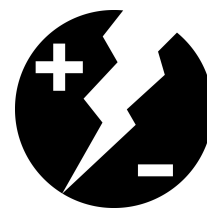


BEST News

Better Environmental Sustainability Targets (BEST)



March 2009 - Volume 3

Lead Battery Manufacturing Workshop, Delhi, India

On November 3, 2008 the Society of Indian Automobile Manufacturers (SIAM) along with OK International and the National Referral Centre for Lead Poisoning in India (NRCLPI) hosted the workshop “Improving Lead Battery Manufacturing, Collection, and Recycling: The Role of



OEM's.” The workshop brought together major automobile companies, lead battery producers, government, and non-government organizations to discuss the benefits and challenges in adopting the Better Environmental Sustainability Targets (BEST) certification. Some of the highlights of the program include:

- Mr. K.K. Gandhi, Executive Director of SIAM, discussed the organization's environmental programs including efforts to improve the recycling of vehicles where lead batteries are an important component.
- Managing Executive Officer of Maruti Suzuki, Mr. I.V. Rao, emphasized the areas where the auto industry has taken the initiative on corporate social responsibility. He endorsed the adoption of the BEST certification by lead battery manufacturers.
- Dr. Giridhar Gyani, Secretary General Quality Council of India (QCI), indicated that the quality of products are an important component of efforts to expand exports. He noted that independent certification helps companies market quality products.
- Dr. Richard Rinehart, Board Member OK Environment, highlighted how the use of alternate materials can decrease the amount of lead in vehicle parts.

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Upcoming Events

April 23-24, 2009:

OK International and Vietnam EPA are jointly sponsoring a workshop on "Environmental Health and Safety for the Lead Battery Industry" on April 23-24 in Ho Chi Minh City. For more information or to enroll in the course, contact us at: info@okinternational.org

Johnson Controls Demonstrates Consumer Demand for “Green” Batteries

Batteries manufactured in an environmentally sound manner are more valuable to consumers than those coming from companies that demonstrate little commitment to the environment. A recent survey by Johnson Controls (USA) found that, when given the choice, 81% of consumers are more likely to purchase a battery that they perceive as “green”. Additionally, 84% of the surveyed consumers are willing to pay \$5 more for a green battery and 68% are willing to pay \$10 more. Approximately half of those surveyed are willing to change their purchase location to buy green batteries. For more information see: http://www.johnsoncontrols.com/publish/etc/medialib/jci/corporate/investors.Par.88705.File.tmp/NY_Meeting_Oct2008_rev1.pdf

U.S. EPA Sets New Limits for Lead in Air

Back in 2008 we reported that the U.S. Environmental Protection Agency (U.S. EPA), for the first time in 30 years, had proposed a new regulatory limit for lead concentrations in ambient air. The final regulation was published in October 2008 (Docket ID No. EPA-HQ-OAR-2006-0735). The new standard is 0.15 ug/m³, which represents a 90% reduction from the older requirement in the National Ambient Air Quality Standards for lead. The new limit must be fully implemented by 2016. This regulation, spurred by a lawsuit brought by the State of Missouri, will improve health protection for at-risk groups, especially children. For more information on this ruling and the complete document see: <http://www.epa.gov/air/lead/actions.html>.

New Lead Skin Cleanser

A skin cleanser to safely and more effectively remove lead and other toxic material from skin developed by the National Institute for Occupational Safety and Health (NIOSH) has entered commercial use. This formulation which has potential application to the lead battery industry is licensed by Hygenall Safety Products, a division of Mk-IX Technologies, Inc. A study conducted by NIOSH in 2005 comparing this product to six other commercial cleansers demonstrated that most offer a comparable performance in removing lead. However, in a separate study NIOSH showed that some detergents containing sodium lauryl sulfate can increase the absorption of lead oxide through the skin. The mention of this company and product does not represent a commercial endorsement by OK International.

Pilot Program for Small Battery Manufacturers in India

The National Referral Centre for Lead Poisoning in India (NRCLPI) along with OK International are implementing a pilot program to reduce lead exposures in and around small-scale lead battery manufacturing



companies. Three lead battery manufacturing companies, **Eskay Batteries** (Hubli), **Microtex** (Bangalore), and **Vaibhav Electro Control**, (Pune) have voluntarily agreed to invest in improving their operations.



The companies have signed memorandums of understanding committing to make improvements in:

- Training workers;
- Blood lead level monitoring;
- Offering medical examinations;
- Personal hygiene; and
- Equipment to reduce lead exposures.

With significant reductions in lead emissions can we expect to see improvements in health status among workers and in the surrounding communities.

China Releases Lead-Acid Battery Industry Clean Production Standards

New standards for the manufacture and recycling of lead-acid batteries have been established to ensure cleaner production. These standards will require battery manufacturers to address battery collection, transit, storage, recycling, and pollution control measures. Battery manufacturers must collect used batteries for recycling at approved recycling enterprises. The rate of reclamation of used batteries must be no less than 95% for existing factories and no less than 97% for new factories. Additionally, existing recycling facilities must have a capacity of 10,000 tons per year to continue operation.

New Battery Technology – More Energy with Less Lead

At least three companies are pioneering new technologies to improve the performance of lead batteries. Axion Power International, is experimenting with new types of batteries that require less lead than the traditional lead-acid battery but have 3-5 times the life capacity in initial testing. The new technology replaces the lead plates with an activated carbon electrode. The advantage of this carbon electrode is that it does not undergo a chemical reaction which reduces corrosion on the positive electrode leading to the longer battery life. For more information see: <http://www.>

axionpower.com.

While these batteries cost approximately 2.5 times their lead-acid counterparts per charge-discharge cycle they reduce costs by about 30%. Axion claims that it has the only advanced battery technology that can be assembled on existing production lines throughout the world without significant changes to production.

Firefly Energy, has also developed a more efficient lead-acid battery called the Oasis. Instead of a carbon electrode, Firefly replaced the negative electrode's lead grid with a carbon-graphite foam grid impregnated with a slurry of lead oxides. The new foam grid takes advantage of three-dimensional absorption to make charge and discharge rates faster. Furthermore, this configuration is less susceptible to temperature difficulties, internal corrosion, or disruption due to vibration experienced by traditional lead batteries. Prototypes of the battery have been installed into a number of freight trucks and in mid-March entered use into the public transit system of Peoria, Illinois. For more information see: <http://www.fireflyenergy.com>.

Atraverda, headquartered in the UK, has developed a technology that decreases the use of lead in lead-acid batteries by approximately 40%. Their Ebonex® technology uses a titanium suboxide material and has combination of metallic and ceramic substrate characteristics. This technology is particularly beneficial when used in motive lead acid (MLA) batteries, as it allows the MLA battery to be lighter, twice as efficient and reduces charging times. For more information see: <http://www.atraverda.com>.

Correction – TUV India Pvt. Ltd. (TUV NORD).

In our last edition of the BEST News we mistakenly reported that TUV India Pvt Ltd had been issuing ISO 14001 certifications in India since 2005. TUV India Pvt. Ltd. has in fact been issuing ISO 14001 Environmental Management System certifications since 1998, and they have been a leader in ISO certifications since that time.

Occupational Knowledge International

www.okinternational.org

www.bestbattery.org