European Copper Institute
Copper Alliance

ECI COMMENTS TO THE PUBLIC CONSULTATION OF THE DANISH ENVIRONMENTAL PROTECTION AGENCY (DEPA) : MANAGEMENT STRATEGIES FOR ADDING COPPER (I)OXIDE, -(II)SULPHATE, -(I)CHLORIDE ON THE DENMARK'S LIST OF UNDESIRABLE SUBSTANCES (LOUS). 30 APRIL 2014

We thank the Danish Environmental Protection Agency for initiating a the public consultation on LOUS and appreciate the development of the background document "Survey of copper (I)oxide, -(II)sulphate, -(I)chloride".

We appreciate that the document integrated information from various sources, including data provided by ECI, and highlights some important conclusions and recommendations.

Please find below some comments/suggestions to the main findings

Basic hazard profile

- Copper is a natural element and essential nutrient to man and all living organisms
- The considered copper compounds are classified as harmful if swallowed : acute toxicants-class 4.
- The considered copper compounds are classified as very toxic to the aquatic environment (acute 1, chronic 1[1]).
- None of the considered Copper compound are classified as CMRs
- None of the considered Copper compound are classified as PBT nor vP/vB.

ECI comment : we agree with these conclusions. The hazard profile conclusions therefore do not meet the hazard criteria (PBT, vP vB nor CMR) for listing as undesirable substances (LOUS).

Risks and impact assessment

- Consistent with the copper risk assessment, the report concludes that copper compounds do not represent a major human health hazard and that the use of copper products is generally safe for the health of European citizens. Risk of occupational exposure is possible at some industrial sites in Europe. The uses in Denmark are not expected to result in different health risks.
- Consistent with the risk assessment, the report concludes that from the comparison between environmental PECs and PNECs[2] no risks are observed for freshwaters, sediments, sewage treatment plants and soils.

ECI comment : we agree with these conclusions but again, they are not expected to lead to the need, for copper (I)oxide, -(II)sulphate, -(I)chloride, to be listed as undesirable substances (LOUS)

- The report also discusses the following remaining potential concerns.

[1] To be discussed during the "harmonized classification of copper and copper compounds"

[2] We have some comments that do not influence the conclusions but should also be considered. Considering the guidance for PNEC derivation of data-rich substances, the PNEC freshwater derived from the species sensitivity analysis is the most reliable one and should be carried forward to risk characterisation. The PNECs for freshwater, sediment and soils should include a correction for bio-availability - see the copper risk assessment and EFSA report.

- Increasing content of copper in Danish soils. When using the Danish soil quality criterion 1995 (30-40 mg/kg), it was calculated that the time needed to reach this level (at the current exposure patterns) would be 500 years on average and around 100 years for soils receiving manure at the maximum allowable addition of copper to piglets . This is based on an estimated accumulated copper of 0.5% yearly.

ECI comment : We wonder if the uncertainties related to the time-related extrapolations of copper concentrations in soils to the far future (100 and 500 years) are acceptable to allow the addition of copper compounds to the list of undesirable substances.

We further propose to revise the model calculations. We recommend the following refinements to reduce the model uncertainties : (1) integrate bio-availability into the soil criterion, as proposed by Oorts and Schoeters, 2014 (attached); (2) integrate the soil chemistry in the calculation of copper accumulation in and leaching from soils (as done by e.g. EFSA see also below); (3) integrate the ageing of copper following applications to soils (Smolders et al., 2012 - attached).

- EFSA report on feed additives: Model calculations of copper accumulations in soils, following applications of piglet manure, showed a potential risk from run of and contamination of surface water sediments. Some soils (acid sandy soils) are most vulnerable. However, the EFSA 2012 mentions that final conclusions must await model validations and additional data.

ECI comment : consistent with the comment above, EFSA considered that conclusions on copper accumulations in soils and run-off from soils must await model validations and additional data.

- EFSA report on feed additives: EFSA considered the issue of bacterial co— resistance to copper but found that the data are insufficient for a quantification of risk

ECI comment : from the report we conclude that the available information does not lead a need for copper (I)oxide, -(II)sulphate, -(I)chloride, to be listed as undesirable substances (LOUS).

- The Funen deer disease : the hypothesis that copper supplied to agricultural soils causes this disease was based on a study, influenced by methodological issues and not confirmed by a more recent study

ECI comment : from the report we conclude that the available information does not lead a need for copper (I)oxide, -(II)sulphate, -(I)chloride, to be listed as undesirable substances (LOUS)

We therefore question the need for addition of copper (I)oxide, -(II)sulphate, -(I)chloride to the LOUS list. We would also be open to co-operate on a better understanding of the fate of copper in soils

For more information, please contact:
Katrien Delbeke, *Director Health Environment and Sustainable Development*. European Copper Institute, Tervurenlaan 168 b-10. B-1150 Brussels: Tel: +32 2 777 7083, katrien.delbeke@copperalliance.eu