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Information on Mercury-containing Products in Eastern Europe

Katja Kraus, Chair of the Task Force on Heavy Metals

Introduction

In accordance with the request of the Parties to the HM Protocol, the Task Force on Heavy Metals (TF HM) carried out a technical review of the proposal by the European Community and the European Union Member States to add mercury-containing products to Annex VI to the Protocol on Heavy Metals. This is referred to as the EU proposal in this document. The emphasis of the work in 2009 was on Track A and Track B using data from the European Union. The work on Track B was continued at the meeting in 2010 using mainly data from the United States and Canada.
Information on product regulations from countries in Eastern Europe, the Caucasus and Central Asia (EECCA region) was not available at the time of the meeting. Therefore an e-mail by the Chair of the TF HM was sent out to colleagues who took part in the "Workshops to Promote the Ratification of Protocols under the LRTAP Convention" in Yerevan in 2008 and St Petersburg in 2009. In this communication it was specifically asked if regulations or mercury-free alternatives exist for the products mentioned in the EU proposal.

This paper presents data from representatives from Russia, the Republic of Serbia, the Ukraine and Kirgizia who responded to the Chair's request. Serbia, as one of the project partners of the Balkan project, is more advanced in the implementation of requirements to ratify LRTAP protocols. Partner countries of projects to support ratification often align their legal implementation activities towards EU legislation.

Information on products relating to Track B in the EECCA region

Batteries

In Russia, 57% of the batteries are marked as Hg-free, 43% are unmarked. A check of unmarked batteries showed some contain Hg and some not.
No regulations in place are in the Ukraine and Kirgizia.

In Serbia, restriction for batteries and button cells are in place in accordance with the EU proposal. Regarding collection and recycling, a Rulebook on manner and procedures for the management of waste batteries and accumulators is in the adoption procedure.

Mercury-containing thermometers or measuring devices

In Russia, mercury-free thermometers are available but they are up to five times more expensive. Hg-containing thermometers are still widely used in hospitals. Annually, 9 Mio thermometers are 'consumed', i.e. containing 18 t Hg of which about 1 t is recycled. The estimated amount of Hg contained in industrial and medical thermometers is 238 tonnes.

In Serbia, fever-thermometers and other measuring devices containing mercury and intended for sale to the general public must not be marketed. This is in accordance with the EU proposal. Additionally, the draft Rulebook on medical waste management prescribes the provisions for the treatment of medical waste with high content of heavy metals, e.g. medical waste, dental amalgam and broken mercury-containing thermometers or manometers. Despite these regulations, Hg-containing thermometers are still sold to the public.

Also in the Ukraine and in Kirgizia the use of these thermometers is not restricted and they are still sold to the public.

Electric or electronic equipment

Russia and Kirgizia: so far there are no restrictions.

In Serbia, according to the law on waste management, new electric and electronic equipment containing lead, mercury, cadmium, chromium (VI), PBB or PBDE could be restricted or prohibited. A list of products will be published, including their limitations and restrictions. European Directives 2002/95/EC and 2002/96/EC will be transposed into national legislation via the "Rulebook on the list of electrical and electronic equipment, and on measures of prohibition and restriction in the use of certain hazardous substances in electrical and electronic equipment".

In Ukraine, the Cabinet of Ministers adopted in 2008 a "Resolution on the adoption of procedure rules to limit the use of electric and electronic equipment". It states that electric and electronic equipment shall not contain higher than 0.1% Hg by weight.

Vehicles

In Russia, so far, there are no restrictions.

In Serbia, according to the Draft Rulebook on manner and procedures for management of end-of-life vehicles (Article 6, hazardous substances in vehicles): "Production and import of motored vehicles, materials and components for vehicles which contain lead, mercury, cadmium or hexavalent chromium are prohibited, except for the materials and components listed in Annex I of this Rulebook…." under the conditions specified therein.
In Annex I of this regulation it is stated that mercury-containing discharge lamps and instrument panel displays need to be labelled or made identifiable, in accordance with Article 6 of this Rulebook. It is also stated that a maximum concentration value of up to 0.1 % by weight and per homogeneous material, for lead, hexavalent chromium and mercury, and up to 0.01 % by weight per homogeneous material for cadmium shall be tolerated. The regulation already drafted is in accordance with the EU proposal.

Mercury-containing lamps, fluorescent lamps and tubes

Russia: so far, there are no restrictions.
A Federal law about energy-saving and increase in energy efficiency boosts the use of compact fluorescent lamps (CFL). Regional regulations are in place for use and transport of mercury-containing lamps. In 2009, it was estimated that 60 Mio CFLs and tubes were sold. The average Hg-content in CFLs is reported to be 3–5 mg/lamp and for tubes at 20–50 mg/lamp. Also light emitting diodes are available.
Appropriate measures for the collection and recycling of Hg-containing lamps are not yet available.

In the Republic of Serbia, some restrictive measures regarding mercury-containing lamps are already listed in Article 51 of the Law on Waste Management. However, most provisions will be achieved through adoption of the Rulebook on manner and procedure for the management of mercury-containing waste fluorescent tubes. There exists a draft "Rulebook on list of electrical and electronic equipment, measures of prohibition and restriction of the use of certain hazardous substances in electrical and electronic equipment, manner and procedures for management of waste from electrical and electronic equipment". Annex III contains the list of different types of mercury fluorescent lamps which are exempt from the requirements of this by-law. This is in accordance with the Annex to the Directive 2002/95/EC.
A first permit has been issued for a facility to treat mercury-containing lamps in accordance with the law on waste management.

In Ukraine, following the "Resolution on the adoption of procedure rules to limit the use of electric and electronic equipment", the content of mercury in fluorescent lamps is restricted. Compact fluorescent lamps shall not contain more than 5 mg Hg/ lamp; halophosphate fluorescent tubes no more than 10 mg/lamp; triphosphate lamps no more than 5 mg/lamp and durable triphosphate lamps no more than 5 mg/lamp. Recycling facilities for those lamps exist in Ukraine.

In Kirgizia, these type of lamps are produced and restrictions regarding the content of Hg not known.

Amalgam

In Russia, there is no restriction on the use of amalgam for repairing teeth. Dental practices using amalgam have to be equipped with extraction hoods to assure an indoor concentration of less than 0.0003 mg/m^3. Additionally, there are special requirements for surfaces of walls and floors for cleaning purposes.
Generally amalgam is rarely used with dentists and customers preferring composite materials. It is estimated that entirely composite materials are employed in bigger towns. No information exists for side-chair traps.
In the Republic of Serbia, side chair traps for amalgam in dental practices are in use, but its use is voluntary. There is a trend in Serbia that patients prefer composite material for tooth fillings. The price is almost the same as for amalgam.
Issues relating to the substitution of mercury-containing dental amalgam with suitable alternative, as well as the use of economic incentives or voluntary agreements to reduce or eliminate this product, are not addressed in the present national legislation. Amendments to the law on chemicals management concerning measures for minimization or substitution of mercury-containing dental amalgam are scheduled to be introduced in the near future.

In Ukraine, the use of dental amalgam is very limited. Common practice is to use high quality up-to-date materials based on economic considerations.

In Kirgizia, amalgam for the repair of teeth is not used.

Conclusion

The workshops in Yerevan and St Petersburg showed most countries in the EECCA region are aware of mercury as a problem including mercury in products.
The situation in different countries varies widely.

Other countries, such as Russia, either have already a good choice of alternatives to replace mercury-containing products or have banned Hg in several products, for example in pharmaceuticals. Additionally, Russia applies regulations for maximum permissible concentrations for Hg levels in air. In residential and indoor living areas the maximum is 0.0003 mg/m^3 (daily average); in working areas 0.01 mg/m^3 (single reading) with an average of 0.005 mg/m^3.

Recycling is not very common yet, but there are examples for labelling of products to make them identifiable for recycling or proper waste handling. Serbia reported a first permit for a CFL treatment facility and the Ukraine already has working facilities.

Some other of the East European countries, i.e. partner countries of projects to support implementation of LRTAP protocols, such as Moldova and Serbia, transpose legislation of the European Community into national law and regulations. For these countries the EU proposal would pose no insurmountable problems. But it is unclear exactly how this legislation is being put into effect and enforced.

A lot of the countries of the EECCA region don't use amalgam anymore or only in very limited quantities. Common practice is to use up-to-date materials.

Steady progress is already being made within many EECCA countries in addressing the environmental problems associated with mercury-containing products and waste. However, more can still be done in introducing or making legislation stricter. Other countries could follow the example set by the Balkan project or the partnership project between the Czech Republic and Moldova.