NO.:MDC201702

MSDS Report

Sample Description: Li-ion Battery 18650

Applicant: business partner of KCK Cyklosport-Mode s.r.o company

Material Safety Data Sheet

Section 1 - Chemical product and company identification	
Name of Sample	Lithium-ion Battery
Type/Mode	18650 2400mAh 3.7V 2400mAh 8.88Wh
Inspection according to	EEC Directive 93/112/EC UN “Recommendations on the TRANSPORT OF DANGEROUS GOODS”
Emergency telephone	0755-84642975
Date of issue	2017-01-07

Approved By ： Qin AiJuan Reviewed By: Tested By :

Section 2 - Composition information

Emergency overview: This product is an article with contains a chemical substance.
Safety information is given for exposure to the article as sold . Intended use of the product should not result in exposure to the chemical substance. This is a battery.
In case of rupture: the below hazards exist.

CAS#7429-90-5
Classification according to GHS
Substance and mixtures which, in contact with water,emit flammable gases(2.3)
Specific target organ toxicity ,repeated exposure (1) (Lung)
Hazardous to the aquatic environment , long-term hazard(4)

Label elements

Hazard pictogram(s):

Signal word: Danger

Hazard statement(s):
H261 In contact with water releases flammable gas
H372 Cause damage to organs through prolonged or repeated exposure
H413 May cause long lasting harmful effects to aquatic life
Precautionary statement(s):
Prevention:
P223 Do not allow contact with water
P231+P232 Handle and store contents under inert gas,Protect from moisture
P280 Wear protective gloves,protective clothing,eye protection and face protection
P260 Do not breathe dust.
P264 Wash skin and clothing thoroughly after handling.
P270 Do not eat,drink or smoke when using this product.
P273 Avoid release to the environment.
Response:
P302+P335+P334 if on skin: Brush off loose particles from skin and immerse in cool water.
P370 +P378 In case of fire: Use the appropriate media put out the fire.
P314 Get medical advice if you feel unwell.

Storage
P402+P404 Store in a dry place: Store in a closed container
Disposal

P501 Contents handling to approved waste treatment plants

CAS#7440-50-8
Classification according to GHS
Sensitization ,skin (1.1A.1B)
Specific target organ toxicity,single exposure(1)(digestive system)
Specific target organ toxicity,single exposure;Respiratory tract irritation(3)

Label elements

Hazard pictogram:

Signal word : Danger
Hazard statements:
H317 May cause an allergic skin reaction
H370 Cause damage to organs(digestive system)
H335 May cause respiratory irritation

Precautionary statements:
Prevention:
P260 Do not breathe dust,fume.
P272 Contaminated work clothing should not be allowed out if the workplace.
P280 Wear protective gloves,eye protection,face protection.
P264 Wash skin and clothing thoroughly after handling
P270 Do not eat ,drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
Response:
P302+P352 If on skin: Wash with plenty water.
P333+P313 if skin irritation or cash occurs: get medical advice
P321 Specific treatment
P362+p364 Take off contaminated clothing and wash it before reuse
P308+P311 if exposed or concerned :call a poison center
P304+P340 if inhaled : Remove person to fresh air and keep comfortable for breathing
P312 Call a poison center if you feel unwell
Storage
P403+P233 Store in a well-ventilated place ,keep container tightly closed
P405 store locked up
Disposal:
P501 contents handling to approved waste treatment plants

Other hazards

Section 3 - Composition /Information on Ingredients

Chemical characterization :Mixture

Chemical Name	CAS NO.	EC#	Wt%
Lithium Cobalt Oxide	12190-79-3	235-362-0	39.6
Aluminum	7429-90-5	231-072-3	5.56
PVDF	24937-79-9	607-458-6	1.15
Graphite	7782-42-5	231-955-3	23.2
Copper Foil	7440-50-8	231-159-6	9.8
SBR	9003-55-8	612-382-1	1.78
Polyethylene	9002-88-4	-----	0.06
Polypropylene	9003-07-0	618-352-4	0.78
Lithium Hexafluorophoshate	21324-40-3	244-334-7	15.35
Ethylene carbonate	96-49-1	202-510-0	2.72
Lead	7439-92-1	-----	-Not Detected
Cadmium	7440-43-9	-----	-Not Detected
Mercury	7439-97-6	-----	-Not Detected

Hazards Identification	
Explosive Risk	This article does not belong to the explosion dangerous goods .
Flammable Risk	This article does not belong to the flammable material.
Oxidation Risk	This article does not belong to the oxidation of dangerous goods.
Toxic Risk	This article does not belong to the toxic dangerous goods .
Radioactive Risk	This article does not belong to the radiation of dangerous goods .
Mordant Risk	This article does not belong to the corrosion of dangerous goods.
Other Risk	This article is Li-ion Battery, Watt hour rate 3.33Wh, Which belong to the Lithium ion batteries (including lithium polymer batteries)

Section 4 - First aid measures

Eye：Flush eyes with plenty of water for at least 15 minutes,occasionally lifting the upper and lower eyelids. Get medical aid.

Skin：Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes.Get medical aid .

Inhalation: Remove from exposure and move to fresh air immediately.Use oxygen if available .

Ingestion: Give at least 2 glasses of milk or water .Induce vomiting unless patient is unconscious. Call a physician .

Section 5 - Fire-fighting measures

Suitable extinguishing media:

Flash Point: N/A

Extinguishing Media：Dry Powder ,Water .CO_2

Special Fire-Fighting Procedures : Self-contained breathing apparatus .

Unusual Fire and Explosion Hazards：

Cell may vent when subjected to excessive heat-exposing battery contents .

Hazardous Combustion Products :

Carbon monoxide. Carbon dioxide, lithium oxide fumes .

Battery may burst and release hazardous decomposition products when exposed to a fire Situation. Lithium ion batteries contain flammable electrolyte that may vent,ignite and Produce sparks when subjected to high temperature(>150℃（302℉），when damage or abused （mechanical damage or electrical overcharging）;may burn rapidly with flare-burning Effect;may ignite other batteries in clothes proximity.

Section 6 - Accidental release measures

Steps to be taken in case Material is Released or Spilled

Wear protective equipment .Keep unprotected persons away .If the battery material is released , remove the personnel form area until fumes dissipate.Provide maximum ventilation to clear out hazardous gases.Wipe it up with a cloth, and dispose of it in a plastic bag and put into a steel can .The preferred response is to leave the area and allow the battery to cool and vapors to dissipate. Provide maximum ventilation avoid skin and eye contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerate .

Waste Disposal Method

It is recommended to discharge the battery to the end ,to use up the metal lithium inside the battery, and to bury the discharged battery in soil .

Environmental precautions:
Do not allow material to be released to the environment without proper governmental permits.
Methods and materials for containment and cleaning up:
All waste must refer to the United Nations, the national and local regulations for disposal.
See section 7 for information on safe handling
See section 8 for information on personal protection equipment
See section 13 for disposal information.

Section 7 - Handing and Storage

Consumption of food and beverage should be avoided in work areas.
Wash hands with soap and water before eating ,drinking.
Ground containers when transferring liquid to prevent static accumulation and discharge.

Information about fire and explosion protection.

The battery should not be opened, destroyed or incinerate,since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed container.
Do not short circuit terminals , or over charge the battery, forced over-discharge, throw to fire.
Do not crush or puncture the battery ,or immerse in liquids.

Precautions to be taken in handing and storing .

Avoid mechanical or electrical abuse. Storage preferably in cool ,dry and ventilated area, which is subject to little temperature change. Storage at high temperatures should be avoided.
Do not place the battery near heating equipment , nor expose to direct sunlight for long periods .

Other Precautions

The battery may explode or cause bums, if disassembled , crushed or exposed to fire or high temperatures.
Do not short or install with incorrect polarity.
Specific and use
No data available

Section 8 - Exposure controls/personal protection

Control parameters

CAS NO.	AGGIH	NIOSH	
12190-79-3	N/A	N/A	N/A
7429-90-5	TLV-TWA 10mg/m³ TLV-TWA 5mg/m³	REL-TWA2mg/m³ REL-TWA 5mg/m³ REL-TWA 10mg/m³	PEL-TWA 5mg/m³ PEL-TWA 15mg/m³

24937-79-9	N/A	N/A	N/A
7782-42-5	TLV-TWA 2mg/m³	REL-TWA 2.5mg/m³	PEL-TWA 15mppcf PEL-TWA 20mppcf
7440-50-8	TLV-TWA0.2mg/m³ TLV-TWA 1mg/m³	REL-TWA1mg/m³ REL-TWA 0.1mg/m³	PEL-TWA0.1mg/m³ PEL-TWA 1mg/m³
61789-96-6	N/A	N/A	N/A
9002-88-4	N/A	N/A	N/A
9003-07-0	N/A	N/A	N/A
21324-40-3	N/A	N/A	N/A
96-49-1	N/A	N/A	N/A

Respiratory Protection :
In case of battery venting,provide as much ventilation as possible.Avoid confined areas with venting cell cores. Respiratory protection is not necessary under conditions of normal use.
Keep away from foodstuffs,beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Ventilation
No necessary under conditions of normal use.
Protective Gloves
No necessary under conditions of normal use.
Eyes protection
Wear safety goggles or eye protection combined with respiratory protection.
Other Protective Clothing or Equipment
No necessary under conditions of normal use.
Personal Protection is recommended for venting battery
Respiratory Protection, Protective Gloves, Protective Clothing and safety glass with side shields .

Section 9 - Physical and chemical properties

Colour:	Blue
Appearance:	Cylindrical
Odour:	If leaking, smells of medical ether
PH:	Not available
Flash Point:	Not available
Flammability:	Not available
Relative density:	Not available

Evaporation:	Not available
Explosion limits (vol% in air)	Not available
Vapour pressure,kPa at 20℃	Not available
Vapor density:	Not available
Solubility(water=1):	Not available
Solubility(other):	Not available
Partition coefficient :n-octanol/water:	Not available
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity:	Not available
Other information	Not available
Voltage	3.7V
Electric capacity	2400mAh
Electric Energy	8.88Wh

Section 10 - Stability and reactivity

Reactivity: No data available
Chemical stability: Stable
Conditions to Avoid: Heat above 70℃ or incinerate .Deform,Mutilate,Crush,Disassemble, Overcharge,Short circuit,Expose over a long period to humid conditions.
Materials to avoid: Oxidising agents, alkalis, water
Hazardous Polymerization: N/A

Section 11 - Toxicological information

Acute Toxicity:

CAS NO.	LC50/LD50
12190-79-3	No data available
7429-90-5	No data available
24937-79-9	No data available
7782-42-5	No data available
7440-50-8	No data available
61789-96-6	No data available
9002-88-4	No data available

9003-07-0	No data available
21324-40-3	No data available
96-49-1	LD50 Rat(oral):10g/kg

Signs & symptoms: None ,unless battery ruptures.
In the event of exposure to internal contents ,vapour fumes may be very irritating to the eyes and skin .
Inhalation: No data available
Skin contact： No data available
Eye contact: No data available
Ingestion: No data available
Aspiration hazard: No data available
Medical conditions generally aggravated by exposure:In the event of exposure to internal contents ,moderate to server irritation, burning and dryness of the skin may occur, target organs nerves , liver and kidneys .

Section 12 - Ecological information

Mammalian effects: No data available
Eco-toxicity: No data available
Bio-accumulation potential: No data available
Environmental fate: No data available
Mobility in soil: No data available

Section 13 - Disposal consideration

Do not incinerate or subject cells to temperature in excess of 70℃， such abuse can result in loss of seal leakage, and cell explosion
Dispose of in accordance with appropriate local regulations .
Recommendation：
Consult state local or national regulations to ensure proper disposal.

Section 14 - Transport information

UN Number	UN3480
IATA	UN3480

IMDG Model regulation	UN3480
UN Proper shipping name IATA IMDG Model regulation	 Lithium ion batteries only Lithium ion batteries only Lithium ion batteries only
Transport hazard class(es) IATA IMDG Model regulation	 9 9 9
Packing group IATA IMDG Model regulation	 N/A N/A N/A
Packing Sign IATA IMDG Model regulation	 N/A
Environment hazards Marine pollutant:	 NO
Special precautions for user:	Not applicable

Marine pollutant: NO

The Li-ion Battery 18650 has passed the test UN38.3 according to the test requirements.

Proper Shipping name : Lithium-ion battery

Hazard Classification: The goods shall be complied with the requirements of Section Ⅱ of Packing Instructions 965 of 59th DGR Manual of IATA(2018 Edition) or special provision 188 of IMDG CODE (Amdt.37-14) or the << Recommendations on the Transport of Dangerous Goods-Model Regulations >>（19th）Edition, including the passing of the UN38.3 test ， the products are not subject to dangerous goods.

Note : Batteries weight in the package < 5kg

Transport fashion: can ship by air ,by sea ,by airway ,by road .

Section 16 - Regulation information

Law information

《Dangerous Goods Regulations》

《Recommendations on the Transport of Dangerous Goods Model Regulations》

《International Maritime Dangerous Goods》
《Technical Instructions for the Safe Transport of Dangerous Goods》
《Classification and code of Dangerous Goods》
《Occupational Safety and Health Act》(OSHA)
《Toxic Substance Control Act》(TSCA)
《Consumer Product Safety Act》(CPSA)
《Federal Environmental Pollution Control Act》(FEPCA)
《The Oil Pollution Act》(OPA)
《Superfund Amendments and Re-authorization Act TitleⅢ(302/311/312/313)》(SARA)
《Resource Conservation and Recovery Act》(RARA)
《Safety Drinking Water Act》(CWA)
《California Proposition 65》
《Code of Federal Regulations》(CFR)》
《The Non-domestic Substances List of Canada》
In accordance with all Federal,State and Local laws .

**** End of report ****