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EU Mercury Surplus Management



Euro Chlor proposal for a voluntary agreement regarding the storage of surplus mercury

**Arseen Seys
Euro Chlor**



Who is Euro Chlor?

- Association of chlor-alkali producing companies in EU, Norway and Switzerland.
- Affiliated to Cefic (Council of European Chemical Industry).
- Member of the World Chlorine Council.

Chlorine is an essential chemical used in the production of many products which we all use in our daily life.



Chlorine Production in EU, Norway & Switzerland (2005)

- Technologies used:
 - Mercury: 48% of installed capacity
 - Membrane: 31%
 - Diaphragm: 18%
 - Others: 3%
- Chlorine production capacity: 12.3 million tonnes



1998 Euro Chlor Voluntary Commitments

- To further reduce plant emissions of mercury.
- To convert mercury cells for the production of chlorine and alkalis by no later than 2020.
- To return all decommissioned mercury not anymore required to an established mercury producer and displace in this way new mercury production.
 - ⇒ Agreement with Minas de Almadén of Spain.



Agreement with Minas de Almadén

- Agreement in place to return chlor-alkali mercury to the mining company in Spain.
- Signed by all Euro Chlor member companies concerned in 2001 – duration of 10 years.
- New mercury mining has effectively been replaced on a tonne for tonne basis.
- About 1500 tonnes of mercury have been returned to Almadén.



Storage of Chlor-Alkali Mercury

EU Mercury Strategy

- EU Mercury Strategy states to pursue the storage of mercury after implementation of the export ban (2011).
- Commission invited Euro Chlor to develop a Voluntary Agreement



Storage of Surplus Mercury

Euro Chlor Voluntary Agreement

- Euro Chlor has accepted the invitation from the European Commission to have a voluntary agreement to safely store surplus mercury.
- Euro Chlor has always acknowledged that storage may ultimately be needed – and has looked into possible solutions.
- Storage as metallic mercury is preferred solution because it can be done safely and without losses to environment.



Key Elements of Euro Chlor Voluntary Agreement

- Commitment to safely store chlor-alkali mercury when export ban comes into effect.
- Applies to excess mercury.
- Storage facility should be subject to a safety assessment and authorised (EU Directive 1999/31 and Decision 2003/33):
 - underground salt mines
 - other warehouse storage facilities.



Key Elements of Euro Chlor Voluntary Agreement

- Storage as liquid mercury in sealed steel containers (ADR/RID approved for transport).
- Take all precautions to avoid any spill.
- Dedicated area at the storage site.
- Regular monitoring at storage location for any mercury leaks.



Conditions for Voluntary Agreement

- Agreement should be recognised by authorities.
- Storage in underground salt mine is long-term final disposal.
- Exemption from Regulation 259/93 to allow transport of liquid mercury (waste) to storage site.
- Modification of landfill of waste Directive to allow storage of liquid mercury.
- Requirement that all surplus mercury must be stored.



Transparent annually reporting by Euro Chlor to Authorities

- Amount of mercury recovered.
- Amount shipped to storage facilities.
- Location of storage facilities.
- Transfers to other chlor-alkali plants in EU.
- Amount temporarily stored by original owner for operations of cells.
- Best estimate of amount of mercury in use.