

**Cover**

See Christopher Exley,  
pp. 1807-1816.  
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*Environ. Sci.: Processes Impacts*,  
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CRITICAL REVIEW

1794

**The influence of glacial meltwater on alpine aquatic ecosystems: a review**

Krista E. H. Slemmons,\* Jasmine E. Saros and Kevin Simon

Glacial meltwater has myriad effects on the physical, chemical, and biological features of associated lakes and streams.



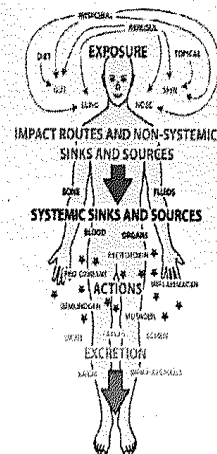
PERSPECTIVES

1807

**Human exposure to aluminium**

Christopher Exley

This paper should enable a change in our thinking about the myriad ways that humans are exposed to aluminium and importantly it provides a much more complete definition of the body burden of aluminium.



1817

### World Health Organization increases its drinking-water guideline for uranium

Seth H. Frisbie, Erika J. Mitchell and Bibudhendra Sarkar\*

In 2011, the World Health Organization increased its drinking-water guideline for uranium to  $30 \mu\text{g L}^{-1}$ . The "no-effect group" used to justify this revision showed increased blood pressure and glucose excretion.



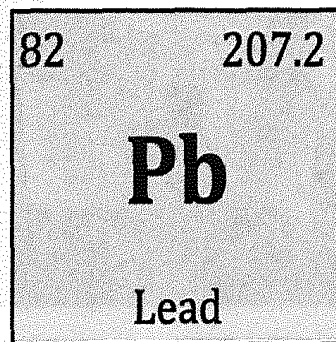
## FRONTIER

1824

### Human biomonitoring issues related to lead exposure

Evert Nieboer,\* Leonard J. S. Tsuji, Ian D. Martin and Eric N. Liberda

Improvements in quantifying lead in blood and tissues have guided the identification of associations with health outcomes and exposure reduction.



A tenacious toxic metal

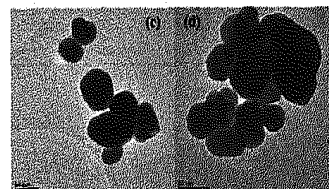
## PAPERS

1830

### The oxidative toxicity of Ag and ZnO nanoparticles towards the aquatic plant *Spirodela punctata* and the role of testing media parameters

Melusi Thwala, Ndeke Musee,\* Lucky Sikhwivhilu and Victor Wepener

The toxicity effects of silver (nAg) and zinc oxide (nZnO) engineered nanoparticles (ENPs) on the duckweed *Spirodela punctata* were studied to investigate the potential risks posed by these ENPs towards higher aquatic plants.



1844

### Liability, solubility and speciation of Cd, Pb and Zn in alluvial soils of the River Trent catchment UK

Maria Izquierdo,\* Andrew M. Tye and Simon R. Chenery

We examined the bioavailability and speciation of Cd, Pb and Zn in alluvial soils, and predicted their concentrations and speciation in pore waters based on soil characteristics.



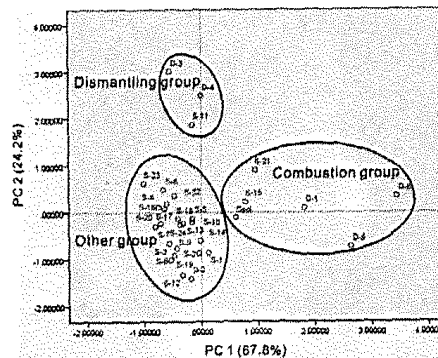


1889

**Spatial distribution of polychlorinated dibenzo-*p*-dioxins and dibenzo-furans (PCDDs/Fs) in dust, soil, sediment and health risk assessment from an intensive electronic waste recycling site in Southern China**

Jianfang Hu,\* Xiao Xiao, Ping'an Peng, Weilin Huang, Deyi Chen and Ying Cai

Different cycling procedures generate different congener profiles. Open burning and dismantling are the two major contributors of PCDDs/Fs to the environment.



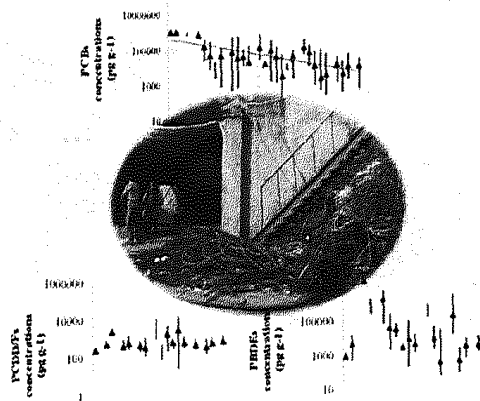
PCA score plot of the first two principal components (PCs)

1897

**Temporal trends of PCBs, PCDD/Fs and PBDEs in soils from an E-waste dismantling area in East China**

Pu Wang, Haidong Zhang, Jianjie Fu, Yingming Li, Thanh Wang, Yawei Wang, Daiwei Ren, Patrick Ssebugere, Qinghua Zhang\* and Guibin Jiang

In the E-waste dismantling area of Taizhou, East China, the PCB levels in the soils markedly declined over the years, while PCDD/Fs and PBDEs did not show the same trends after stricter regulations were introduced in 2005.

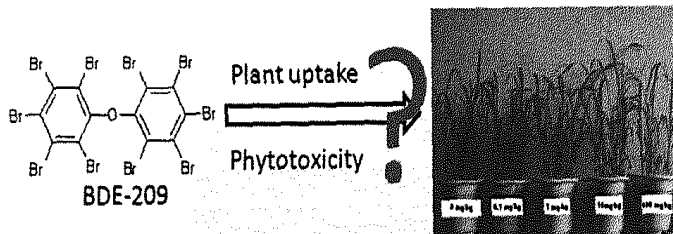


1904

**Plant uptake and phytotoxicity of decabromodiphenyl ether (BDE-209) in ryegrass (*Lolium perenne* L)**

Xianchuan Xie, Yan Qian, Yingang Xue, Huan He\* and Dongyang Wei\*

This paper reports the plant uptake and phytotoxicity of decabromodiphenyl ether (BDE-209) in ryegrass.

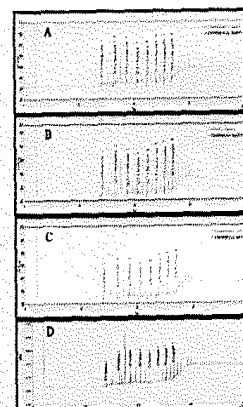


1913

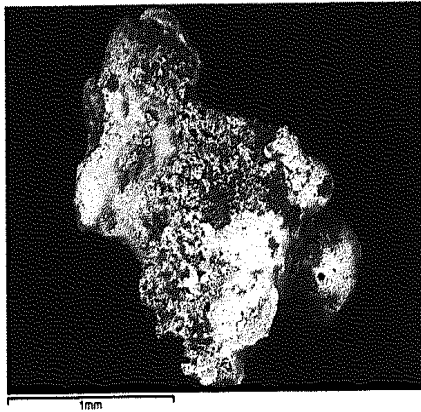
**Fenton oxidation and combined Fenton-microbial treatment for remediation of crude oil contaminated soil in Assam – India**

Surabhi Buragohain, Dibakar Chandra Deka and Arundhuti Devi\*

The study is aimed at the remediation of soil spiked with crude oil (5%) by employing Fenton oxidation, biological treatment and combined Fenton-biological treatment.



1921

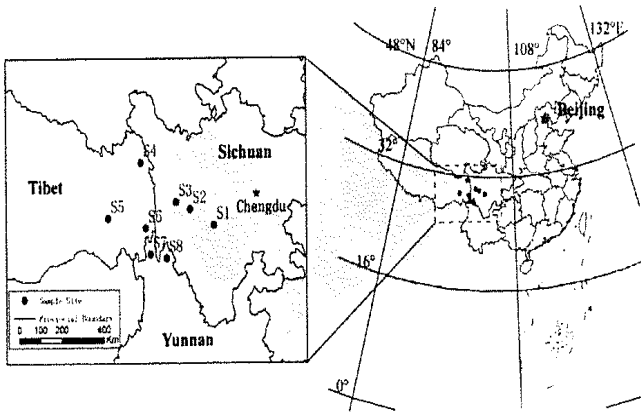


**Characterising the morphological properties and surface composition of radium contaminated particles: a means of interpreting origin and deposition**

Clare A. Wilson,\* W. Paul Adderley, Andrew N. Tyler and Paul Dale

A novel combination of optical microscopy and SEM-EDX is used to characterise the morphology and surface composition of environmental 'hot particles', in order to identify their origins, deposition and potential for redeposition.

1930



**The chromium in timberline forests in the eastern Tibetan Plateau**

Ji Luo, Ronggui Tang,\* Jia She, Youchao Chen, Yiwen Gong, Jun Zhou and Dong Yu

In order to study the regional distribution, trait and possible source of chromium in the eastern Tibetan Plateau, we collected samples of xylem, bark, leaves and twigs in two parallel northwest-southeast belt transects (TA and TB) from the Hengduan Mountains.

1938

Fenitrothion

Biomarkers	Minho estuary		Lima estuary	
	Low concentration	High concentration	Low concentration	High concentration
ACtE	—	↓	—	↓
IDH	—	↑	↑	↑
LDH	↑↑	↑	—	—
GST	↑	↑	↑	↑↑
GPx	↑↑	—	↑↑	↑↑
GR	↑	↓↓	↑	↑
CAT	↑↑	↑	—	—

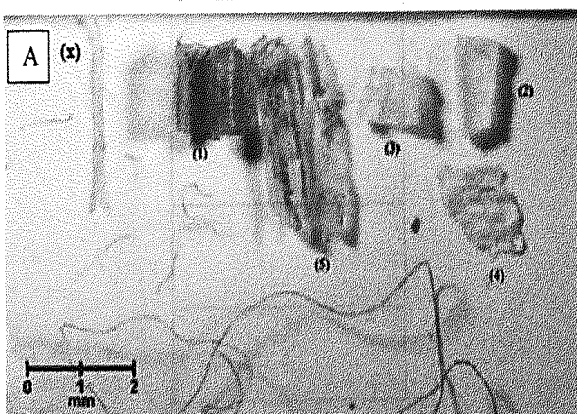
Low impacted
Moderately contaminated

**Involvement of the antioxidant system in differential sensitivity of *Carcinus maenas* to fenitrothion exposure**

A. P. Rodrigues,\* C. Gravato and L. Guimarães

Anti-oxidant enzymes may enhance tolerance to contamination in feral *C. maenas* historically exposed to moderate contamination levels.

1949



**Identification of polymer types and additives in marine microplastic particles using pyrolysis-GC/MS and scanning electron microscopy**

Elke Fries,\* Jens H. Dekiff, Jana Willmeyer, Marie-Theres Nuelle, Martin Ebert and Dominique Remy

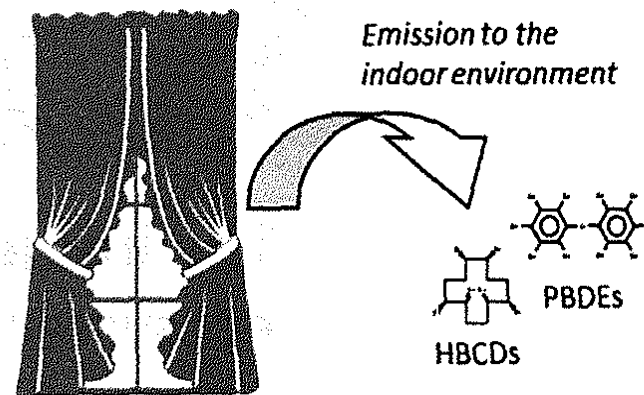
Any assessment of plastic contamination in the marine environment requires knowledge of the polymer type and the additive content of microplastics.

1957

### Emission behavior of hexabromocyclododecanes and polybrominated diphenyl ethers from flame-retardant-treated textiles

Natsuko Kajiwara\* and Hidetaka Takigami

Flame-retardant-treated textiles emitted HBCDs and PBDEs, including BDE 209, even at room temperature, and the emission rates increased with increasing temperature.



*In-use textile products containing POPs-BFRs*

### TECHNICAL NOTE

1964

### Competition by aquifer materials in a bimetallic nanoparticle/persulfate system for the treatment of trichloroethylene

Mohammed Ahmad Al-Shamsi\* and Neil R. Thomson

Aquifer material constituents can reduce the efficiency of activated peroxygen systems to degrade target organic compounds.

