

Issue Date: 2021-01-20

lithium battery pack

EFSH21011008-CG-01

1. Identification

Product name lithium battery pack
Synonyms -
CAS # See section 3
Product code KBP01-BAT, BPAIBAT
Product use -
Manufacturer/Supplier
Supplier(Manufacturer): Suzhou KPA Electric Appliance Co Ltd
Address: #398, Puxing Road, Puzhuang Town, Wuzhong District, Suzhou 205105, China
Contact person(E-mail): yin@cnkpa.com
Telephone: +0512-66397118
Fax: -
Emergency telephone Number: +0512-66397118

2. Hazard(s) identification

GHS classification

Physical hazards Not classified
Health hazards Not classified
Environmental hazards Not classified

GHS label elements

Hazard Pictograms No hazard pictogram is used.
Signal word No signal word is used.
Hazard statement Not applicable.

Precautionary statement

Prevention Not applicable.
Response Not applicable.
Storage Not applicable.
Disposal Not applicable.

3. Composition / information on ingredients

Components	CAS#	Percent
Cobalt lithium manganese nickel oxide	113066-89-0	35%
Graphite	7782-42-5	19%
Iron	7439-89-6	13%
Copper	7440-50-8	10%
Dimethyl carbonate	616-38-6	6%
Aluminum	7429-90-5	6%
Ethylene carbonate	96-49-1	3%
Polyethylene	9002-88-4	3%
Phosphate(1-), hexafluoro-, lithium	21324-40-3	3%
Ethyl methyl carbonate	623-53-0	1%
Nickel	7440-02-0	1%

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4. First-aid Measures

First aid procedures

Eye contact

Rinse immediately with plenty of water for at least 15 mins. Contact a doctor if symptoms persist.

Skin contact

If there is any unwell reaction, wash thoroughly with soap & water, flush with plenty of water. If irritation persists, seek medical advice.

Inhalation

Remove from exposure site to fresh air. Keep at rest. Obtain medical attention.

Ingestion

Rinse mouth out with water. Seek medical advice immediately.

Notes to physician

Treat symptoms.

5. Fire-fighting measures

Flammable properties

Not available.

Extinguishing media

Suitable extinguishing media

Use foam, dry powder or dry sand, CO₂ as appropriate.

Unsuitable extinguishing media

Not available.

Firefighting equipment/instructions

Firefighters must wear fire resistant protective equipment and appropriate breathing apparatus. The staff must equip with filter mask (full mask) or isolated breathing apparatus. The staff must wear the clothes which can defense the fire and the toxic gas. Put out the fire in the upwind direction. Remove the container to the open space as soon as possible. Spray water on the containers in the fireplace to keep them cool until finish extinguishment.

Hazardous combustion products

Oxides of carbon. Metal oxides, Irritating fumes.

6. Accidental release measures

Personal precautions

If the battery is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. The preferred response is to leave the area and allow the vapors to dissipate. Avoid skin and eyes contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerated. If leakage of the battery happens, liquid could be absorbed wit sand, earth or other inert substance and contaminated area should be ventilated meantime.

Environmental precautions

Do not allow product to reach sewage system or any water source. Inform respective authorities in case of seepage into water course or sewage system. Do not allow to enter sewers/ surface or ground water.

Methods for cleaning up

If battery casing is dismantled, small amounts of electrolyte may leak. Collect all released material in a plastic lined container. Dispose off according to the local law and rules. Avoid leached substances to get into the earth, canalization or waters.

7. Handling and storage

Handling

Always follow the warning information on the batteries and in the manuals of devices. Only use the recommended battery types. Keep batteries away from children. For devices to be used by children, the battery casing should be

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protected against unauthorized access. Unpacked batteries shall not lie about in bulk. In case of battery change always replace all batteries by new ones of identical type and brand. Do not swallow batteries. Do not throw batteries into water. Do not throw batteries into fire. Avoid deep discharge. Do not short-circuit batteries Use recommended charging time and current.

Storage

The battery should be stored in a sealed container. Store in a dry, cool, ventilated environment, avoid temperature changes or high temperatures. Keep away from heat sources and avoid prolonged sunlight exposure.

8. Exposure controls / personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Copper (CAS 7440-50-8)	PEL	1 mg/m3	Dust and mist.
		0.1 mg/m3	Fume.
Graphite (CAS 7782-42-5)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Nickel (CAS 7440-02-0)	PEL	1 mg/m3	

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
Graphite (CAS 7782-42-5)	TWA	15 mppcf	
Polyethylene (CAS 9002-88-4)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	1 mg/m3	Respirable fraction.
Copper (CAS 7440-50-8)	TWA	1 mg/m3	Dust and mist.
		0.2 mg/m3	Fume.
Graphite (CAS 7782-42-5)	TWA	2 mg/m3	Respirable fraction.
Nickel (CAS 7440-02-0)	TWA	1.5 mg/m3	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	5 mg/m3	Welding fume or pyrophoric powder.

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		5 mg/m3 10 mg/m3	Respirable. Total
Copper (CAS 7440-50-8)	TWA	1 mg/m3 0.1 mg/m3	Dust and mist. Fume.
Graphite (CAS 7782-42-5)	TWA	2.5 mg/m3	Respirable.
Nickel (CAS 7440-02-0)	TWA	0.015 mg/m3	

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls:

Use in a well-ventilated area.

Individual protection measures, such as personal protective equipment:

Eye / face protection

None required under normal conditions. Use approved chemical work safety goggles or face shield, if handling a leaking or rupture battery.

Skin protection

None under normal use. In case of spilling, use PVC, neoprene or nitrile gloves of 15mils (0.015 inch) or thicker. Use rubber apron and protective working in case of handling of a rupture battery.

Respiratory protection

No necessary under normal use. In case electrolyte leakage from the battery, protect hand with chemical resistant rubber gloves. If battery is burning, leave the area immediately. In abuse, use NIOSH approved acid gas filter mask or self-contained breathing apparatus.

General hygiene considerations

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing.

9. Physical and chemical properties

Appearance

Physical state

Solid

Form

Solid

Color

Not available

Odor

Not available

Odor threshold

Not available

pH

Not available

Vapor pressure

Not available

Melting point/Freezing point

Not available

initial boiling point and boiling range

Not available

Flash point

Not available

Evaporation rate

Not available

Flammability (solid, gas)

Not available

Explosion limits

Not available

Vapor density

Not available

Density

Not available

Solubility (water)

Not available

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Partition coefficient	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Specific gravity	Not available
Flammability limits in air, upper, %by volume	Not available
Flammability limits in air, lower, % by volume	Not available
VOC	Not available
Percent volatile	Not available
Other data	
Viscosity	Not available
Upper/lower explosive limits	Not available
Surface tension	Not available

10. Stability and reactivity

Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Incompatible materials. Do not subject Li-ion Battery to mechanical shock. Keep away from open flames, high temperature.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Oxides of carbon. Metal oxides, Irritating fumes.
Possibility of hazardous reactions	No dangerous reactions known.

11. Toxicological information

Toxicokinetics, metabolism and distribution:

Non-human toxicological data: Not available

Information on toxicological effects:

Acute toxicity:

LD50(Oral, Rat):	Not available
LD50(Dermal, Rat):	Not available
LC50(Inhalation, Rat):	Not available
Skin corrosion/Irritation:	Not classified.
Serious eye damage/irritation:	Not classified
Respiratory or skin sensitization:	Not classified
Germ cell mutagenicity:	Not classified
Carcinogenicity:	Not classified
Reproductive toxicity:	Not classified
STOT- single exposure:	Not classified
STOT-repeated exposure:	Not classified
Aspiration hazard:	Not classified

12. Ecological information

Toxicity:

Acute toxicity		Time	Species	Method	Evaluation	Remarks
LC50	N/A	96h	Fish	OECD 203	N/A	N/A
EC50	N/A	48h	Daphnia	OECD 202	N/A	N/A

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EC50	N/A	72h	Algae	OECD 201	N/A	N/A
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Persistence and degradability: Not available.
Bioaccumulative potential: Not available.
Mobility in soil: Not available.
Results of PBT&vPvB assessment: Not available.
Other adverse effects: No known significant effects or critical hazards.

13. Disposal considerations

Disposal instructions If the battery is not completely discharged or only partially discharged, because part of the un-depleted lithium is present in the battery, the battery should be completely discharged, and the discarded battery should be submitted to the relevant department. All waste must refer to the United Nations, the country and Disposal by local regulations. Under the permission of relevant laws and regulations, batteries can be recycled.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Basic shipping requirements:

UN number UN3481
Proper shipping name LITHIUM ION BATTERIES PACKED WITH EQUIPMENT
Hazard class 9
Packing group -
Environmental hazards No

IATA

UN number UN3481
UN proper shipping name LITHIUM ION BATTERIES PACKED WITH EQUIPMENT
Transport hazard class(es) 9
Packing group -
Environmental hazards No

IMDG

UN number UN3481
UN proper shipping name LITHIUM ION BATTERIES PACKED WITH EQUIPMENT
Transport hazard class(es) 9
Packing group -
Environmental hazards No

15. Regulatory information

US federal regulations

Toxic Substances Control Act (TSCA)
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
 Not regulated.
CERCLA Hazardous Substance List (40 CFR 302.4)

Safety Data Sheet
According to Hazard Communication Standard (29 CFR 1910.1200)



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Copper (CAS 7440-50-8) Listed.

Dimethyl carbonate (CAS 616-38-6) Listed.

Nickel (CAS 7440-02-0) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Aluminium	7429-90-5	6%
Copper	7440-50-8	10%
Nickel	7440-02-0	1%

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Nickel (CAS 7440-02-0)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

California Proposition 65

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Nickel (CAS 7440-02-0) Listed: October 1, 1989

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Aluminium (CAS 7429-90-5)

Copper (CAS 7440-50-8)

Iron (CAS 7439-89-6)

Nickel (CAS 7440-02-0)

16. Other information, including date of preparation or last revision

HMIS® ratings

Health: 0
Flammability: 1
Physical hazard: 0

NFPA ratings

Health: 0
Flammability: 1
Instability: 0

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available.