



Guide for Transportation & Storage EnergyCell RE Valve-Regulated Lead-Acid (VRLA) Absorbed Glass-Mat (AGM) Batteries

This is a guide to provide general identification, transportation, storage and recycling methods for small quantities (12 units or less) of OutBack EnergyCell RE VRLA (AGM) batteries. This guide should **not** be considered a reference or legal document. Customers should contact local transportation officials for specific and the most up-to-date specifications. Different city, county, state and country specifications do change without notice and may not apply. Again, this guide should not be used as an official document, only a general overview guide.

VRLA (AGM) batteries made by other manufacturers may be classified differently. OutBack recommends direct contact with the manufacturer of other batteries for proper identification and shipping instructions. Contact the Department of Transportation (DOT) if circumstances go beyond the scope of this guide. Individual transportation companies (UPS, DHL, Federal Express) have their own regulation, which also requires direct contact.

EnergyCell RE batteries, when properly packaged and transported by common carrier by air or surface **are not considered hazardous materials**. EnergyCell RE batteries that are surface-transported must follow Title 49 of the Code of Federal Regulations (CFR). Air shipments of EnergyCell RE batteries must be properly packaged in accordance with International Air Transportation Association (IATA) special provision A-67.

EnergyCell RE batteries pass the DOT and IATA 806 tests. These include rupture/crack and vibration tests (in three mutually perpendicular positions) resulting in no free liquid flow from the battery. This classifies the AGM batteries as non-spillable in both sets of regulations; therefore the words "non spillable" are placed on the battery and individual box.

Regulations that apply to facilities handling EnergyCell RE batteries include RCRA (Hazardous Waste), DOT (transportation), UFC (Fire and Building Codes), EPCRA (Community-Right-to-Know), and applicable state interpretations.

EnergyCell RE Batteries Transported in Commerce, using a Common Carrier

Surface, vessel and air shipments of EnergyCell RE VRLA (AGM) batteries transported by commercial carriers are **not** regulated when identified as "Battery, Wet Non-Spillable, Electric Storage, Not Regulated". EnergyCell RE batteries have the words "NON-SPILLABLE BATTERY", on each battery(s) cover warning label. EnergyCell RE batteries pass the DOT tests and the IATA 806 special provision A-67. Therefore, when properly packaged, with terminals protected preventing short-circuiting, EnergyCell RE batteries do not fall under a United Nations (UN) hazardous material classification.

When EnergyCell RE batteries are bulk packaged (without individual boxes), they **must** be identified as above and properly packaged with the words "NON-SPILLABLE" or "NON-SPILLABLE BATTERY" on the outside of each pallet, and with their terminals protected from short-circuit. When EnergyCell RE battery(s) are individually cartoned for shipment, they **must** be identified (as above), with their terminals protected from short-circuit (cartoned) and properly packaged. Individual cartons contain the required words "NON-SPILLABLE" pre-printed on each carton.

Transportation and Storage for EnergyCell RE Batteries

Table 1 Terms and Definitions

Term	Definition
Absorbed Glass Mat	A blotter-type plate separator used in AGM batteries. The absorbent fiberglass mat separator absorbs all the free liquid electrolyte, thus immobilizing the electrolyte.
Bill of Lading	A transportation document containing the full name and address of the shipper & consignee, number of pallets or pieces, proper shipping name, packaging group, UN number and class when hazardous materials are shipped, date of shipment, name of carrier, freight terms of shipment (prepaid, collect or third party freight) and the signature of the shipper.
CFR	Code of Federal Regulations. This is the codification of rules and regulations published by the departments and agencies of the United States federal government.
Corrosive Material	"A liquid or solid that causes visible destruction or irreversible alteration in human skin tissue at the site of contact, or a liquid that has a severe corrosion rate on steel or aluminum, in accordance with specified criteria." (Defined by United States Department of Transportation)
EPA	United States Environmental Protection Agency. This agency is charged with protecting human health and the environment.
EPCRA	Emergency Planning and Community Right-to-Know Act of 1986, a United States federal law concerned with emergency response preparedness.
Hazardous Material	A substance or material in a quantity or form that may pose an unreasonable risk to health, safety or property when transported in commerce.
IATA Special provision A-67	A packing instruction document by the International Air Transportation Association. Special provision A-67 allows a certain weight limit for transporting products.
RCRA	Resource Conservation and Recovery Act. This is the principal federal law of the United States controlling the disposal of solid waste and hazardous waste.
Title 49 (Transportation)	This CFR title specifically deals with transporting hazardous materials. It details labeling, packing, placarding, paperwork, and training requirements
Spent battery	A battery that has no useful service life remaining
Used Battery	A battery that has been in service and could still be used (in any capacity).

EnergyCell RE Batteries Not Transported In Commerce

EnergyCell RE VRLA (AGM) batteries not being transported by common carrier can be transported by any motor vehicle, private or company-owned, providing the following criteria are met:

Transported From Warehouse To Site

- No other hazardous materials (UN number) can be shipped along with batteries.
- Batteries 66 lb (30 kg) or less must be individually boxed to prevent short circuits.
- Total number of boxed units must be twelve (12) or fewer.
- Boxed batteries must be individually hand loaded and unloaded from a vehicle.
- Boxes must be stacked on a level floor, no more than 2 boxes high, to prevent batteries from shifting.

Up to twelve (12) larger batteries (up to approximately 100 lb each) are also transportable. Because of their larger size, they may or may not be individually boxed; therefore, they must be properly secured to a skid to prevent shifting and short circuits.

Removal From Site

When EnergyCell RE batteries are removed from a site, certain precautions must be followed:

- Batteries must be properly packaged and terminals protected to prevent short circuits. OutBack recommends simply reusing the replacement unit's box or packaging materials.
- The date of removal from service should be recorded directly on the battery.
- If a unit is damaged, cracked, or for any reason may potentially leak, it must be placed and stored in at least two (2) 6mm plastic bags. The unit may be recycled along with other batteries.

Transportation and Storage for EnergyCell RE Batteries

Storage Requirements

EnergyCell RE batteries are exempt from Hazardous Waste Storage Regulations when:

- Batteries are stored and packaged to prevent short circuits and so that electrolyte does not leak into the environment.
- A person intends to or does transfer the batteries to a company who stores the batteries or who recycles, uses, reuses or reclaims lead acid batteries.

2000 pounds (one ton) or less of lead-acid batteries may be stored at one location for less than 1 year. More than 2000 pounds (one ton) of lead-acid batteries may be stored at one location for less than 180 days (6 months).

If the above storage requirements are not met, the owner or operator must declare the site as a hazardous waste storage facility and follow EPA's hazardous waste requirements.

Exemption from Hazardous Waste Regulations

Persons who generate, transport, or collect spent batteries, or who store spent batteries but do not reclaim them are **not** subject to the RCRA Hazardous Waste Regulations. This exemption only applies to batteries being reclaimed. If the batteries were to be disposed of improperly, then all hazardous waste regulations would apply. (40 CFR 266.80 Subpart G)

Transportation to a Recycler

A Bill of Lading may be used to transport batteries to a recycler. Copies of the Bill of Lading must be kept on file for three (3) years.

NOTE: The disposal of spent or used lead-acid batteries in landfills is not allowed, and at no time should drainage of the battery fluid (electrolyte) be attempted.

Bill of Lading

Must contain the following: date of shipment, number of pallets or pieces, shipper and consignee's name and address, freight terms (prepaid, collect or third party), shippers' signature, item's proper shipping name, class, UN number, (if applicable) and packing group. When shipping hazardous materials, a 24-hour 800- emergency number must be provided.

Guide for Transporting EnergyCell RE Batteries in Commerce

NOTE: AGM batteries manufactured by other companies may be identified differently.

Aircraft:		Vessel (water):	
UN number	NA - Not Applicable	UN number	NA - Not Applicable
Proper shipping name	Batteries, wet, non-spillable, electric storage, not regulated	Proper shipping name	Batteries, wet, non-spillable, electric storage, not regulated
Packing group	III	Packing group	III
Packing instructions	IATA special provision A-67	Packing instructions	49 CFR 173.159
Identification (label)	NON-SPILLABLE (battery & carton)	Identification	NON-SPILLABLE (battery & carton)
HazMat training req.	No	HazMat training req.	No
Surface:		Canada:	
UN number	NA - Not Applicable	UN number	NA - Not Applicable
Proper shipping name	Batteries, wet, non-spillable, electric storage, not regulated	Proper shipping name	Batteries, wet, non-spillable, electric storage, not regulated
Packing group	III	Packing group	III
Packing instructions	49 CFR 173.159	Packing instructions	49 CFR 173.159
Identification	NON-SPILLABLE (battery & carton)	Identification	NON-SPILLABLE (battery & carton)
HazMat training req.	No	HazMat training req.	No

About OutBack Power Technologies

OutBack Power Technologies is a leader in advanced energy conversion technology. OutBack products include true sine wave inverter/chargers, maximum power point tracking charge controllers, and system communication components, as well as circuit breakers, batteries, accessories, and assembled systems.

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