

# EXTRACTIONS



a newsletter from **O'CONNOR ASSOCIATES**

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## **MTBE NOT TOXIC IN CANADA**

In times when many chemicals are perceived as harmful, it's encouraging to find one that seems safe. As part of a process to assess the toxicity of 44 suspect chemicals by 1994, researchers for Environment Canada and Health and Welfare Canada reported that methyl tertiary-butyl ether (MTBE) is not toxic as defined under the Canadian Environmental Protection Act (CEPA). MTBE is an oxygenate that has been used, like ethanol, as an octane enhancer in gasoline since the 1980s when tetraethyl lead was phased out. The potential exposure risk over an average Canadian's lifetime is 1000 times less than the amount needed to cause harmful effects. Also, it has been established that MTBE does not accumulate in aquatic plants or animals, does not go up the food chain and is not persistent in the environment.

The CEPA defines toxicity of a chemical in terms of its effect on the health of humans and other organisms and in terms of its concentration in the Canadian environment.

In earlier studies, the US EPA reported similar results, but, due to recent consumer complaints, the US is looking again at MTBE.

[from *Can. Env. Control Newsletter*, No. 479, March 4, 1993 and *Amoco Torch*, Vol. 3, No. 6, March 22, 1993]

## **TIRES THREATEN FISH**

Some of the 27 million rubber tires that are disposed of annually in Canada are used as artificial reefs and breakwaters. Concerned about the possible effects, Environment Canada has commissioned a study of the impact of tire leachate on the aquatic environment. Preliminary results show that there is a danger. Leachate from new tires is toxic to trout, while leachate from tires that have been under water for 10 years is harmless. This suggests that the material leaches relatively quickly. Additional studies characterized the toxic substances in the leachate as persistent and non-volatile. The work is ongoing.

[from *National Water Research Digest*, Fall 1992, p. 6]

## **CHEMICAL RELEASE REPORTING: IS IT FOR YOU?**

As part of the federal Green Plan, Environment Canada is hoping to have the reporting criteria and regulations for the National Pollutant Release Inventory (NPRI) ready by the end of this year. There are 176 chemicals on the proposed list. Both manufacturers and users of the listed chemicals must file one report per chemical. To avoid a paper avalanche, Environment Canada will be encouraging operators to submit their reports on computer disk.

[from Environment Canada news releases]

## **ARSENIC IMMOBILIZED IN METEORITE MINERAL**

Residual arsenic in mine tailings is a serious problem for the Australian gold industry. Now a group under Dr. Jim White of the University of Western Australia's Research Centre for Advanced Minerals and Materials Processing has made a breakthrough. Rather like the synroc process, which immobilizes uranium and thorium waste in an inert zirconium mineral, their technique produces a pair of stable arsenical minerals. These synthetic minerals closely resemble johnbaumite, an extremely rare substance found only one place on earth, and merrillite, a compound found only in stony meteors. Both minerals are prepared by reacting arsenic waste with lime at 500°C, and both are 100 to 1000 times less soluble than the standard arsenical slurries left in tailings dams.

[from *Australia*, Issue 80, Jan. 6, 1993]

## **CSA LOOKS AT THE ENVIRONMENT**

The Canadian Standards Association (CSA) is developing guidelines to help organizations add environmental considerations to their decision making. Recently, the CSA invited representatives from industry, government, and the financial community to join the CSA Technical Subcommittee on Environmental Site Assessment (ESA). The committee will define clear principles, standards, and criteria for ESAs across Canada using the CSA's internationally recognized consensus system for developing

documents. These guidelines will help landowners, buyers, lenders, and insurers assess the environmental risks when considering real estate transactions. The guidelines will also help legislators to develop relevant laws, provide information for cleanup efforts, and encourage corporations to comply with regulations and properly dispose of their waste. The committee hopes to publish the guidelines by the fall.

Another CSA subcommittee will use the same approach to create the first North American Guideline for Environmental Product Design. This committee is made up of representatives from major Canadian and US corporations, government departments, and other experts. The committee will build on recent research into product life cycle (cradle-to-grave) assessment to provide a guideline for those designing products and services within new environmental, financial, regulatory and resource constraints.

Other environmental guidelines the CSA is developing include: Environmental Life Cycle Assessment; Environmental Labelling; Corporate Reporting; Risk Management; Pollution Prevention; Waste Management; Emergency Planning, Prevention and Response; Community and Stakeholder Consultation; and Resource Management.

[from *CSA Environmental Update 8* and  
*the PEGG*, Vol. 21, No. 3, March 1993]

### **DEEP SEA DISPOSAL TRASHED**

Hopes of history buffs wanting to raise the Titanic, hose her off, and sail away have been dashed. So have hopes for using the sea as a toxic waste dump, says Steve Blasco, a marine geologist for the Geological Survey of Canada at the Bedford Institute of Oceanography in Dartmouth, N.S. To examine the sea floor as a possible toxic-waste dump-site, he joined Russian scientists and an IMAX film crew on 17 dives in a Russian submarine to the Titanic's grave. He and the others were shocked to find how fast the ship was rusting away. At 4 kilometres below the surface, bacteria are eating iron and sulphur and corroding the wreck. Considering what's been done to the ship in 80 years, Mr. Blasco estimates it may be gone in 800 to 1000 years.

Accordingly, he notes that the deep sea, which was previously considered to be an inert and inactive environment, may not be as suitable for hazardous waste disposal as originally thought. Mr. Blasco fears steel drums holding toxic waste may not last long and that the toxins could get into the food chain. Hungry bacteria aside, his analysis shows that strong currents prevent sediments from building up, and what thin sediments there are probably can't absorb wastes. The hard surface of the ocean floor could break apart dumped toxic-waste containers upon impact, releasing toxins into the sea.

[from Shelly Page, Ottawa Citizen science writer]

### **NORWEGIAN GREEN WARRIORS**

Norway is preparing to be the first country to put a Green Warrior force at the disposal of the UN Environmental Crisis Centre in Geneva. By 1994 the government plans to have 1700 troops available for immediate action and for longer term assignments. There is much to be done, especially in Eastern Europe, says Norway's Defence Minister Johan Jorgen Holst. Holst acknowledges that "The value of the initiative is entirely dependent on whether other countries follow suit."

[from *Environment Policy & Law*, Dec. 1992, p. 122]

### **FIRST FUEL CELL POWERED BUS**

Ballard Power Systems of North Vancouver and BC Transit have recently demonstrated in a 6-month trial that a transit bus powered by hydrogen fuel cells alone performs as well or better than a similar bus powered by diesel fuel. This zero emission vehicle (ZEV) carries 20 passengers, has a top speed of 70 km/h, and a range of 160 km. Its success has encouraged Ballard; the Province of British Columbia; Energy, Mines and Resources Canada; and other supporters to proceed with a full scale prototype. With added batteries and improved hydrogen storage methods, the prototype will carry 40 passengers and should go 280 km without a fill-up. Ballard hopes to be in full commercial production by 1998.

[from Ballard Power Systems news release]

### **WOOD OR PLASTIC?**

For years people have thought that non-porous, plastic cutting boards were more hygienic than wooden ones. Not so, say Dean Cliver and Nese Ak, researchers at University of Wisconsin-Madison. Setting out to find ways to decontaminate wooden kitchen surfaces, they discovered that wooden surfaces actually cleaned themselves. They put bacteria (salmonella, listeria and E. coli) on plastic, rubber, and wood samples. When they returned the next morning, the bacteria on the plastic and rubber had multiplied, but the wood surface was sterile. Dr. Cliver and Ms. Ak suspect that the wood pores soak up the fluid with the bacteria in it. Once inside, the bacteria are killed by one of the many anti-microbial chemicals with which trees have protected themselves for centuries.

Perhaps the old butcher block was more hygienic than we thought.

[from *Globe & Mail*, Feb. 15 1993]

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