



United Nations Environment Programme

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PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT • PROGRAMA DE LAS NACIONES UNIDAS PARA EL MEDIO AMBIENTE
ПРОГРАММА ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ ПО ОКРУЖАЮЩЕЙ СРЕДЕ

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PRESS RELEASE

New Basel guidelines to improve recycling of old batteries and protect human health and the environment

Geneva, 27 May 2002 – In an effort to reduce the global risk of lead poisoning, the Basel Convention on hazardous wastes has finalized a set of guidelines promoting the environmentally sound recycling of spent lead-acid batteries – the number one source of secondary lead in the world today.

“Since ancient times, lead has brought us great benefits but also innumerable poisonings, particularly amongst workers and children,” said Executive Director Klaus Töpfer of the United Nations Environment Programme, under whose auspices the Basel Convention was adopted.

“The recycling of lead-acid batteries is one of the greatest potential sources of risk, especially for exposed workers in the informal sector in many developing countries. The safe recycling of these batteries requires strict environmental and occupational standards that can only be ensured by specialized firms, of which only a few are found in developing countries,” he said.

Malleable and resistant to corrosion, lead is the most widely used metal after iron. Of the 2.5 million tons produced worldwide every year, some 75% goes into the lead-acid batteries used in automobiles, industrial facilities and portable tools.

Lead has been mined for at least 8,000 years and was probably one of the first health and safety issues in the workplace. Reports of lead poisoning date to ancient Greece, and high levels of lead have been found in ancient Egyptian mummies.

Until recently, artists and craftsmen routinely wetted brushes with their mouths, accidentally ingesting lead-containing pigments.

In many developing countries, retired batteries are still broken manually using an axe. This is extremely dangerous to the workers. Inhaling dust, fumes or vapours dispersed in the workplace air can lead to acute lead poisoning. The more common problem, however, is chronic poisoning from absorbing low amounts of lead over long periods of time.

Lead is absorbed into the body through the lungs or the mouth, and about 90% of it accumulates in the bones. Early symptoms of lead poisoning are tiredness, headache, aching bones and muscles, forgetfulness, loss of appetite and sleep disturbance. This is followed by constipation and attacks of intense pain in the abdomen, called lead colic.

As more lead is absorbed into the body, paralysis sets in. This affects the radial nerve in particular, causing "wrist drop". In the final stages, the victim suffers convulsions, coma, delirium and possibly death. Children are more susceptible to lead poisoning than adults and may suffer permanent neurological damage. Lead can damage the human foetus, so pregnant women should not work with lead. Mammals suffer similar effects; cattle, for example, sicken and die when they consume lead from oils or farm equipment left abandoned in their pasture.

The new Basel guidelines aim to improve the management of lead-acid batteries by enabling governments to develop the necessary legislation and facilities for coping with the dramatic growth in the quantity of used batteries. They offer governments and industry a set of best practices and principles for setting up effective systems for recycling batteries. Rigorous controls, economic incentives, appropriate technologies and stable market conditions are the keys to safety.

Obtaining secondary lead from old batteries is economically attractive, cutting about 25% from the energy bill compared with mining primary lead. In addition, batteries are a ubiquitous product with a predictable lifetime, and the large market for recycled lead creates economies of scale. As a result, battery manufacturers rely heavily on secondary lead, most of it sourced from recycled batteries. Some of the lead recycled from batteries in the informal sector, however, does not re-enter the manufacturing sector but is used instead for other purposes, such as sinkers for fishing lines.

The 64-page guidelines describe how to collect, transport and store used batteries. They argue that the most effective approach to collection is to rely on manufacturers, retailers, wholesalers and service stations to retain the old battery at the time a new one is provided to the customer. The guidelines give specifications for the storage chambers and transport facilities and describe how batteries delivered to the recycling plant should be drained of their electrolytes, identified and segregated, and stored. Finally, the recovered lead must be refined in order to remove unwanted contaminants. The guidelines also address medical issues and public awareness.

Developed in 1889, lead-acid batteries seem set to remain an important energy source for years to come. While non-lead based alternatives such as dry cell batteries are in development, their environmental and health impact must still be evaluated. Their use is still marginal today but is expected to increase in the years to come. In the meantime, the effectiveness and safety of recycling lead-acid batteries could be further improved through changes in battery design.

The Technical Guidelines for the Environmentally Sound Management of Waste Lead-Acid Batteries have been developed by the Convention's Technical Working Group, which met here from 23 – 24 May. They will go forward for final adoption to the sixth meeting of the Conference of the Parties to the Convention (COP 6), scheduled for 9 – 13 December 2002 in Geneva.

The Basel Convention on the Transboundary Movement of Hazardous Wastes and Their Disposal was adopted in March 1989 and has 150 members. It regulates the movement of these wastes and obliges its membercountries to ensure that such wastes are managed and disposed of in an environmentally sound manner. Governments are expected to minimize the quantities that are transported, to treat and dispose of wastes as close as possible to where they were generated, and to minimize the generation of hazardous waste at source.

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