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3091 - in  
3090

## KANNAD ELTs

### PRODUCT SAFETY INFORMATION

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#### RECORD OF REVISIONS

Rev.	Date	Description of modification
A	05/10/2016	First Issue
B	27/01/2020	Change of logo Replacement of the supplier statements in Section 8

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## PRODUCT SAFETY INFORMATION

### 1. LIST OF ELTs AND BATTERY KITS

#### 1.1. List of ELTs

ELT Name	Part Number	Battery Pack Name	Battery P/N included	Lithium content for each product	Net Quantity
KANNAD 406 ATP	S1819502-02	BAT500	S1819506-01	11.6 g	0.500 kg
KANNAD 406 AP	S1820502-02	BAT300	S1820506-01	10.5 g	0.350 kg
KANNAD 406 AP-H	S1820502-04	BAT300	S1820506-01	10.5 g	0.350 kg
KANNAD 406 AF	S1821502-02	BAT300	S1820506-01	10.5 g	0.350 kg
KANNAD 406 AF-H	S1822502-02	BAT300	S1820506-01	10.5 g	0.350 kg
KANNAD 406 AS TNC	S1823502-03	BAT300	S1820506-01	10.5 g	0.350 kg
KANNAD 406 SURVIVAL	S1823502-05	BAT300	S1820506-01	10.5 g	0.350 kg
KANNAD 406 AF COMPACT	S1840501-01	BAT200	0141823	7 g	0.250 kg
AP INTEGRA (ER)	S1850501-01	BAT200	0141823	7 g	0.250 kg
AF INTEGRA (ER)	S1851501-01	BAT200	0141823	7 g	0.250 kg
AF-H INTEGRA (ER)	S1852501-01	BAT200	0141823	7 g	0.250 kg
AP-H INTEGRA (ER)	S1854501-01	BAT200	0141823	7 g	0.250 kg
AP INTEGRA	S1850501-02	BAT200	0141823	7 g	0.250 kg
AF INTEGRA	S1851501-02	BAT200	0141823	7 g	0.250 kg
AF-H INTEGRA	S1852501-02	BAT200	0141823	7 g	0.250 kg
AP-H INTEGRA	S1854501-02	BAT200	0141823	7 g	0.250 kg
AP INTEGRA (ER-N)	S1850501-03	BAT200	0141823	7 g	0.250 kg
AF INTEGRA (ER-N)	S1851501-03	BAT200	0141823	7 g	0.250 kg
AF-H INTEGRA (ER-N)	S1852501-03	BAT200	0141823	7 g	0.250 kg

#### 1.2. List of Battery Kits

Battery Kit Name	Part Number	Battery Pack Name	Battery P/N included	Lithium content for each product	Net Quantity
KIT BAT200	S1840510-01	BAT200	0141823	7 g	0.250 kg
KIT BAT300	S1820516-99	BAT300	S1820506-01	10.5 g	0.350 kg
KIT BAT500	S1819516-99	BAT500	S1819506-01	11.6 g	0.500 kg



**PRODUCT SAFETY INFORMATION**

**2. USE INFORMATION**

**2.1. Products**

Products are ELT beacons powered by Lithium Batteries. Sealed inside the product, the battery pack contains either 3 Lithium Manganese dioxide primary cells (for BAT500 and BAT300) or 2 Lithium Manganese dioxide primary cells (for BAT200). Each pack has its own heat-shrink sleeve polyester, and incorporates electrical short-circuit protection.

The batteries in this product have a limited service life: see label for expiry date

The product contains no user-serviceable parts.

The product should only be disassembled by qualified service personnel.

DO NOT ATTEMPT TO RECHARGE THE BATTERIES.

**3. HAZARD IDENTIFICATION**

Not chemically dangerous with normal use in accordance with Saft recommendations as stated in the user manuals or other similar documentation. Under normal conditions of use, the electrode materials and electrolyte they contain are not released to the outside, provided that the battery integrity is maintained and seals remain intact. Exposure to the ingredients contained within or their combustion products could be harmful.

Risk of exposure only in case of abuse (mechanical, thermal, electrical) which leads to the activation of safety valves and/or the rupture of the battery containers. In particular, the battery should not be opened, burned or stored/used above the specified temperature range (for more details see Section 4). Electrolyte leakage or battery venting/explosion/fire may follow, depending upon the circumstances.

**3.1. Protection from charging:**

Whenever lithium batteries are not the single power source in a circuit, the following measures recommended by Underwriters Laboratories are relevant. The cells should not be connected with an electrical power source that would increase the load through the cells. The electronic circuit shall include one of the following:

Two suitable diodes or the equivalent in series with the cells to prevent any reverse (charging) current. The second diode is used to provide protection in the event that one would fail. Quality control, or equivalent procedures, shall be established by the device manufacturer to check that the diode polarity is correct for each unit.

or

A blocking diode or the equivalent to prevent any reverse (charging) current and a resistor to limit current in case of diode failure. The resistor should be sized to limit the reverse (charging) current to the maximum value according to the data sheet of the cell.



PRODUCT SAFETY INFORMATION

3.2. **Hazards in case of opened cells by released material:**

**EYE CONTACT:** Can cause eye irritation. Dust may cause inflammation of eyelids.

**SKIN CONTACT:** Can cause skin irritation.

**INHALATION:** Can cause respiratory tract and mucus membrane irritation. If gas is generated during battery disassembly, throat irritation may occur.

**INGESTION:** Can be poisoning if swallowed.

4. **COMPOSITION, INFORMATION OR INGREDIENTS**

4.1. **At Cell Level**

<u>Component</u>	<u>CAS Number</u>	<u>EINECS/ELINCS</u>	<u>Content (wt. %)*</u>
Lithium	7439-93-2	231-102-5	3-4
Manganese dioxide	1313-13-9	215-202-6	40-50
Organic electrolyte**	N/A	N/A	15-25
Carbon	1338-86-4		1-5
Copper	7440-50-8	231-159-6	1-15
Aluminium	7429-90-5	231-072-3	1-20
Stainless steel, Nickel, inert material	N/A	N/A	remainder

\* Quantities vary with cell type

\*\* Contains 1,2-Dimethoxyethane (CAS 110-71-4, EINECS 603-031-00-3), content < 3 % listed on REACH candidate list since June 2012

For More details, refer to SAFT Battery information sheet :

[http://www.saftbatteries.com/force\\_download/BIS\\_LiMnO2\\_V1.3\\_ENG\\_0.pdf](http://www.saftbatteries.com/force_download/BIS_LiMnO2_V1.3_ENG_0.pdf)

4.2. **At Battery Pack Level**

Depending on the type of battery pack the content may vary but will not exceed the given content ranges.

Refer to annex :

- NQ16011A - STATEMENT WILPA2059E (BAT200)
- NQ14025C - STATEMENT WILPA0874E (BAT300)
- NQ15021A - STATEMENT WILPA0873C (BAT500)



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### 5. TRANSPORTATION INFORMATION

#### 5.1. For ELTS only

Class:	9
UN Number:	UN3091
IATA packing instruction for air:	970 Section 1
Packing instruction for road and sea:	P903
Proper shipping Name:	Lithium metal batteries contained in equipment
Packin Group:	II

#### 5.2. For Battery Kits

Class:	9
UN Number:	UN3090
IATA packing instruction for air:	968 Section 1A
Packing instruction for road and sea:	P903
Proper shipping Name:	Lithium metal batteries
Packin Group:	II

### 6. DISPOSAL INFORMATION

DO NOT INCINERATE

DO NOT DISCARD IN DOMESTIC WASTE

At the end of the product's useful life, it is vital that the battery packs be disconnected from the main unit to prevent false alarms. False alarms cause expensive disruption to Search and Rescue services and may endanger lives as a consequence.

Instructions on battery removal can be found in the End of Life Statement in the product User manual. This Operation should only be performed by qualified service personnel.

This product should be disposed of in a sensible and considerate manner, and in accordance with local regulations. Take it to a civil recycling facility, or contact Orolia for advice.

### 7. GREEN PASSPORT: SHIP RECYCLING INFORMATION

Orolia SAS hereby declares potentially hazardous content in some of its electronic products.

Small amounts of the following substances may be present: Beryllium oxide, lithium, lead, brominated flame retardants.

In keeping with European directive 2002/96/EC (Waste Electronic and Electrical Equipement), Orolia strongly recommends that its products, including any battery packs, be disposed of in a consideral and legal manner. Additional information, concerning the disposal of equipment can also be found in the relevant equipment User Manual.



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**8. APPENDIX – UN 38.3 Test Summary Report from**



UN 38.3 TEST SUMMARY REPORT	
<input type="checkbox"/> Cell <input checked="" type="checkbox"/> Battery <input type="checkbox"/> Product Tested type part : WILPA0873 Same type part : WILPA0873E (S1819506-01D)	Unique report ID : 1-0029/15-01-02-A Report date : 10/06/2015
<b>Manufacturer :</b> Williamson Electronique 6 rue Georges Leclanché, BP 18414 44984 Sainte Luce sur Loire T. +33 (0) 2.40.18.80.00 <a href="https://www.williamson-electronique.fr">https://www.williamson-electronique.fr</a>	<b>Test laboratory :</b> CETECOM ICT Services Gmbh Untertuerkheimer Stasse 6-10 66117 Saarbruecken / Germany T. +48 681 5 98 - 0 <a href="http://www.cetecom.com">http://www.cetecom.com</a>

Li-ion battery (rechargeable)  Li-metal battery (primary)

Description : Assembled from 2 batteries, one of three M20 cells in serie and the other of two DL123 cells in parallel

Battery weight : 410 g


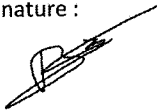
Nominal Energy :      Watt-hour or  Lithium content : 11.6 g

Cell  Battery  Product. Model number/part number : 3s1p M20/ 1s2p DL123 - WILPA0873E

List of tests conducted	Results (Pass / Fail / N.A.)	Test record reference
T1 : Altitude simulation	PASS	1-0029/15-01-02-A
T2 : Thermal test	PASS	1-0029/15-01-02-A
T3 : Vibration	PASS	1-0029/15-01-02-A
T4 : Shock	PASS	1-0029/15-01-02-A
T5 : External short circuit	PASS	1-0029/15-01-02-A
T6 : Impacted/crush (cell only test)	N.A	
T7 : Overcharge (N.A for Li-metal only)	N.A	
T8 : Forced discharge (cell only test)	N.A	

Battery assembly :  Not applicable.  UN38.3.3 (f)  UN38.3.3 (g)

Test reference : UN manual of tests and criteria, part III sub-section 38.3. 5th revised edition Amendment 2

PRODUCT CLASSIFICATION FOR TRANSPORT (According to UN-DGP)	
UN Classification / Proper shipping name : <b>UN3090 / Lithium metal batteries</b>	
Signatory A. Date : 02/11/2019 Name : Cécile Burlot Title : Quality Manager Signature : 	Signatory B. Date : 02/11/2019 Name : Thierry Bouessay Title : Technical Director Signature : 

Important! The above signatory / signatories affirm that this document is a true and correct summary of the original individual tests and test data. The original test data is confidential information available to competent state authorities with valid identification and only upon their formal request. Disclosure of the original test data to any other entity upon its request will be considered by Williamson Electronique and, should Williamson Electronique consider this request is with merit, may subject to prior execution of a nondisclosure agreement.

UN 38.3 TEST SUMMARY REPORT	
<input type="checkbox"/> Cell <input checked="" type="checkbox"/> Battery <input type="checkbox"/> Product Tested type part : 4432280000  Same type part : WILPA0874B, WILPA0874B1, WILPA0874C1, WILPA0874D & WILPA0874D1 (S1820506-01C), WILPA0874E, WILPA0874F & WILPA0874F1 (S1820506-01D), WILPA0874G & WILPA0874G1 (S1820506-01E)	Unique report ID : 3M20.1218  Report date : 2018.12.10
<b>Manufacturer :</b> Williamson Electronique 6 rue Georges Leclanché, BP 18414 44984 Sainte Luce sur Loire T. +33 (0) 2.40.18.80.00 <a href="https://www.williamson-electronique.fr">https://www.williamson-electronique.fr</a>	<b>Test laboratory :</b> Saft Civil Electronics Division Friemann & Wolf Batterietechnik Gmbh Industriestr. 22 63654 Büdingen, Germany T. +49 (0) 6042 954 150 <a href="mailto:info@friemann-wolf.de">info@friemann-wolf.de</a> <a href="https://friemann-wolf.de">https://friemann-wolf.de</a>

Li-ion battery (rechargeable)  Li-metal battery (primary)

Description : Primary (non-rechargeable) lithium-manganese dioxide (Li-MnO<sub>2</sub>) battery assembled from 3(three) "D" sized M20 cells in a shrink sleeve

Battery weight : 350 g


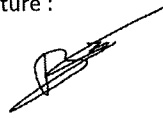
Nominal Energy :      Watt-hour or  Lithium content : 10.5 g

Cell  Battery  Product. Model number/part number : 3s1p M20

List of tests conducted	Results (Pass / Fail / N.A.)	Test record reference
T1 : Altitude simulation	PASS	UB624/03
T2 : Thermal test	PASS	UB624/03
T3 : Vibration	PASS	UB624/03
T4 : Shock	PASS	UB624/03
T5 : External short circuit	PASS	UB624/03
T6 : Impacted/crush (cell only test)	PASS	UB641/06, UB647/11
T7 : Overcharge (N.A for Li-metal only)	N.A	N.A
T8 : Forced discharge (cell only test)	PASS	UB641/06, UB647/11

Battery assembly :  Not applicable.  UN38.3.3 (f)  UN38.3.3 (g)

Test reference : UN manual of tests and criteria, part III sub-section 38.3. 6th revised edition Amend.1, 2017

PRODUCT CLASSIFICATION FOR TRANSPORT (According to UN-DGP)	
UN Classification / Proper shipping name : <b>UN3090 / Lithium metal batteries</b>	
Signatory A. Date : 02/14/2019 Name : Cécile Burlot Title : Quality Manager Signature : 	Signatory B. Date : 02/14/2019 Name : Thierry Bouessay Title : Technical Director Signature : 

Important! The above signatory / signatories affirm that this document is a true and correct summary of the original individual tests and test data. The original test data is confidential information available to competent state authorities with valid identification and only upon their formal request. Disclosure of the original test data to any other entity upon its request will be considered by Williamson Electronique and, should Williamson Electronique consider this request is with merit, may subject to prior execution of a nondisclosure agreement.

UN 38.3 TEST SUMMARY REPORT	
<input type="checkbox"/> Cell <input checked="" type="checkbox"/> Battery <input type="checkbox"/> Product Tested type part : WILPA2059E (0141823E) Same type part : WILPA2059F, WILPA2059F1 (0141823J)	Unique report ID : 2.M20 CC SG Report date : 2015/08/14
Manufacturer : Williamson Electronique Pôle industriel d'innovation Jules Verne 8 rue du Moulin Cassé, BP 61211 44340 Bouguenais Cedex - France T. +33 (0) 2.40.18.80.00 <a href="https://www.williamson-electronique.fr">https://www.williamson-electronique.fr</a>	Test laboratory : Friemann & Wolf Batterietechnik GmbH Industriestrasse 22 63654 Büdingen - Germany T. +49 (0) 6042 954 150 <a href="mailto:info@friemann-wolf.de">info@friemann-wolf.de</a> <a href="https://friemann-wolf.de/">https://friemann-wolf.de/</a>

Li-ion battery (rechargeable)  Li-metal battery (primary)


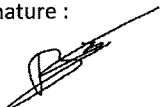
Description : Primary non-rechargeable Lithium battery, assembled from two D-sized cells in series with PTC in common shrink sleeve

Battery weight : 245 g

Nominal Energy :      Watt-hour **or**  Lithium content : 7.0 g

Cell  Battery  Product. Model number/part number : 2s1p M20

List of tests conducted	Results (Pass / Fail / N.A.)	Test record reference
T1 : Altitude simulation	PASS	2.M20_WILPA2059E
T2 : Thermal test	PASS	2.M20_WILPA2059E
T3 : Vibration	PASS	2.M20_WILPA2059E
T4 : Shock	PASS	2.M20_WILPA2059E
T5 : External short circuit	PASS	2.M20_WILPA2059E
T6 : Impacted/crush (cell only test)	N.A	
T7 : Overcharge (N.A for Li-metal only)	N.A	
T8 : Forced discharge (cell only test)	N.A	
Battery assembly : <input checked="" type="checkbox"/> Not applicable. <input type="checkbox"/> UN38.3.3 (f) <input type="checkbox"/> UN38.3.3 (g)		
Test reference : UN manual of tests and criteria, part III sub-section 38.3. 5 <sup>th</sup> revised edition Amend. 1 & 2		

PRODUCT CLASSIFICATION FOR TRANSPORT (According to UN-DGP)	
UN Classification / Proper shipping name : <b>UN3090 / Lithium metal batteries</b>	
Signatory A. Date : 2020.01.07 Name : Cécile Burlot Title : Quality Manager Signature : 	Signatory B. Date : 2020.01.07 Name : Thierry Bouessay Title : Technical Director Signature : 

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