



Measure type descriptions for HELCOM SOM Hazardous substances effectiveness of measures survey

In the third column, “Examples of included measures”, examples of both concrete existing measures and hypothetical measures are included. Existing measures are preceded by their scale of implementation, i.e. “Global:”, “EU”, “HELCOM:”, or individual countries e.g. “PL:”. Hypothetical measures lack this additional text.

Pressure	Measure type	Examples of included measures
Input of mercury	Local/state/national targets to eliminate coal fired energy production	Denmark: Political agreement for the Danish energy policy 2012-20 - Funding for increased biomass energy production and reduction/stop of coal fired plants
Input of mercury	Continued application of the EU Emissions Trading System	EU: EU Emissions Trading System
Input of mercury	Updated EU mercury storage regulation	EU: Mercury regulation laying out requirements for storage and transport of mercury Minamata Convention: Environmentally sound interim storage of mercury, other than waste mercury
Input of mercury	Sand capping or removal of existing cellulose deposits	Implement measures for removal or capping of existing cellulose deposits to reduce mercury levels
Input of mercury	Ban on manufacturing processes where mercury or mercury compounds are used as a catalyst (e.g. In vinyl chloride monomer production)	EU: Mercury regulation – Prohibits manufacturing processes in which mercury or mercury compounds are used as a catalyst from 1 January 2018
Input of mercury	Ban on manufacturing processes where mercury is used as an electrode (e.g. in chlor-alkali production; Na or K methylate/ethylate production)	EU: Mercury regulation – Prohibits manufacturing processes in which mercury is used as an electrode from 1 January 2022
Input of mercury	Ban on export of Mercury (II) sulphate (HgSO ₄ , CAS RN 7783-35-9) and Mercury (II) nitrate (Hg(NO ₃) ₂ , CAS RN 10045-94-0)	EU: Mercury regulation – Prohibits the export of Mercury (II) sulphate (HgSO ₄) and Mercury (II) nitrate (Hg(NO ₃) ₂) from 1 January 2020

Pressure	Measure type	Examples of included measures
Input of mercury	Reduce re-suspension from sediments, by limiting restructuring of seabed to areas with low concentrations	Implement guidelines that limit activities, which cause re-suspension of mercury from sediments, to areas with low concentration in the seabed
Input of mercury	Tighter allowed contamination levels during dredging activities	Implement restrictions on contamination levels during restructuring of seabed activities, such as dredging
Input of mercury	Perform dredging under conditions (low water pH and temperature) that lower desorption from sediments, i.e. preferable during winter	Implement guidelines to perform dredging only under conditions that lower desorption from contaminated sediments
Input of mercury	Treatment of scrubbing water from ships before disposal to reduce mercury	Germany: Requirements for the discharge and disposal of scrubbing waters from exhaust treatment on board ships and regulation for professional disposal of residue from scrubbers in ports
Input of mercury	Increased fuel efficiency standards	Implement regulations for increasing fuel efficiency standards
Input of mercury	Increased electrification of transportation fleets	Implement regulations for increasing the amount of electrification of transportation fleets
Input of mercury	Minamata convention	Minamata Convention: Regulates inter alia: ban on primary mercury mining chlor-alkali decommissioning import/export mercury-added products mercury in manufacturing processes time limit to Minamata exemptions small-scale gold mining control of emissions and releases storage and waste control
Input of mercury	Paris agreement	Paris agreement limiting carbon emissions
Input of mercury	EU mandatory use of dental amalgam separators retaining at least 95% of amalgam particles	EU: Mercury regulation - From 1 January 2021, all amalgam separators in use retain at least 95% of amalgam particles
Input of mercury	5% increase in EU mandatory WEEE recycling levels	EU: Directive on waste electrical and electronic equipment – Minimum WEEE recovery targets increased 5% between 15 August 2015 and 15 August 2018
Input of mercury	Further restrictions on storage and disposal of waste/dredged material containing mercury	Minamata convention: Mercury waste managed in an environmentally sound manner...

Pressure	Measure type	Examples of included measures
Input of mercury	Eurasian Economic Union restrictions on hazardous substances in electrical products	RU: standardizes Hg content in electrical products with EU regulations
Input of TBT	Restrictions on anchoring zones in highly contaminated areas	Implement restrictions for anchoring zones in highly contaminated areas
Input of TBT	In-water hull cleaning regulation	Implement regulations regarding in water hull cleaning processes
Input of TBT	Reduce re-suspension from sediments, by limiting restructuring of seabed to areas with low concentrations	Implement guidelines that limit activities, which cause re-suspension of mercury from sediments, to areas with low concentration in the seabed
Input of TBT	Implement technologies for the degradation of TBT from sediment (e.g. chemical oxidation, bioremediation)	Implement regulations to encourage the use of technologies for degradation of TBT from sediment, such as chemical oxidation etc.
Input of TBT	Tighter allowed contamination levels during dredging activities	Implement restrictions on contamination levels during restructuring of seabed activities, such as dredging
Input of TBT	Perform dredging under conditions (low water pH and temperature) that lower desorption from sediments, i.e. preferable during winter	Implement guidelines to perform dredging only under conditions that lower desorption from contaminated sediments
Input of TBT	Boat washing restrictions	Implement restrictions to boat washing activities in the Baltic Sea
Input of TBT	Monitoring of tin in leisure boat hulls	Implement guidelines for monitoring of tin in leisure boat hulls
Input of PFOS	Stockholm convention PFOS accepted use and specific exemptions limited to: insect baits, metal plating in a closed loop, fire-fighting foams	Stockholm convention: Updated accepted use and specific exemptions limited to insect baits, metal plating in a closed loop, fire-fighting foams (current situation as of August 2019)
Input of PFOS	Stockholm convention PFOS lists no accepted uses or exemptions	No further listing of accepted uses or exemptions for PFOS in the Stockholm Convention
Input of PFOS	Clean-up of contaminated sites	Implement guidelines for cleaning contaminated sites caused by industrial use
Input of PFOS	Restoration/upgrading of old landfill sites	Finland: Restoration of old landfills not meeting current standards
Input of PFOS	Limits on PFOS concentrations in sludge used in commercial applications	Implement limits on PFOS concentrations in sludge, which is used for commercial applications
Input of PFOS	Implement technologies to remove PFOS from wastewater (e.g. activated carbon or high-pressure membrane systems)	Implement regulations for the use of technology that remove PFOS from wastewater, such as activated carbon or high-pressure membrane systems

Pressure	Measure type	Examples of included measures
Input of PFOS	Stockholm convention ban on PFOS fire-fighting foams	Stockholm convention: PFOS fire-fighting foams no longer an acceptable use
Input of PFOS	Stockholm convention ban on PFOS in aviation hydraulic fluid	Stockholm convention: PFOS in aviation hydraulic fluid no longer an acceptable use
Input of diclofenac	Technical upgrade of wastewater treatment plants: e.g. granular activated carbon (GAC) adsorption, ozonation, UV light, nanofiltration etc	Implement technical upgrades of wastewater treatment plants, such as incorporating nanofiltration, GAC, UV light etc.
Input of diclofenac	Improved application of existing WWT technologies (e.g. increasing the sludge retention time, use of both nitrification and denitrification treatment steps)	Implement regulations that encourage the application of existing WWT technologies, such as increasing sludge retention time etc.
Input of diclofenac	Improved pharmaceutical take-back schemes	Implement regulations that improve take-back schemes for pharmaceuticals that contain diclofenac
Input of diclofenac	Increase public awareness of pharmaceutical take-back schemes	Implement measures to increase public awareness of pharmaceutical take-back schemes (e.g. campaigns, advertisements in pharmacies etc.)
Input of diclofenac	Alter prescription practices to lower consumption (drug dosage, pack size, alternative medicine, convert OTC access to prescription)	Implement regulations that lower usage of prescribed medicine containing diclofenac (drug dosage, pack size, alternative medicine, convert OTC access to prescription)