

PACKAGING STANDARD FOR VENTED NICKEL CADMIUM BATTERIES

(Vented NiCd)

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1. INTRODUCTION

This is a voluntary industry standard for packaging vented nickel cadmium (vented NiCd) batteries for transport to a recycling facility. Meeting the standard will ensure acceptance by the carrier and the recycling facility and avoid the inconvenience and cost of consignments being rejected. Consignments could be rejected by the carrier at the point of pick up or by the vented NiCd recycling facility staff at the point of delivery. Rejected consignments will be returned to the supplier at their expense or remediated at the supplier's expense.

2. GENERAL HANDLING REQUIREMENTS

Before handling battery/cell(s), please read and adhere to all of the following requirements:

- Wear the appropriate personal protection equipment
- Handle all returned batteries with the same responsible care as new batteries
- Keep batteries upright at all times. Do not tip over on side or upside down
- Do not drop batteries. Put batteries carefully down on the pallet
- Only vented NiCd batteries may be returned
- The total height of the package must not exceed 900mm
- Any damaged or cracked cell must be free of electrolyte and placed in a clear heavyweight polyethylene plastic bag (min. 0.6mm) that is securely closed
- All vent caps must be in place.

3. LOADING A PALLET

- See 'General handling', 'Pallets' and 'Packaging and Strapping' sections
- Batteries must be separated into similar sizes
- All batteries forming the outer rows of each layer must be of similar height. Lower height batteries can be stacked in the inner rows on each layer
- All batteries must be stacked in an upright orientation so that electrolyte is not spilled
- Slip sheets must be used between the layers to minimise the potential for short circuit and post penetration. Heavy duty cardboard slip sheets are preferable to Masonite or chipboard because they are recyclable, and small spills can be absorbed and are visible. Polystyrene slip sheets are not to be used as they are difficult and costly to recycle (suppliers may incur an environmental disposal levy to cover the costs of disposing of any polystyrene received)
- Remove all battery cables or connections

- Batteries can be stacked up to a maximum of 2 layers, provided they are on hardwood or CHEP pallets, a maximum weight of 1500 kg is not exceeded, and the stacks remain square
- Batteries in designed-for-purpose boxes and crates will be accepted. Drums will **not** be accepted or unloaded.

4. PALLETS

- Pallets must be strong, in good condition and of heavy duty construction. Hardwood or plastic pallets are preferred because softwood is not strong enough to withstand stacking more than two pallets high
- Plastic pallets are also accepted but must be in good condition
- The maximum size of the pallet must not exceed 1200 mm square
- Pallets that are damaged with broken or missing timbers will not be accepted.

5. WRAPPING AND STRAPPING

- Strapping must be high strength polypropylene, polyester or nylon plastic. The preferred strapping is 19mm wide with a combined break strength of 1500kg
- Friction welding is preferred; otherwise non-plastic clips
- Strapping must be tight enough to prevent battery movement in transit
- Steel strapping is **not** acceptable, due to the potential risk of fire from short-circuits
- Batteries must have one horizontal strap around each layer of batteries
- In addition to the above **all** pallet loads must have **at least** 2 cross straps tying the load to the pallet.
- In addition to the above **all** pallet loads must be either stretch wrapped or shrink wrapped in clear plastic to the full height of the pallet stack. The plastic wrap should not completely enclose the batteries due to the potential for gas build-up
- The plastic wrap should secure the batteries to the pallet by wrapping around the pallet at least once
- Plastic wrapping alone is **not** acceptable, except with the prior consent of the recycler. The supplier must be able to demonstrate that the batteries are packed or secured to prevent inadvertent movement, in accordance with the Australian Dangerous Goods Code Packaging Instruction P801 and relevant state and territory legislation
- Vertical strapping alone is **not** acceptable

- Vented NiCd batteries must have all vent caps firmly in place prior to wrapping and strapping, as missing or loose vent caps are the major cause of electrolyte spills during transport.

6. LABELLING

- All pallets or bulk containers must be labelled with a “Class 8 Corrosive” sticker to comply with Dangerous Goods Regulations. **The sticker must have minimum size of 100 x 100mm with minimum lettering size of 7mm**
- All pallets or bulk containers must be labelled with the proper shipping name, the associated UN number, and the name and address in Australia of the manufacturer or consigner, or their agent
- The label must be placed on at least two opposing sides. In storage it is important that the label is visible to incoming trucks and emergency services
- For more information refer to the Australian Dangerous Goods Code (chapter 5.2).

7. TRANSPORT APPROVAL AND DOCUMENTATION

Australia

- The **interstate** movement of vented NiCd batteries **must** be undertaken with appropriate regulatory approval and documentation
 - The supplier **must** obtain an approved Consignment Authorisation issued by the destination state Environmental Protection Authority prior to transportation
 - Waste Transport Certificate documentation **must** accompany the vented NiCd battery load in transit and be presented at the receiving facility upon delivery
- A waste transport licence and a waste transport certificate are also required for **intrastate** transport of vented NiCd batteries in some jurisdictions. Contact your local environmental authority for more information
- Vented NiCd batteries are classified as a Dangerous Good under the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code) - UN No. 2795, Class 8 (corrosive). Any organisation involved in transporting vented NiCd batteries must comply with the Code.

New Zealand

- Transporters must ensure compliance to all rules and regulations as set out by the Environment Risk Management Authority, NZ Transport Agency, Maritime New Zealand and the Ministry of Agriculture and Forestry.

8. HOW TO IDENTIFY A VENTED NICKEL CADMIUM BATTERY

- Vented NiCd batteries are generally labelled with the chemical symbol for cadmium (Cd) and the crossed out wheelie bin (see below).



Cd

9. FREQUENTLY ASKED QUESTIONS

Q) *Why is it so important to pack Vented NiCd batteries to a standard?*

- A) Under the Chain of Responsibility the Consignor (you) is responsible and you can be held liable for any non-compliance with legislative requirements.

Q) **What is Chain of Responsibility?**

- A) Chain of Responsibility requirements under road transport laws now mean that everyone involved in the road transport supply chain - the consignor, consignee, packer, loader and receiver, as well as the driver and operator - can be held responsible for breaches of road laws and may be legally liable. These parties must take all reasonable steps to prevent their conduct from causing or contributing to a breach. New laws have been introduced to ensure that those who are responsible for conduct, which affects compliance, are accountable for failure to discharge that responsibility (chain of responsibility).

Q) **Why should I use hardwood or plastic pallets?**

- A) For the health and safety of facility personnel and to meet Chain of Responsibility obligations the facility prefers hardwood or plastic pallets. Hardwood and plastic pallets permit the safe storage of vented NiCd batteries as they can bear the loads associated with vented NiCd batteries.

Q) Why can't the transport company just be responsible for accepting pallets?

A) The transport company is responsible for accepting pallets (consignments), however the driver cannot see into all pallets nor can they be expected to understand the product content or make up. Therefore, all pallets are subject to final inspection by the vented NiCd battery recycling facility staff. They will make the definitive acceptance of all consignments. Under Chain of Responsibility obligations the original consignor cannot pass on its obligations to another party and therefore remains liable for any issues arising from the transport of consignments regardless of acceptance by another party.

Q) Can I use black plastic to wrap vented NiCd batteries?

A) No. Black plastic impedes inspection by the transport driver and facility staff, who will make a judgment on compliance with environmental and dangerous goods regulations, and this standard, based on observation. For example, any liquid on or leaking from the consignment could be deemed as leaking battery acid (electrolyte). Clear plastic wrap is the best option.

Australian Battery Recycling Initiative

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