

TECH NOTES



SKC Sample Pump and Noise Dosimeter Lithium-Ion Battery Packing and Shipping Requirements

The SKC Leland Legacy[®], AirChek[®] XR5000, AirChek TOUCH, AirChek Essential, AirChek Essential+, AirChek Connect, Pocket Pump TOUCH, and QuickTake[®] 30 Sample Pumps and NoiseCHEK Personal Noise Dosimeter are powered by lithium-ion (Li-Ion) batteries. SKC Li-Ion batteries contain < 8 grams of lithium and have a rating < 100 watt-hours. *For more details about the characteristics and maintenance of SKC Li-Ion batteries, see SKC Publication 1918.*

Li-Ion batteries are subject to Department of Transportation (DOT) and International Air Transport Association (IATA) regulations for packing, labeling, and shipping. This technical note addresses the number of SKC Li-Ion batteries that can be shipped by air or ground as well as requirements for labeling packages. Packaging and shipping requirements also depend on whether the Li-Ion batteries are shipped without equipment or with and/or in equipment. *For the latest IATA regulations, including those for inspecting batteries before packing them, damaged or defective batteries, inner and outer packaging, and safety documentation, go to www.iata.org/en/programs/cargo/dgr/lithium-batteries for the latest guidance document. For the **complete** Dangerous Goods Regulations (DGR), order online at www.iata.org/en/publications/dgr. Also see the individual carrier's requirements and restrictions.*

AIR SHIPMENT

Li-Ion batteries only. Bulk (or "stand-alone") Li-Ion batteries are forbidden as cargo on passenger aircraft and can be shipped by cargo aircraft only. When shipped by air, they are subject to DGR and require Dangerous Goods training, certification, and safety documentation. **If you do not have Dangerous Goods training and certification, you may not ship stand-alone batteries by air.** The maximum battery weight per package is 10 kg per UN 3480 Packing Instruction (PI) 965, Section IB. *See Table 1 for the maximum number of SKC stand-alone batteries that can be shipped per package and the required package marking and labels.*





Li-Ion batteries shipped with and/or in equipment. The maximum battery weight per package is 5 kg per UN 3481 PI 966 and 967, Section II. *See Table 2 for the maximum number of SKC batteries that can be shipped with and/or in equipment per package and the required package marking and labels.*

Li-Ion polymer batteries shipped with and/or in equipment. The instruction for UN 3481 PI 966 and 967, Section II also applies to Li-Ion polymer batteries. *See Table 3 for the maximum number of SKC batteries that can be shipped with and/or in equipment per package and the required package marking and labels.*

Notes:


- Stand-alone Li-Ion batteries are limited to a maximum 30% state of charge (SoC). SKC does not ship charged Li-Ion batteries.
- No more than two spare (unattached) batteries can be shipped per pump.
- Stand-alone Li-Ion batteries are classified as Class 9 Miscellaneous Dangerous Goods.
- A Safety Document is required for Li-Ion battery shipments. *See the requirements of the specific carrier company for the appropriate document.*

Table 1. Stand-alone SKC Li-Ion Batteries (Air Shipment) – Class 9 Dangerous Goods


SKC Replacement Li-Ion Battery Cat. No.	Watt-Hour (Wh) Rating	Battery Weight (kg)	Max. No. Batteries (< 10 kg/package)*	Required Marking/Labels on Package
P75692A Leland Legacy	89	0.5	20	Example: Lithium Ion Batteries–Section IB 
223-247 Leland Legacy External Battery (for Deployable Particulate Sampler [DPS] Systems)				
P85004A AirChek XR5000 High Power Li-Ion	38.5	0.34	29	<ul style="list-style-type: none"> Li-Ion batteries must be packed in combination packaging. Include the following on outer box (see above): <ul style="list-style-type: none"> Proper shipping names (shipper & consignee) Corresponding UN Number (UN 3480) Net weight of the battery(ies) in kg All three labels below:   
P85002A AirChek XR5000 Standard Li-Ion	19.2	0.22	45	
P75718 AirChek TOUCH AirChek Essential AirChek Essential+ AirChek Connect	19.2	0.195	51	
P76303 Pocket Pump TOUCH	9.6	0.102	98	
P75689 QuickTake 30	77	0.4	25	
P75691 QuickTake 15	8.88	0.105	95	

* Limit of one package per consignment.

Table 2. SKC Li-Ion Batteries with and/or in SKC Equipment (Air Shipment) – Sample Pumps

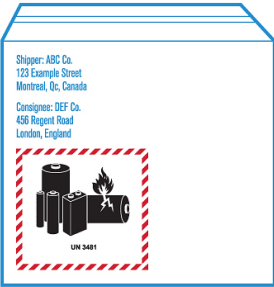

SKC Cat. No.	SKC Equipment	Battery Weight (kg)	Max. No. Batteries (< 5 kg/package)*	Required Marking/Labels on Package
Leland Legacy Pump				Example: Li-Ion Batteries Contained in Equipment – Section II or Packed with Equipment – Section II 
100-3002	Pump, CE	0.5	8	
100-3901	DPS System, PM10	See above.	8	
100-3903	DPS System, PM2.5		(2 per DPS System)	
AirChek XR5000 Pump				
210-5001	Pump, High Power, 4-cell	0.34	14	
210-5002	Pump, Standard, 2-cell	0.22	22	
AirChek TOUCH, AirChek Essential, AirChek Essential+, and AirChek Connect Pumps				
220-5000TC 220-3000 220-3100 220-4000	Pump	0.195	25	
Pocket Pump TOUCH				
220-1000TC	Pump	0.102	49	
QuickTake 30 Pump				
228-9530	Pump with Charger	0.4	12	

- Proper shipping names (shipper & consignee)
- Corresponding UN Number (UN 3481)
- Label below:



* Include batteries attached to pumps in total battery count.



Table 3. SKC Li-Ion Polymer Batteries with and/or in SKC Equipment (Air Shipment) – NoiseCHEK Noise Dosimeter

SKC Cat. No.	Watt-Hour (Wh) Rating	SKC Equipment	Battery Weight (kg)	Max. No. Batteries (< 5 kg/package)	Required Marking/Labels on Package
701-001 701-001S 701-001NB 701-001NBS	4.44	Dosimeter	0.025	200	<p>Example:</p> <p>Li-Ion Batteries Contained in Equipment - Section II or Packed with Equipment - Section II</p>  <p>Include the following on the outer box (see above):</p> <ul style="list-style-type: none"> • Proper shipping names (shipper & consignee) • Corresponding UN Number (UN 3481) • Label below: 

GROUND SHIPMENT

For ground shipment of SKC Li-Ion batteries in any configuration, see Table 4 as well as the requirements of the specific delivery company. **Note:** A Safety Document is required for Li-Ion battery shipments. See the requirements of the specific delivery company for the appropriate document.

Table 4. Maximum Weight of Packages for Ground Shipment

Maximum Weight per Package/Box	Required Labels on Package/Box
66 lbs (30 kg) per box per 49 CFR 173.185	<div></div> <p>Note: If shipment is more than 66 lbs (30 kg), DOT requires label stating “Heavy” on box; see example below.</p> <div></div>

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