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The Copper Voluntary Risk Assessment

Working with public authorities to ensure the
safe production and safe use of copper products



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Copper is naturally occurring, essential, to modern day life



- Copper can continue to be recycled over and over again with no loss in its performance and qualities.
- Copper is naturally antibacterial and so inhibits the spread of harmful bacteria in water and air distribution systems.
- Copper is an essential trace mineral present in all body tissue. Along with iron, copper helps in the formation of red blood cells and keeps blood vessels, nerves, the immune system, and bones healthy.
- Copper products have useful life cycles ranging from a few months in consumer electronics, up to centuries in architectural applications.



Did you know that?

Copper products are at the heart of the EU's conventional and renewable electrical energy systems, they help deliver clean drinking water and facilitate modern transportation and communications networks. Copper is also an essential nutrient, ensuring the health and well-being of people across the globe.

The safety of copper production and use has been confirmed by the industry's "Voluntary Risk Assessment" (VRA) performed, between 2000 and 2008, in cooperation with the Italian Government's Istituto Superiore di Sanità.



This proactive, voluntary initiative of the industry was fully endorsed by the EU authorities in April 2008. It was also the first example of its type in Europe to be completed in advance of REACH, the new European Union's regulation on chemicals.

Recognised and accepted by the scientific community and by the EU regulatory authorities, the VRA provides a comprehensive and sound scientific basis on which to assess the safe production and use of copper.

The VRA:

- Quantifies copper emissions during production and use
- Assesses copper exposures to workers, consumers and the environment
- Recommends safe limit values for the environment and human health
- Compares all of the above and recommends where additional risk management measures are needed

Copper: Safe, clean, essential...

VRA key conclusions and recommendations:

- ← Copper is an essential nutrient for humans as well as for all living organisms
- ← Daily copper intakes between 1 and 11 mg/day are safe for humans.
- ← Current typical copper intake levels, which range from 0.6 to 2.0 mg/day, actually indicate more of a risk from copper deficiency.

The production and use of copper are generally safe for Europe's environment

- ← Copper levels measured in European surface waters, sediments and soils are generally well below the recommended safe threshold values.

Copper production is in general safe for the health of industry workers and local environments around copper industry installations

- ← A few local issues were identified where potential risks could exist. The copper industry will investigate these further and prepare appropriate risk management plans.



The European Copper Institute (ECI), acting on behalf of the industry, has worked closely with EU authorities to ensure the objectivity, quality and transparency of the risk assessment, of its results and of its follow-up.

Key features:

A transparent process:

- ← The VRA was reviewed in depth by independent peer-review panels staffed by renowned scientists.

A broad and committed industry participation:

- ← From the producers of copper metal, powder and chemicals, through to the downstream users, the VRA involved the whole copper value chain.

A significant investment:

- ← The industry invested €8 million in the VRA.
- ← The final 1,800 page dossier is available on ECI's website.

Immediate results:

- ← High-quality data gathered to assess the safety of the current production processes and uses of copper.
- ← Commitment by the copper industry to implement the recommended risk reduction measures.
- ← The EU's Technical Committee on New and Existing Substances (TCNES) and the EU's Scientific Committee on Health and Environmental Risks (SCHER) have endorsed the VRA methodologies and results.

Long-term perspectives:

- ← The VRA has delivered a comprehensive and solid scientific platform to support future EU regulation, such as REACH, and the setting of quality criteria for copper in water, sediment and soil.
- ← Confirmation that the production, use and end of life impacts of copper products are safe, contributes to the long-term stability of the European copper industry, thus securing job creation and investment.
- ← The VRA provides strong arguments that copper can continue to be used safely in high growth sectors such as energy efficiency, renewables and transportation.