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Packing, handling and storage information for Saft products



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1. General information

Saft's primary roles of packaging are to contain, protect and preserve the high quality of our products during transportation, handling and storage. As a world leading battery manufacturer Saft poses great demands on the suppliers of packaging material, with the aim to secure that our products reach their destination in the same condition as they leave our factory.

The packaging materials are of high quality and tested to withstand various methods of transportation, so that our products remain in good condition throughout the journey along the distribution channel. Our packages are strong enough to withstand the shocks and loadings normally encountered during carriage, including movement between vehicles or containers and warehouse for subsequent manual or mechanical handling. The packing methods used are designed in such a way to alleviate potential hazards like shock (i.e. to dropping), vibration, oxidation, extreme temperature and humidity.



If an electrolyte spillage or has occurred in a consignment, the container or vehicle may not be reused until it has been thoroughly cleaned and decontaminated. Any other goods and articles carried in the same vehicle or container shall be examined for possible contamination.

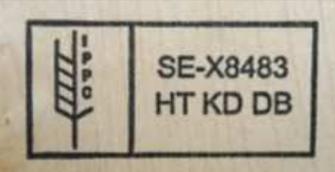
Please note that Saft does not sell packaging materials separate from our products, neither does Saft authorize nor recommend any specific third party vendor's packaging materials or services.

2. Packaging of goods

The packaging material used by Saft have been subject to comprehensive testing (according to ASTM Committee D10, standard 4169-8) at an independent laboratory, concluding that our packaging technique is well adapted for transportation of Ni-Cd batteries. We adapt our packing for various shipping methods in order to meet the following regulations:

- ✓ ADR, European Agreement concerning the International Carriage of Dangerous Goods by Road
- ✓ IMDG, International Maritime Dangerous Goods Code, for sea transport
- ✓ RID, International Regulations on the Transport of Dangerous Goods by Rail
- ✓ ICAO, Technical Instructions for the Safe Transport of Dangerous Goods by Air
- ✓ IATA, Dangerous Goods Regulations, for air transport
- ✓ UN Recommendations on the Transport of Dangerous Goods

All our wooden materials have been treated according to the valid ISPM15 regulation of wood packing material in international trade, which is preventing the spread of plant pests and diseases to other countries. The goods are marked accordingly.

SE	Country code	
X0000	Packaging manufacturer identification mark	
HT	Heat Treatment	
KD	Kiln-Dried	
DB	Debarking	

The marking must be within a rectangular border with a vertical line separating the IPPC logo from the identifying data.

2.1 Road and sea transport

The material of our standard boxes is WBP (Wood Board Plywood) of 6mm thickness, with insert of corrugated cardboard and filling of polystyrene. Top and bottom seals with locking tongues, which make it easy to reopen and close the packages. Smaller items or battery accessories are sealed in PE plastic (polyethylene) to prevent any loss of content that might occur during normal conditions of carriage.

ROAD AND SEA PACKAGING



Batteries are placed in an upright position with polystyrene filling out the crate so that no movement can take place.



Fiber board battens are placed in between and on top of the batteries.



Polystyrene is placed on top of the batteries before the lid is closed.

BATTERIES AND ACCESSORIES						
Type	Outer dimensions (mm)			Max loading (kg)	Material	Typical packaging of batteries and accessories
	L	W	H			
A	1320	810	580	600	Plywood	
B	810	650	580	400	Plywood	
C	810	430	580	200	Plywood	
T	1545	795	445	250	Plywood	

LIQUID ELECTROLYTE						
Type	Outer dimensions (mm)			Max loading (kg)	Material	Typical packaging of liquid electrolyte
	L	W	H			
021W	290	290	460	30	Fibre board	
025	800	600	600	300	Plywood	
600	1140	810	630	430	Plastic wrapped pallet	

SOLID ELECTROLYTE						
Type	Outer dimensions (mm)			Max loading (kg)	Material	Typical packaging of solid electrolyte
	L	W	H			
106	520	390	580	85	Plywood	
024	800	600	580	160	Plywood	

2.2 Air transport

For air freight of batteries Saft uses Nefab boxes made of birch plywood with water resistant adhesive, 5-ply. Thickness of material is 6mm. The boxes consist of three parts, bottom, top and side boards that are put together with clamber bands and steel profiles. Top and bottom seals with locking tongues, which make it easy to reopen and close the packages.

Each box is marked with the UN specification marking for shipment of dangerous goods.

 **4D/XKG-YKG-ZKG/S/YR/S/SP-11 75 04**

4D	Plywood box	
XKG, YKG, ZKG	Maximum gross weight of packing group I, II and III	
S	Solids or inner packaging	
YR	The last two digits of the year of manufacture	
S	State/country	
ID	Any identification as decided by the manufacturer	

AIR PACKAGING

				
A strong plastic bag is placed in a UN marked box.	Battery is placed in the plastic bag.	Polystyrene is placed around the battery to keep it in place.	The plastic bag is sealed tight to prevent leakage.	The package is closed and marked according to regulations for air transport.

PACKAGING USED FOR BATTERIES

Type	Outer dimensions (mm)			Max loading (kg)	Material	
	L	W	H			
024	800	600	580	160	Plywood, 4D	
106	520	390	580	85	Plywood, 4D	
115	1200	800	650	390	Plywood, 4D	

For air freight of electrolyte, Saft uses approved plastic jerricans. Liquid electrolyte is available as 25, 10 and 5 liters, and marked with 3H1. Solid electrolyte is available in 20, 5 and 1kg. 20kg electrolyte is marked with 3H2, while 1 and 5kg are marked with 4D.

PACKAGING OF ELECTROLYTE	
3	Can
4	Box
D	Plywood
H	Plastic material
1	Non-removable head plastic drum
2	Removable head plastic drum



2.3 Courier

Consignments that are shipped by courier are usually packed in fiber board boxes. Smaller items or battery accessories are sealed in PE plastic (polyethylene) to prevent any loss of content that might occur during normal conditions of carriage. Please note that dangerous goods cannot be shipped by courier.

PACKAGING OF ACCESSORIES	
<p>Accessories are picked in our warehouse according to the milk kart principle. Smaller items are collected in PE plastic bags or fiber board cartons.</p>	
<p>The heavy items are placed in the middle and at the bottom of the package. Lighter items are put on top. Goods are secured with polystyrene or paper cushion.</p>	

2.4 Container loading

Goods loaded in container are secured from all sides and placed in such a way so that the weight is evenly distributed. The packages at the entrance of the container are placed so that the dangerous goods marking is easily visible when opening the container.

LOADING OF CONTAINER	
<p>To fixate the goods inside the container and minimize the risk of damage caused by movement, Saft uses air cushions that are placed between the packages. The cushions are filled just enough to keep the packages in place but not to cause any breakage.</p>	

3. Dangerous goods

Saft batteries contain potassium hydroxide which is considered as a hazardous substance by the United Nations Committee of Experts on the Transport of Dangerous Goods. All packages including hazardous substances are marked with the four-digit UN numbers during international transport. The hazard class of potassium hydroxide is 8, corrosive substances. The applicable UN numbers for Saft products are the following:

UN 2795	Batteries, wet, filled with alkali, electric storage
UN 1814	Potassium hydroxide, solution
UN 1813	Potassium hydroxide, solid

Please see the UN numbers for different means of transportation in the table below;

DANGEROUS GOODS DEPENDING ON SHIPPING METHOD				
	ROAD	SEA	AIR (cargo)	AIR (passenger)
Ni-Cd battery, wet	Non-dangerous	UN2795	UN2795	UN2795 (max net 30kg)
Ni-Cd battery, dry	Non-dangerous	Non-dangerous	UN2795	UN2795 (max net 30kg)
Liquid electrolyte	UN1814	UN1814	UN1814	N/A
Solid electrolyte	UN1813	UN1813	UN1813	N/A
Battery accessories	Non-dangerous	Non-dangerous	Non-dangerous	Non-dangerous

Note: Goods with different UN-numbers must be packed and marked separately.

4. Goods marking

Below tables include descriptions of Saft's goods marking.

MAIN SHIPPING MARK	
<p>CUSTOMER REFERENCE NO. DESTINATION</p> <p>No. 1</p> <p>5034512 Nr. 1 / 1</p>	<p>Printed polyethylene, self-adhesive label Waterproof Black printing on white background Dim: 148x210mm Or: 210x297mm (Size depending on number of characters)</p>
<p><i>Shipping marks are placed on one long side and the two short sides of the box.</i></p>	

STANDARD MARKING (on all boxes)				
			<p>Order 0001084402 1 / 1</p> <p>PANR: 3345505 SSCC: 331234569404118150</p>	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">! IMPORTANT</p> <p>Read Before Storage of Uptimax/Sun+</p> <p><small>Please read the "Installation & operating instructions" included within this box, prior to storage. Improper handling of delivered cells may cause permanent damage.</small></p> <p><small>Storage instructions</small></p> <p><small>Cells within the Box are filled and charged _____, can be stored in this condition up to 24 months.</small></p> <p><small>Store the cells indoors in a dry, clean and well ventilated space, on open shelves with a room temperature between 0°C (32°F) and 40°C (104°F). Do not place cells in direct sunlight or expose to excessive heat.</small></p> <p><small>If the cells not are put into service within 6 month after charging date, a commissioning charge in accordance with Saft I&O is required.</small></p> </div>
This side up	Keep dry	Fragile, handle with care	QR bar code (for internal identification)	Read before storage

DANGEROUS GOODS MARKING			
	UN 2795 BATTERIES, WET, FILLED WITH ALKALI	UN 1814 POTASSIUM HYDROXIDE SOLUTION	UN 1813 POTASSIUM HYDROXIDE, SOLID
UN class 8, Corrosive substance	UN marking Ni-Cd batterier	UN marking liquid electrolyte	UN marking solid electrolyte

ADDITIONAL MARKING FOR AIR TRANSPORT			
<p>NET QUANTITY: KG</p> <p>SHIPPER SAFT AB JUNGNERGATAN BOX 709 SE-572 32 OSKARSHAMN SWEDEN</p> <p>CONSIGNEE: CUSTOMER ADDRESS CITY COUNTRY TEL:</p>			
Air freight label	This side up	Cargo Aircraft Only (Forbidden in passenger aircraft)	Cargo air labeling, example
<p><i>Boxes which are to be transported by air cargo or air passenger will always have a free space of 10x17cm for available to allow the freight forwarders to apply their own labels.</i></p>			

Optional marking

Upon request, Saft offers customized goods marking including:

- Stenciled marking
- Color marking
- Tip indicators
- Shock indicators
- Temperature indicators



Please ask our shipping department for a quotation. Price is depending on number of packages, size of marking etc.

5. Receiving the shipment

The packing list is attached outside package number one in each consignment. Please make a visual inspection of goods to confirm all packages are received and that there is no damage caused by transportation. Visually check the contents of each box to ensure that the cells are not damaged and that there is no electrolyte spillage.



If an electrolyte spillage or has occurred in a consignment, the container or vehicle may not be reused until it has been thoroughly cleaned and decontaminated. Any other goods and articles carried in the same vehicle or container shall be examined for possible contamination.

In any case of defect, please take photos of the goods as evidence and notify Saft immediately at: shipping.oskarshamn@saftbatteries.com.

6. Handling

Handle with care. Lift the cases with fork lift or pallet truck, forks may only be inserted under the case. Pay attention to the marking on the case, follow the direction arrows and keep the package upright. Do not overturn the package.

- Do not short (+) or (-) terminal with conductors/conductive materials. Short circuit can cause burn hazard.
- Do not reverse the polarity.
- Do not open the battery system or modules.
- Do not submit to excessive mechanical stress.

STACKING OF PACKAGES				
	Batteries are stackable by four		Electrolyte is stackable by three	

7. Storage

If the batteries are not installed immediately, do not unpack the goods. Keep the batteries in original packing until use and store indoors in a dry, clean, cool location (0°C to +30°C/+32°F to +86°F) and well ventilated space on open shelves.

Store without opening boxes.



Protect the batteries from rain. Do not store in direct sunlight or expose to excessive heat.

For information regarding the maximum storage duration, please refer to Saft's Installation and Operating Instructions. The document is supplied with each consignment and can be downloaded at www.saftbatteries.com.