

Response to studies claiming a link between lead poisoning and crime rates

The International Lead Association is committed to the safe and sustainable use of lead and for many years, the Association has sponsored independent research into the effects of lead on health and the environment. Whilst correlations between exposure and effects have been reported over the years, the most challenging area of lead science remains the identification of causal relationships due to the wide range of confounding factors.

Recent news reports exploring the correlation between the decline in high levels of lead exposure, resulting from the phase-out of lead in gasoline, and a decline in crime pose many interesting questions. Is there a causal relationship between the two? What other factors have been ruled out or should be considered? The ILA believes that further research would be required to establish whether a direct link indeed exists.

Criminality and violent behaviour are complex behavioural endpoints and the underlying factors that determine their incidence remain poorly understood. Correlations with past elevated lead exposure, while of interest, are difficult to interpret since many of the factors believed to contribute to crime rates are also factors that predispose individuals to lead exposure. Clearly understanding further what factors reduce crime rates would be of benefit to society.

ILA Managing Director, Dr Andy Bush, said: "Crime is of concern to all of us, so the idea that lead in gasoline may provide both a simple explanation and a solution to this problem is a compelling one.

"Presently however, none of the authoritative reviews into this subject have conclusively linked lead exposure to criminal behaviour, so further research is still needed."

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Notes to editors

Following the ban on dispersive uses of lead, such as in gasoline and paint, and the continuous improvements in emission controlsⁱ in other lead industries, data shows that lead exposure has reduced dramatically in developed countries over recent decades, while demand for lead has more than doubledⁱⁱ.

The lead industry remains an essential part of the global economy and now almost 90%ⁱⁱⁱ of its use is in lead-acid batteries - a critical component in the one billion^{iv} petrol and diesel vehicles being used

worldwide. Lead's protective qualities also make it critical in many applications, such as acting as a radiation barrier in the medical and energy industries.

Lead batteries play a significant role in helping to achieve energy policy objectives through their use in "start-stop" vehicle technology as well as for the storage of renewable energy and the stabilisation of power grids. Lead-based batteries also provide emergency back-up power to most of the world's IT and telecoms infrastructure.

Lead is also a sustainable product, achieving a recycling rate of greater than 90% in developed countries^v. The ILA believes that with the responsible management of its potential risks, the benefits of lead to society can continue to be realised in a sustainable manner.

About the ILA

The International Lead Association is a membership body that supports companies involved in the mining, smelting, refining and recycling of lead. The ILA represents the producers of about 3 million tonnes of lead and almost two thirds of lead production in the western world.

The ILA believes that lead plays a critical role in a sustainable global economy. Lead-acid batteries are its main use and this application is a cost-effective, proven and safe technology which is 100% recyclable.

With a head office in the UK and a research organisation (the International Lead Zinc Research Organisation – ILZRO) in the USA the ILA provides a range of technical, scientific and communications support and is focused on all aspects of the industry's safe production, use and recycling of lead and helps fund bodies such as the International Lead Management Center and the International Lead Zinc Research Organization.

For further information contact: Bob Tolliday, ILA Communications Manager, Tolliday@ila-lead.org
tel: +44 (0) 20 7833 8090

ⁱ According to the US EPA there has been an 89% decrease in National air average lead concentrations in the period 1980-2010 (<http://www.epa.gov/air/airtrends/lead.html>). This is mirrored in the EU where mean air lead levels have declined by >85% between 1990 and 2007 (Bierkins et al. (2011) Science of the Total Environment 409, 5101-5110)

ⁱⁱ International Lead Zinc Study Group (ILZSG) (Forecasts Oct 2012, p1)

ⁱⁱⁱ ILZSG (The Market for Lead, 2012, p29)

^{iv} ILZSG (The Market for Lead, 2012, p31)

^v ILZSG (The Market for Lead, 2012, p21)