

Certification Standards**Public Communications and Awareness****Introduction**

Used lead acid batteries (ULAB) can pose potential environmental and population health threats, especially if those people that use lead acid batteries are unaware of the correct procedures to follow at the end of a battery's useful life to ensure that the ULAB is recovered and recycled in an environmentally sound manner.

The prevention of population lead poisoning and contamination of eco systems from ULAB can be achieved by educating those involved in the lead acid battery (LAB) industry and the people that use lead acid batteries in the steps necessary to recovery the ULAB and process them in a safe and environmentally sound manner. This means providing information and educational materials to battery retailers, ULAB collectors, transporters and recyclers, their families and neighbors, as well as members of the public who use, retain and handle ULAB, or are involved in their recovery.

Information about the dangers posed by mishandling ULAB and educational material on the health and environmental impacts of lead contamination must target the general public, especially those who unknowingly contaminate homes, schools and surrounding environments. It is vital that such materials explain the ways to prevent lead pollution, childhood lead poisoning and environmental contamination as well as the corrective actions to take in situations where high levels of population lead exposure or environmental contamination may have occurred already.

Whilst great emphasis is placed on the fact that 99% of the materials in a modern automotive lead acid battery (LAB) can be recycled, the fact is; there is a huge discrepancy in the life of a LAB, ranging from twelve months to twelve years. Extending the life of a LAB to its maximum potential will reduce the recycling frequency and with it the energy consumed to recover and recycle the battery in any given period of time. Hence information about achieving long life from a LAB through good battery care and maintenance is also an essential element in the communication and awareness component of Green Lead Certification.

In addition, people that use and service LAB, and handle and recycle ULAB must be made aware of the risk of explosion caused by the build up of hydrogen gas under certain conditions and it is essential that appropriate safety information is understood by all those likely to be at risk from this hazard.

Whatever the reason, truth and honesty must be the foundation on which any public relations communications and awareness policy operates. Honesty begets trust and we cannot expect to create and maintain a successful relationship with the international community, national governments, the press and the public if we do not have their trust. This is even more important for an industry that produces a product classified as hazardous waste at the end of its useful life. Trust and public confidence can be established and maintained by providing sound advice on safe handling, battery care and recycling, and by setting up an effective open line through which information is given and received.

Presenting all the facts from the beginning and answering questions honestly and openly can protect an organization from misperceptions, misunderstandings and bad publicity at a later date.

Communication should be fair, without damaging anyone and yet sympathetic to sensitive issues. In all instances, on both practical and legal grounds, effective public relations means, not lying to or defaming anyone. Modern business demands high standards of social responsibility as well as “green and clean” technologies.

It is not only important for those in the battery business to know the subject, it is important for the customers and all those involved in the life cycle to understand the risks and the benefits of good battery management.

It is essential therefore that every opportunity is taken to inform and educate the target audiences about care and maintenance of the battery and the appropriate means of recovery.

Green Lead Certification requires that a Company has a pro active, but receptive Policy for Public Communications and Awareness that must be:

- ✓ An integral part of the Company's Communication Strategy
- ✓ Assertive in addressing the key awareness issues
- ✓ Available in a form and media that is accessible to the target groups

The key objectives that must be met are:

- ✓ The safety and wellbeing of those people engaged in whatever capacity in the product life cycle, including passive exposure, especially the prevention of childhood lead poisoning.
- ✓ The promotion of practices that eliminate “informal sector” activities
- ✓ The maintenance of recovery mechanisms that negates the use of “children” and “sweat shops”.
- ✓ The prevention of negative environmental impacts.
- ✓ The correct use and maintenance of the products used.

The Public Communications and Awareness Criteria for Green Lead Certification are as follows.

1. Lead Acid Battery Labels

The first communication opportunity with a LAB user is when a battery is either inspected or purchased and at that moment it is important that whoever is looking at the battery sees a label that provides clear information on:

- ✓ The type of battery;
- ✓ Any safety hazards;
- ✓ Any potential health risks;
- ✓ Any environmental threats;

The communication should be through the use of:

- ✓ Internationally recognized hazard warning symbols for lead and acid;
- ✓ Clear and unambiguous text in a language appropriate for the point of sale;

Furthermore, there must also be a series of graphics and text that explain clearly:

- ✓ The recommended personal safety equipment;
- ✓ The precautions necessary to prevent personal injury or contamination;
- ✓ Under no circumstances should a ULAB be dumped in any form of landfill waste dump.
- ✓ That the LAB is a suitable item for recycling – see Pic. 1 Mobius Loop



Pic. 1 – Mobius Loop, complete with a recycling message

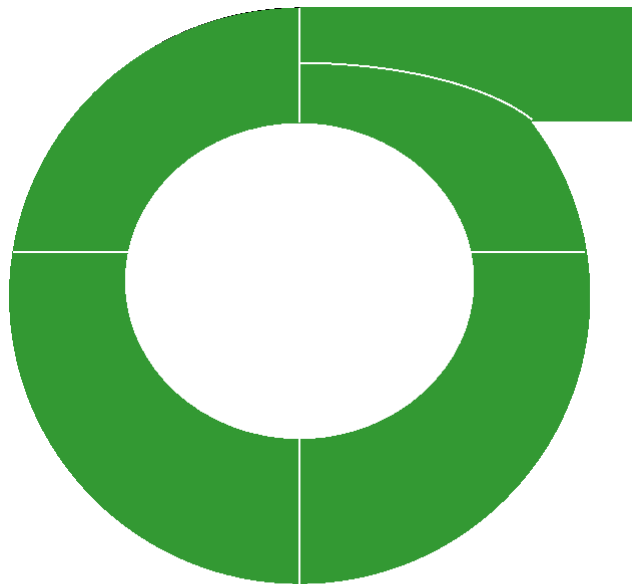
- ✓ A local telephone help-line or a Uniform Resource Locator (URL) for a multi-lingual web site where safe disposal or collection information can be obtained in the language of the user.

For dealers, retailers, recyclers and for use by customs and excise and trading standards officers the LAB must contain bar coded information stating the:

- ✓ Place of manufacture,
- ✓ Type of battery,
- ✓ Date of manufacture or expiration and
- ✓ Assigned battery code number – where appropriate

Several countries have legislation that impose minimum standards for LAB labels and these laws and the GL requirements are detailed in the GL Certification Standard number 5 for LAB labels.

Finally, a GL certified battery must show the Sigma Loop as a sign of care for the environment and the people who make and use the battery.



GREEN LEAD CERTIFIED

Produced with due consideration for the environment, human health and safety.

Pic. 2 - The **Green Lead**TM Sigma Logo confirming that the battery was produced in a Green Lead Certified Plant.

2. Written Information

Written information can be a very powerful and persuasive communication tool. It can be “*loud and bold*”, such as eye catching posters or banners located and carefully positioned at Battery Retailers and Garages, or “*subtle*”, such as instructions or guidelines included in Car Maintenance Manuals and so on.

However, the fact that many governments impose refund/deposit schemes and compulsory ULAB collection means that communicating the safe and sound recycling of ULAB is not an easy message to deliver.

One form of communication will rarely be sufficient to secure the levels of recycling desired, so the strategy to adopt will comprise of a multitude of different methods of written communication, not only in form, but location and media.

Examples of successful strategies include:

- Large colorful posters explaining the consequences of failing to recover ULAB in an environmentally sound manner and a list of the steps to be taken to return a ULAB to a licensed collector for sound recycling. These are best placed in battery retailers, automotive service centers, children’s nurseries, maternity clinics and schools.



Pic 1. – Specimen of Green Lead Battery Recycling Poster for Community use



Pic 2. – Specimen of Green Lead Battery Recycling Poster for Retail Outlets



Pic 3. – Specimen of Green Lead Battery Recycling Poster for Collection Points



Pic 4. – Specimen of Green Lead Battery Recycling Poster for School Projects

- Separate information sheets outlining details of the ULAB recovery program should be prepared and sent out to the appropriate interested parties. Each sheet should target one sector in the chain of the recovery process and explain what that sector needs to do to contribute and sustain the recovery process. Health, safety and the environment should be the main focus for these briefing sheets.
- Pamphlets, especially those targeting mothers and young children are effective reminders about handling ULAB and the risks posed by failing to avoid exposures. Such pamphlets can be made available at schools, clinics, hospitals, community centers and welfare offices.
 - ✓ Telephone numbers for follow up information or personal contact must be included in any pamphlet.



Helpline

If you suspect lead poisoning in a child or adult (or your pets or livestock):

Contact your doctor (or veterinarian) for advice.

You can also contact you local Pollution Control Officer.

For information about the location of the office nearest to you and your community, contact the Office of the Department of Pollution Control:

Phone:
Fax:
Email:
Internet:



A **Green Lead** Promotion for Care in the Community



Safe Recovery Practices for Lead Acid Batteries



YOUR COMPANY NAME
COMPANY ADDRESS

TELEPHONE NO:
FAX LINE :
INTERNET:



YOUR COMPANY LOGO

What is a Lead Acid Battery?

- A device designed to store and discharge electrical energy, through chemical reactions involving lead, lead oxides and sulfuric acid.



Uses of Lead Acid Batteries

- Essential for starting, lighting and ignition in motorcycles, cars, trucks, tractors, boats and aircraft.
- Provides motive power in fork-trucks, golf carts and other battery powered vehicles.
- Provides electrical back-up power (back-up) e.g. UPS for computers, Telecommunications and security systems

Composition of a Lead-Acid Battery

- Each battery consists of a number of plates (3) connected together in series, to form a cell, which is connected to other cells to constitute the battery.
- Each cell produces 2 volts, so six cells connected in series constitutes a 12 Volt battery (5).
- Each cell contains lead grids coated with lead oxide (2) and a solution of dilute sulfuric acid as electrolyte (4).
- An average car battery consists of 9-12 kg of lead, lead alloys and lead compounds, 34 litres of sulfuric acid and a plastic case (1).



Hazards of Lead Acid Batteries

- Once a battery can no longer retain a charge, it is discarded and its lead and acid contents may enter our environment if handled incorrectly.
- Certain battery components are toxic and corrosive.
- Lead poisoning or acid burns can result from broken battery cases, during servicing and recycling.

Health Effects of Lead

- Two types of Lead Poisoning can occur:
 - Chronic Lead Poisoning:** caused by prolonged exposure to low concentrations < 1% of lead (weeks to years).

Chronic effects include:

- Damage to the human brain and nervous system
- Reduced ability to learn, especially in children
- Decreased growth and stature of children.
- Increased risk of hypertension
- Anemia & Irritability
- Colic (gastrointestinal disorders.)



- **Acute Lead Poisoning:** caused by ingestion or inhalation of high concentrations of lead > 1% over a short period of time (days to weeks), or lower concentrations over long periods of time.

➤ Effects of severe (Acute) Lead Poisoning include:

- ✓ Numbness or paralysis of hands and feet
- ✓ Irreversible damage to kidneys.
- ✓ Epileptic seizures
- ✓ Coma & Death



Why Recycle Lead-Acid Batteries?

- Lead, polypropylene and the acid from Lead Acid batteries can be recycled, but must be done in a safe manner to prevent lead/acid pollution and possible lead poisoning.
- By safely recycling Lead-Acid batteries, lead and sulfuric acid are prevented from contaminating the atmosphere, soil and water supplies.
- The recycling of Lead Acid batteries reduces the need to exploit the earth's natural resources for battery manufacture.
- Jobs are created for those collecting and transporting used lead acid batteries

Safety in Battery Recycling

- Return your old battery for recycling to a battery shop or scrap yard.
- Avoid storage of old or defective batteries. Return them for recycling as soon as possible.
- Store batteries in an upright position to avoid spillage of corrosive sulfuric acid.
- Do not expose discarded batteries to the sun because the cases will eventually crack and acid will leak and contaminate the environment with lead and sulfuric acid.
- Do not dispose of batteries with household waste or in street waste bins, since they can eventually contaminate water supplies.
- Do not drain battery acid onto the ground or into rivers, drains or sewers, since it can contaminate the soil and waterways with lead and sulfuric acid.
- Do not open or break batteries to recover the lead, since most (~50%) of the lead cannot be recovered by simple melting of the metal components and the remainder can contaminate the environment and cause lead poisoning.
- Do not dispose of batteries by burning, since the remaining ashes contain lead in a highly toxic form that is hard to dispose of safely.

Safety Precautions for Battery Recyclers

- Store batteries on pallets on a concrete base and in a covered area.
- Use protective neoprene gloves, and eye protection while handling batteries.
- Wash hands and body thoroughly after handling Lead Acid batteries.
- If you feel unwell after exposure to lead or battery acid, consult your doctor or pharmacist.
- Store used lead acid batteries away from residential areas to avoid exposing others to any risks of leaking battery acid or lead dust from broken batteries



Pic 4 – Example of a Community Information Pamphlet (Courtesy of the Basel Convention Secretariat¹)

¹ Basel Secretariat and Basel Convention – www.basel.int

- Finally, the whole program with all the relevant laws, domestic and international, the correct procedures for collecting, storing and transporting ULAB should be available in one Operating Manual that is available to all major players in the ULAB recovery industry.

Local newspapers and industry journals should be made aware of achievements on a regular basis, particularly:

- ✓ Financial results and annual reports
 - ✓ New Investments – Plant, equipment and research
 - ✓ Environmental improvements
 - ✓ New Product ranges
 - ✓ Environmental Awards – Company, Employees and Community Workers
 - ✓ Safety Awards – Company and employees
 - ✓ Job opportunities
 - ✓ New appointments
 - ✓ Green Lead Promotions
 - ✓ Community Outreach Activities
 - ✓ Environmental Awareness Programs
 - ✓ Recycling events at – retailers, community centers, schools and garages
 - ✓ Sponsorships – environmental competitions and local Green initiatives
 - ✓ Long service awards
- ❖ Any Green Lead or environmental promotions, public awareness and community activities should be planned so that events do not coincide, thereby enabling the press releases or journal articles to have the most impact.
 - ❖ Notice boards should be placed prominently at the entrance to premises to display recent bulletins, press releases and important statistics, such as safety, production or sales.
 - ❖ Depending on the size of the organization, a Company magazine should be published quarterly and made available to the media, local and national NGOs, community Groups and most importantly, to the employees.

3. Internet

- ❖ Every organization should have an product information and contact web page in an appropriate language format that can be understood by all those in the product chain. Whilst for many organizations the Internet is a powerful sales tool, space should be made available to provide informational about your respective organization and its products.

- ❖ Whilst it is a commercial necessity for many company's web pages to contain sales and marketing information, and product details, web sites should NOT be just "online product brochures and a store," but there should be a clearly marked section or sections dedicated to health, safety, the environment, social issues and community affairs. Such sections should contain the following information:
 - ✓ Company Policies for health, safety, the environment, employment practices and community affairs
 - ✓ Environmental Management Systems and Procedures
 - ✓ Product care and maintenance data sheets
 - ✓ Lists of local and/or regional recycling centers
 - ✓ Contact telephone numbers to locate local ULAB collection points
 - ✓ Community engagement activities
 - ✓ First aid advice for electrolyte contact with eyes or skin.
 - ✓ Where applicable, records showing plant discharges and emissions of all reportable substances for at least the last 5 years with graphs showing trends.
 - ✓ Green Lead Audit reports and action summaries
 - ✓ Hyperlinks to the Green Lead Web Site
 - ✓ Electronic inquiry service linked to e-mail server
 - ✓ Hyperlinks to local Government Health, Safety and Environmental Ministries.
 - ✓ Hyperlinks to suppliers of leaded materials, waste or scrap, and where applicable, lead acid batteries.

Green Lead Work Group
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