsystems der Schachanlage Asse II. <http://www.helmholtz-muenchen.de/fileadmin/ASSE/PDF/News/Kurzbericht-Zustandsanalyse-V-4.pdf> (Scientific report requested by the operator of the mine)

7. **The EU should also prohibit imports of mercury and mercury compounds** ensuring EU mercury supplies are consistent with EU demand, mandatory storage obligations, and policies encouraging mercury recovery from waste and products.
8. **Technical and financial support to developing countries could be crucial for those countries' progress towards mercury-free products and processes.**

The EU has been taking a leading role in discussions at the international level and it now has the possibility to show it in practice. A strong EU position recognises the EU's responsibility as the world largest exporter of mercury for its share of the problem. Ensuring a comprehensive EU mercury export ban acknowledges that there is little point in just reducing mercury demand within the EU, only for unwanted mercury to be exported to developing countries, used under far less stringent controls, released, and ultimately to be returned to Europe's atmosphere and the fish we eat. This is a straightforward opportunity to reduce health risks to millions of people in the EU and worldwide that we cannot afford to miss.

Note: Please also consider comments sent to you on 24 April 2007 on the same issue:
http://www.zeromercury.org/EU_developments/070424NGOS_COuncil_WPE_Hg_Export_ban.pdf

For more information please contact:

Elena Lymberidi-Settimo, Project Coordinator "Zero Mercury Campaign", European Environmental Bureau, T: +32 2 2891301, elena.lymberidi@eeb.org

Lisette van Vliet, Toxics Policy Advisor, Health Care Without Harm Europe, T: +32 2 234 3645, lisette@env-health.org

ⁱ Environmental and Health NGOS include

The **European Environmental Bureau (EEB)**, www.eeb.org, is a federation of more than 140 environmental citizens' organisations based in all EU Member States and most Accession Countries, as well as in a few neighbouring countries. These organisations range from local and national, to European and international. The aim of the EEB is to protect and improve the environment of Europe and to enable the citizens of Europe to play their part in achieving that goal.

The **Zero Mercury Working group**, www.zeromercury.org, is an international coalition of more than 56 public interest non-governmental organizations from around the world formed in 2005 by the European Environmental Bureau and the Mercury Policy Project/Ban Mercury Working Group. The aim of the group is to reach 'Zero' emissions, demand and supply of mercury, from all sources we can control, towards eliminating mercury in the environment at EU level and globally."

Health Care Without Harm Europe, www.noharm.org, belongs a global coalition of more than 450 groups in 55 countries. We are working together to transform the healthcare industry so that, without compromising patient safety or care, it is ecologically sustainable and no longer a source of harm to people and the environment.

Health and Environment Alliance, www.env-health.org, aims to raise awareness of how environmental protection improves health. It achieves this by creating opportunities for better representation of the perspectives of citizens and health experts in the environment and health-related European policy-making. Our membership includes a diverse network of more than 50 citizens', patients', women's, health professionals' and environmental organisations across Europe and has a strong track record in increasing public and expert engagement in both EU debates and the decision-making process.