

## European Chemicals Agency prepared a restriction report on

# MERCURY IN MEASURING DEVICES

## SUMMARY

The European Chemicals Agency (ECHA) prepared a restriction report proposing to restrict several mercury containing measuring devices (amongst others sphygmomanometers, thermometers and barometers). This restriction would count for around 1.5% of the current mercury use in the EU. Mercury and its compounds are highly toxic and there is a widely recognized need to further reduce mercury emissions at an EU and global level. ECHA invites interested parties to comment on the restriction report by 24 December 2011.

## PROPOSED RESTRICTION

ECHA has prepared a report proposing to restrict mercury in several measuring devices in industrial and professional uses under the REACH Regulation<sup>1</sup>. Placing on the market of mercury containing measuring devices for the general public is already prohibited by an existing restriction. ECHA has carried out this work based on a request from the Commission in line with the review clause of an existing restriction (entry 18a in Annex XVII of REACH) requiring the evaluation of new scientific evidence concerning the availability of reliable safer alternatives that are technically and economically feasible for mercury containing sphygmomanometers and other measuring devices in healthcare and other professional and industrial uses.

The following industrially and professionally used devices, are suggested to be covered by the restriction:

- thermometers (including hygrometers)
- sphygmomanometers (i.e. blood pressure meters),
- barometers,
- manometers (including tensiometers),
- metering devices for the determination of softening point,
- pycnometers,
- strain gauges used with plethysmographs.

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<sup>1</sup><http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT>

With such restrictions several mercury containing measuring devices would be prohibited from being imported or placed on the market in the EU<sup>2</sup>.

Production for export outside the EU would still be allowed. For specific uses of sphygmomanometers and thermometers derogations seem to be necessary as there is uncertainty on whether technically and economically feasible alternatives are available. For porosimeters and mercury electrodes used in voltammetry no restriction is proposed.

The restriction is suggested to apply 18 months after the entry into force of the amendment of REACH Annex XVII. In practise the restriction could become effective in 2014.

## THE USE OF MERCURY IN MEASURING DEVICES

Much action has already been taken to reduce mercury uses and emissions in the EU. However, some uses of mercury remain, such as its use in the following measuring devices used by industry and professionals. Barometers, manometers, sphygmomanometers and strain gauges are used to measure pressure, and thermometers to measure temperature. Porosimeters, pycnometers and metering devices for determination of the softening point measure different parameters related to the structure and porosity of a sample. Mercury electrodes are used with specific devices like polarographs, for instance to determine trace elements in the environment and in biological fluids.

Barometers, manometers, sphygmomanometers, strain gauges and thermometers contain mercury as an integral part of the device whereas metering devices for determination of the softening point, polarographs (using mercury electrodes), porosimeters and pycnometers use mercury during the measurement and need to be refilled regularly.

Mercury-free alternatives are already available and dominate the market for most of the measuring devices. The alternatives are often electronic devices or devices making use of other liquids such as alcohols for their functioning. For porosimeters and mercury electrodes used in voltammetry no technically feasible alternatives were identified which would cover all application areas.

## REASONS FOR ACTION

Mercury and its compounds are highly toxic to humans, ecosystems and wildlife, with amongst others serious chronic irreversible adverse neurotoxic and neurodevelopmental effects. The release of mercury from the measuring devices occurs during both use and waste phase.

The justification for action is in the context of a widely recognized need to further reduce mercury emissions at an EU and global level. The proposed restriction on mercury in measuring devices in the EU is estimated to count for around 1.5% of the total European mercury use in products and processes.

Action on a Community-wide basis is necessary for a global persistent pollutant like mercury which causes cross boundary human health and environmental problems.

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<sup>2</sup> Including Iceland, Liechtenstein and Norway

## **CONSEQUENCES OF THE ACTION**

If the proposed restriction would enter into force, it will reduce the pool of mercury in the EU to the benefit of both environment and human health.

Producers and importers would have to cease import and production of any restricted measuring devices. Production for export would still be allowed. According to ECHA's report technically and economically feasible alternatives are available for all the measuring devices and uses proposed to be restricted. Mercury porosimeters and mercury electrodes in voltammetry would still be allowed to be placed on the EU market. Existing measuring devices could also be used until the end of their service-life. Once fully effective the restriction is estimated to cost annually about €4.4 million in the EU.

## **COMMENTS PREFERABLY BY 24 DECEMBER**

The opinion forming process of the ECHA Committees for Risk Assessment (RAC) and Socio-Economic Analysis (SEAC) starts with a public consultation on 24 September 2010. Interested parties can comment on the proposal and the restriction report on the ECHA website. Although the public consultation concludes on 24 March 2011, the Rapporteurs of RAC and SEAC would appreciate receiving comments by 24 December 2010 to assist them in the detailed discussion of the restriction proposal in January 2011.

The final opinions of both committees are scheduled to be available by 24 September 2011. ECHA will send these two opinions to the European Commission which will take the decision whether to include additional restrictions in Annex XVII of the REACH Regulation.

Submit comments on the restriction report

[http://echa.europa.eu/consultations/restrictions/ongoing\\_consultations\\_en.asp](http://echa.europa.eu/consultations/restrictions/ongoing_consultations_en.asp)

To the restriction report

[http://echa.europa.eu/doc/restrictions/annex\\_xv\\_restriction\\_report\\_mercury\\_en.pdf](http://echa.europa.eu/doc/restrictions/annex_xv_restriction_report_mercury_en.pdf)

To press release

[http://echa.europa.eu/pr\\_10\\_18\\_restrictions\\_mercury\\_20100924\\_en.pdf](http://echa.europa.eu/pr_10_18_restrictions_mercury_20100924_en.pdf)

More information on Restriction process

[http://echa.europa.eu/reach/restriction\\_en.asp](http://echa.europa.eu/reach/restriction_en.asp)