

Material Safety Data Sheet
 May be used to comply with
 OSHA's Hazard Communication Standard.
 29 CFR 1910.1200. Standard must be
 consulted for specific requirements.

IDENTITY (As Used on Label and List) Lithium Ion Rechargeable Battery BB2590 (7.2Ah)	Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.
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SECTION I

Manufacturer's Name SKC Powertech, Inc.	
Address (Number, Street, City, State and Zip Code) 850 Clark Drive Mt. Olive, NJ 07828 USA	Telephone Number for Information 973-347-7000
	Date Prepared March 15, 2011
	Signature of Preparer (optional)

SECTION II – COMPOSITION/INFORMATION ON INGREDIENTS IN BATTERY CELL

		CAS #
Lithium Cobalt Oxide.....	30 – 40%.....	12190-79-3
PVDF.....	1 – 5%.....	24937-79-9
Carbon.....	10 – 30%.....	7440-44-0
PTFE.....	0.1 – 0.5%.....	9002-84-0
Electrolyte (EC/EMC/DEC/PC/1molLiPF6).....	15 – 20%.....	See components in Section III (1) & (2)
PP+PE.....	2 – 3%.....	9003-07-0, 9002-88-4
Copper.....	10 – 15%.....	7440-50-8
Aluminum.....	10 – 15%.....	7429-90-5
Nickel.....	0.1 – 0.5%.....	7440-02-0

SECTION III – HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous Components (Specific Chemical Identity, Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% Optional
(1) Organic solvents: Ethylene-Carbonate (CAS: 96-49-1) + Methyl-Ethyl-Carbonate (CAS: 623-53-0) + Diethyl-Carbonate (CAS: 105-58-8) + Propylene Carbonate (CAS: 108-32-7)			56g/battery	
(2) Lithium Salt LiPF6 (CAS: 21324-40-3)			32g/battery	
(3) Cobalt Oxide Compound (Non-flammable)			428g/battery	

Hazard Rating

Description	CAS #	Health	Fire	Reactivity
Ethylene Carbonate	96-49-1	2	1	1
Methyl-Ethyl Carbonate	623-53-0	1	3	0
Diethyl Carbonate	105-58-8	1	3	1
Propylene Carbonate	108-32-7	1	1	1
Lithium Salt	21324-40-3	3	0	0

*These chemicals of the cell are firmly sealed within Metal Case.

*The cell contains neither metallic lithium nor lithium alloy. UN3480

SECTION IV – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical State : Film laminated Aluminum case		
Specific Gravity (H ₂ O=1)		
LiCoO ₂ : 4.95	Carbon: 2.2	Electrolyte: 1.2
Melting Point (degree C)		
LiCoO ₂ : about 1130 degrees C		
Appearance and Odor		
LiCoO ₂ : black odorless powder	Organic Electrolyte: colorless liquid, ester odor	
Carbon: black odorless powder		
*These chemicals of the cell are firmly sealed within Al laminated film case so the cell is odorless.		

SECTION V – FIRE AND EXPLOSION HAZARD DATA

Flammability	Conditions :		
Yes	Organic components will burn if cell incinerated. Combustion of cell contents will cause evolution of Hydrogen Fluoride.		
Means of Extinction and special Procedures :			
CO ₂ , Sand, Dry chemical powder or appropriate foam. Use agent appropriate for surrounding materials. Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Extremely corrosive Hydrogen Fluoride gas is produced upon combustion of cell contents.			
Flash Point (Method Used)	Flammable Limits	LEL	UEL
None	None	None	None
Auto- Ignition Temp. :	Hazardous Combustion Products :		
None	Hydrogen Fluoride, Phosphorous Oxides, Carbon Monoxide, Carbon Dioxide, Lithium Hydroxide, Aluminum Oxide, possible Fluoro-compounds, Carbon Soot		
Impact Sensitive : NO	Static discharge Sensitive :		
	No		
Unusual Fire and Explosion Hazards			
This material does not represent an unusual fire or explosion hazard.			

SECTION VI – REACTIVITY DATA

Stability	Stable	Unstable	Conditions to Avoid:
	Stable	X	
Incompatibility (Materials to Avoid)			
Avoid contact with water.			
Hazardous Decomposition or Byproducts			
Combustion may produce CO, H ₂ , CO ₂ , LiF, HF, H ₃ PO ₄ , HFP, PF ₃ (Spontaneous decomposition at normal temperatures will not occur)			
Hazardous Polymerization	May Occur	Will Not Occur	Conditions to Avoid:
	Will not occur	X	

SECTION VII – HEALTH HAZARD DATA

Routes of Entry:			
Contact: NO	Skin Absorption: NO	Eye contact: NO	Inhalation: NO
Ingestion: NO			
Acute Exposure			
Skin:	No effect noticed in routine handling of product, except the leaked or spilled electrolyte		
Eyes:	The bulk solid has no effect on the eye, except the leaked or spilled electrolyte		
Inhalation:	Not applicable.		
Ingestion:	Ingestion is not likely, given the physical size and state of the cell.		
Chronic Exposure			
Skin:	Not anticipated.		
Eyes:	Not applicable.		
Inhalation:	Not applicable.		
Ingestion:	Ingestion is not a likely exposure route.		
Exposure Limits: None listed	Irritancy: None	Sensitization: Not anticipated	Carcinogenicity: Not anticipated
Teratogenicity: anticipated	Mutagenicity: Not anticipated	Reproductive toxicity: Not anticipated	Synergistic Products: None expected

SECTION VIII – PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in case material is released/ Leaked or spilled:			
Wash electrolyte out in abundant water.			
Evacuate area if fire present or likely. Wear SCBA for fire-related emergencies. Using gloves, pick up or sweep up fire-damaged cells, bag individually in plastic bags and place in closed metal containers. 205L lined steel drums are appropriate. Cardboard boxes may be used for small quantities. Avoid raising dust while sweeping. Transport container outdoors. Holds burned cells and fire cleanup solids for disposal as potential hazardous waste. Unburned cells are not hazardous waste. A fire with over 100kg of cells burnt will likely require reporting to environmental officials. Always consult and obey all international, federal and local environmental laws.			
Waste Disposal Method:			
Dispose of according to appropriate local, state and federal waste regulations.			
Precautions to be taken in handling and storing:			
Keep batteries in a dark and cool place away from flames and sparks. Do not puncture, crush or dispose of in fire. Keep below 125 °C and above -60 °C. Use only approved charging equipment. Charge between 0°C and 45 °C. Short-circuit shall be avoided.			
Other Precautions:			
Incineration, overcharging and disassemble shall be avoided.			
Special Shipping Information :			
(USA) – DOT	UN Identification #: UN 3480	Class :9	P.G.: II
(Air) – IATA and ICAO	UN Identification #: UN 3480	Class: 9	P.G.: II
(Water) – I.M.O.	UN Identification #: UN 3480	Class: 9	P.G.: II

SECTION IX – CONTROL MEASURES

Respiratory Protection (specify type):

Not necessary under condition of normal use
Ventilation: Not necessary under condition of normal use
Protective Gloves: Not necessary under condition of normal use
Eye Protection: Not necessary under condition of normal use
Other Protective Clothing or Equipment: Not necessary under condition of normal use
Work/Hygienic Practices: Not necessary under condition of normal use

SECTION X – TRANSPORT INFORMATION

There are some laws and regulations of transportation of each country.
Please follow these rules and regulations.

SECTION XI – REGULATORY INFORMATION

- 1) IATA (International Air transport Association) : Dangerous Goods Regulations 50th Edition (2009)
- 2) ICAO (International Civil Aviation Organization) : 2009-10 Edition Technical Instructions
- 3) IMO (International maritime Organization) : International Maritime Dangerous Goods (IMDG) Code
Other Laws or regulations of each country.

Other Information

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. Exact composition information is immediately available on a confidential basis to medical professionals treating exposure to cell components or combustion byproducts.

HYDROFLUORIC ACID EXPOSURE DURING FIRE FIGHTING

This information is given for the use of professional fire fighters responding to a warehouse fire where fire from other materials may incinerate cells. This section is provided solely in case of exposure , during fire fighting, to the combustion byproducts. Hydrofluoric acid is not present in the product. Contact with cells causes none of the following symptoms.

Hydrofluoric acid is extremely corrosive. Contact with hydrogen fluoride fumes is to be avoided. Permissible exposure limit is 3 ppm. In case of contact with hydrogen fluoride fumes, immediately leave the area and seek first aid and emergency medical attention. Symptoms may have delayed onset. Fluoride ions penetrate skin readily causing destruction of deep tissue layers and even bone. Fluoride interferes with nerve impulse conduction causing severe pain or absence of sensations. Immediately flush eyes or skin with water for at least 20 minutes to neutralize the acidity and remove some fluoride. Remove and destroy all contaminated clothing and permeable personal possessions. Before re-use, impermeable possessions should be soaked in benzalkonium chloride after water washing. Following flushing of the affected areas, an iced aqueous solution of benzalkonium chloride or 2.5% calcium gluconate gel should be applied to react with the fluoride ion. Compresses and wraps may be used for areas where immersion is not practical. Medicated dressing should be changed every 2 minutes. Exposure to hydrofluoric acid fumes sufficient to cause pain requires immediate hospitalization for monitoring for pulmonary edema.