StrikeMaster 40V 5AH (L40V-BP) BATTERY SDS

I. Product and Company Information

Producer/Supplier: Rapala USA
Add: 10395 Yellow Circle Drive, Minnetonka, MN 55343 United States
Name of Consultant: Feng Feng
Emergency Number: 0519-81286921

II. Hazards Identification

Major Hazzard Effect	Hazard Warning for Health: (Respectively describe the impact on health after this materials is)	I. Inhalation II. Eye contact III. Skin Contact
	Absord and inhalted by human body, Spilt into eyes and contacts skin)	Inhalation: The steam of the electrolyte has an anesthesia action and stimulates a respiratory tract. Skin contact: The steam of the electrolyte stimulates a skin. The electrolyte skin contact causes a sore and stimulation on the skin. Eye contact: The steam of the electrolyte stimulates eyes. The electrolyte eye contact causes a sore and stimulation on the eye. Especially, substance that causes a strong inflammation of the eyes is contained.
	Environmental Impact:	Since a battery cell remains in the environment, do not throw out it into the environment
	Physical and chemical harms:	None
	Special harm:	If the electrolyte contacts with water, it will generate detrimental hydrogen fluoride. Since the leaked electrolyte is inflammable liquid, do not bring close to fire.

III. Composition / Information on Ingredients (If it is pure material, fill out “pure material”. If it is mixture,fill out the “mixture” column.)

Material Name	Chemical Name	CAS No.	Wt%
FR4	Glass fabric	65997-17-3	45
	Epoxy Resin	26265-08-7	28
	Copper Foin	7440-50-8	17
Green paste	O-Cresol novolac epoxy	29690-82-2	56
	Barium sulfate	7727-43-7	25
	Acrylic ester	29570-58-9	19
White Ink	Epoxy Acrylate	N/A	42
	Pigment	1328-53-6	22
	Z-Ethgl-4-methgeimidazole	931-36-2	18
	Filler	14807-96-6	18
Fillers	Fillers	14807-96-6	60
Silicone modified polymer	Silicone modified polymer	N/A	30
Paraffin	Paraffin	N/A	5
Carbon black	Carbon black	1333-86-4	5
Solder	Tin	7440-31-7	89
	Silver	7440-22-4	5
	Copper	7440-50-8	1
	Resin	65997-05-9	5
Plating	Sn	7440-31-7	99.5
	others	N/A	0.5
Lead Eire-Dumet	Ni	7440-02-0	42.15
	Fe	7439-89-6	57.85
	Cu	7440-50-8	100
Dice	Si	7440-21-3	70.9
	Al	7429-90-5	0.1
	Ag	7440-22-4	28.6
	Ni	7440-02-0	0.4
Ink	C	7440-44-0	100
BaTiO3	BaTiO3	12047-27-7	69
Nickel	Nickel	7440-02-0	2.5～7
Copper	Copper	7440-50-8	21

Tin	Tin	7440-31-5	0.2～3
MAXBOND 1603HFR - 1 Glue	CR Rubber	9010-98-4	10 20
	Phenolic resins	9003-35-4	10 20
	Flame Retardants	1309-6404	5
	Solvents	108-88-3	60
		9/02/75	
		78-93-3	
		110-82-7	
		110-54-3	
	Additive	N/A	1
Glue	Cadmium	7440-43-9	N.D.
	Calcium oxide	1306-19-0	N.D.
	Dipentyl phthalate	131-18-0	N.D.
Carbon	Carbon	N/A	50
CP	Sn	7440-31-5	11
	Fe	12011-67-5	67
	Cu	7440-50-8	22
ALUMINUM CALCIUM SODIUM SILICATE	SODIUM SILICATE	14808-60-7	60
TITANIUM DIOXIDE	TITANIUM DIOXIDE	13463-67-7	30
DIBUTYLBIS(LAUROYLOXY)STANNANE	DIBUTYLBIS(LAUROYLOXY)STANNANE	77-58-7	10
Conductor	Copper	7440-50-8	99
	Tin	7440-31-5	1
Insulation	Polyethylene	9002-88-4	30
	Magnesium Compound	N/A	55
	Other	N/A	15
Tin	Sn	7440-31-5	99.4
	Cu	7440-50-8	0.6
Positive electrode	Lithium transition metal oxidate (Li[M]m[O]n *2)	12190-79-3	20~60
		12057-17-9	
		182442-95-1	
Positive electrode’s base	Aluminum	7429-90-5	1~10
Negative electrode	Carbon	7782-42-5	10~30
		7440-44-0	
Negative electrode’s base	Copper	7440-50-8	1~15
Electrolyte	Organic electrolyte principally involves ester carbonate	N/A	5~25
Outer case	Iron	7439-89-6	1~30

IV. First-Aid Measures

First-aid measures for different exposure occasions: (Describe the first-aid procedures under the followingcircumstances)		
Make the victim blow his/her nose, gargle. Seek medical attention if necessary	Remove contaminated clothes and shoes immediately. Wash extraneous matter or contact region with soap and plenty of water immediately using soap and water.	Do not rub one’s eyes. Immediately flush eyes with water continuously for at least 15 minutes. Seek medical attention immediately.
Major Disease and Harm Effect: None		
First-Aid Personnel Protection: None		
Prompt to Doctor: None		

V. Fire Fighting Measures

Suitable extinguishing media Plenty of water, carbon dioxide gas, nitrogen gas, chemical powder fire extinguishing medium and fire foam

Special Exposure Hazards: Corrosive gas may be emitted during fire
Special Protection Equipment: Respiratory protection: Respiratory equipment of a gas cylinder style or protection-against-dust mask **Hand protection: Protective gloves** **Eye protection: Goggle or protective glasses designed to protect against liquid splashes** **Skin and body protection: Protective cloth**

VI. Accidental Release Measures

Personal Protection:	**Remove spilled materials with protective equipment (protective glasses and protective gloves). Do not inhale the gas as much as possible. Moreover, avoid touching with as much as possible**
Environmental Protection:	**Do not throw out into the environment.**
Methods for Cleaning up:	**The spilled solids are put into a container. The leaked place is wiped off with dry cloth.**

VII. Handling and Storage

Handling	**Do not wet the battery with water, seawater, drink or acid; or expose to strong oxidizer.** **▪ Do not damage or remove the external tube.** **▪ Keep the battery away from heat and fire.** **▪ Do not disassemble or reconstruct the battery; or solder the battery directly.** **▪ Do not give a mechanical shock or deform.** **▪ Do not use unauthorized charger or other charging method. Terminate charging when the charging process doesn't end within specified time.**
Storage	**Do not store the battery with water, seawater, strong acid or strong oxidizer.Avoid direct sunlight, high temperature, and high humidity.**

VIII. Exposure Control / Personal Protection

Control Factor	**ACGIH has not been mentioned control parameter of electrolyte**	
Personal Protection Equipment (measures taken by the personnel who are exposed to the material)	**Respiratory Protection:**	**Ventilating**
	Hand Protection:	**Wear gloves**
	Eye Protection:	**None**
	Skin & Body Protection:	**Wear protective clothing**
Protective measures	**Eating, drinking and smoking are not allowed during working.**	

IX. Physical and Chemical Properties / Characteristics (Fundamental information should be filled outclearly)

Appearance : Solid	**Form: cuboid**
Color: Green/Black	**Odor: Without special odor**
Decomposition Temperature: 450°C for housing	**Combustibility: V-0 for housing**
Use temperature: above 100 degree C	**Solubility in Water: Insoluble**
Specific Gravity: None	**Hazardous by-product: None**

X. Stability and Reactivity

Stability	**Stable under normal use**
Special Conditions of Hazardous Reaction	**None**
Conditions to Avoid	**Prevent static during processing, high humidity**
Incompatibility	**Conductive materials, water, seawater, strong oxidizers and strong acids**
Hazardous Decomposition Products	**Acrid or harmful gas is emitted during fire.**

XI. Toxicological Information (fill out this part if it is toxicological material)

Toxicity	**LD50, oral - Rat 2,000mg/kg or more** **Irritating nature: Irritative to skin and eye**
Chronic	**None**
Exceptional Effect	**None**

XII. Ecological Information

Since a battery cell and the internal materials remain in the environment, do not bury or throw out into the environment.

XIII. Disposal Information

Disposal information: Specified collection or disposal of lithium ion battery is required by the law like as "battery control law" in several nations. Collection or recycle of the battery is mainly imposed on battery's manufacturer or **importer in the nations recycle is required.**

XIV. Transport Information

International Transport Regulation	**Worldwide, air transportation:** **IATA-DGR [As non-DANGEROUS GOODS: "packing instruction 965 section II" /** **Almost as above however displayed as DANGEROUS GOODS: "packing instruction 965 section IB"]** **(When batteries are packaged with equipments or contained in equipments, refer packing instruction 966 or 967 instead of 965.)** **Worldwide, sea transportation: IMO-IMDG Code [special provision 188]**
Internal Transport Regulation	**No special request.**
Special Transport Way and Note	**In the case of transportation, avoid exposure to high temperature and prevent the formation of anycondensation. Take in a cargo of them without falling, dropping and breakage. Prevent collapse of cargo pilesand wet by rain. The container must be handled carefully. Do not give shocks that result in a mark of hitting ona cell. Please refer to Section 7-HANDLING AND STORAGE also.**

XV. Regulation Information

Applicable Regulation:1.US Department of Transportation 49 Code of Federal Regulations [USA] **Dangerous Goods Regulations – 54th Edition Effective 1 January 2013: International Air Transport Association (IATA)**

XVI. Other Information

Reference	**Supplier's MSDS**	
Reporting Entity	**Name: Lab Department**	
	Rapala USA **10395 Yellow Circle Drive, Minnetonka, MN 55343 United States**	
Prepared By	**Feng Feng**	**Name (Seal)**
Prepared On	**3/31/17**	