嘉普科技股份有限公司
太普動力新能源(常熟)股份有限公司
新加坡商兆普有限公司台灣分公司
Trend Energy Technology Co., Ltd.
Trend Power Technology(changshu) Inc
Trend Power Technology Private Limited Taiwan Branch

MATERIAL SAFETY DATA SHEET

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1. *Product and Company Identification*

Product Identification：
Rechargeable Li-ion Battery Pack/10S2P
Customer Model：TPS-C13-50SD
Simplo P/N：B44E2102F, B44E2102FB, B44M2102F, B44M2102FB, B44ES2102F, B44ES2102FB, B44EM2102F, B44EM2102FB
Rating：360 Wh

Classification : TPTAQ declare that battery Watt-hour rating is more than 100 WH, thus, it is considered as a "dangerous" product and should be transported per dangerous goods class 9 regulation which packagings must meet Packing Group II performance standards.

Manufacturer :
Trend Energy Technology Co., Ltd.
4F No. 656, Sec. 2, Bade Rd., Hukou Township, Hsinchu County, 30348, Taiwan(R.O.C.)
Tel : 886-3-5695916 Fax : 886-3-5696115

Trend Power Technology(changshu) Inc.
No.868, Dongnan Avenue, Changshu New & Hi-tech Industrial Development Zone, Changshu, 215500 Jiangsu, P.R. China
Tel : 86-0512-52122255 Fax : 86-0512-52302277

Supplier:
Trend Power Technology Private Limited Taiwan Branch
3 & 5F, No. 656, Sec. 2, Bade Rd., Hukou Township, Hsinchu County, 30348, Taiwan(R.O.C.)
Tel : 886-3-5695916 Fax : 886-3-5696115

2. *Hazards Identification*

Primary routes of entry : Skin contact, Skin absorption; Eye contact, Inhalation and ingestion: No
Symptoms of exposure : Skin contact, No effect under routine handling and use.
Skin absorption : No effect under routine handling and use.
Eye contact : No effect under routine handling and use.
Inhalation : No effect under routine handling and use.
Reported as carcinogen : Not applicable
Hazard : It may cause heat generation or electrolyte leakage if battery terminals contact with other metal. Electrolyte is flammable. In case of electrolyte leakage, move the battery from fire immediately.

3. *Composition / Identification on Ingredients*

Substance : Lithium Ion Battery
CAS number : Reference 3-3

Composition :

3-1. Cases: Plastic Not dangerous
3-2. Printed Circuit Board Assembly Not dangerous
3-3. Lithium Ion Cell :

Hazardous Ingredients	%	CAS Number
Lithium Nickel Oxide	25-35%	12325-84-7
Graphite	20-30%	7782-42-5
Iron	10-20%	7439-89-6
Copper	5-15%	7440-50-8
cobalt lithium dioxide	1-5%	12190-79-3
Methyl propanoate	1-5%	554-12-1
Aluminium	1-5%	7429-90-5
lithium hexafluorophosphate(1-)	1-3%	21324-40-3
4-Fluoro-1,3-dioxolan-2-one	1-3%	114435-02-8
dimethyl carbonate	1-3%	616-38-6
Polyethylene	1-3%	9002-88-4
diiron trioxide	0.1-1%	1309-37-1
Boehmite (Al(OH)O)	0.1-1%	1318-23-6
Carbon black	0.1-1%	1333-86-4
Nickel	0.1-1%	7440-02-0
Aluminum lithium oxide (LiAlO)	0.1-1%	11089-89-7
Chromium	0.1-1%	7440-47-3
lithium carbonate	0.1-1%	554-13-2
ethylbenzene	0.1-1%	100-41-4

3.4. Watt/Hour rating per cell Not more than 20 WH

3.5 Watt/Hour rating per battery More than 100 WH

3.6 RoHS Directive Fully compliant with RoHS

4. *First Aid Measures*

Inhalation : Make the victim blow his/her nose, gargle. Seek medical attention if necessary.
Skin contact : Remove contaminated clothes and shoes immediately. Wash extraneous matter or contact region with soap and plenty of water immediately.
Eye contact : Do not rub one's eyes. Immediately flush eyes with water continuously for at least 15

minutes. Seek medical attention immediately.

Ingestion : Make the victim vomit. When it is impossible or the feeling is not well after vomiting, seek medical attention.

5. *Fire Fighting Measures*

Extinguishing Media : Use suitable extinguishing media. Dry chemical, carbon dioxide and plenty of water are effective.

Firefighting Equipment : Use NIOSH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

6. *Accidental Release Measures*

On Land : Place material into suitable containers and call local fire/police department.

In Water : If possible, Remove from water and call local fire/police department.

7. *Handling and Storage*

Handling :

Do not expose the battery to excessive physical shock or vibration. Short-circuiting should be avoided. However, accidental short-circuiting for a few seconds will not seriously affect the battery. Prolonged short circuits will cause the battery to rapidly lose energy, could generate enough heat to burn skin. Sources of short circuits include jumbled batteries in bulk containers, coins, metal jewelry, metal covered tables, or metal belts used for assembly of batteries in devices. To minimize risk of short-circuiting, the protective case supplied with the battery should be used to cover the terminals when transporting or storing the battery. Do not disassemble or deform the battery. Should an individual cell within a battery become ruptured, do not allow contact with water.

Storage :

The lithium ion battery should be between 25% and 75% of full charge when stored for a long period of time. Store in a cool, dry, well ventilated area. And temperature above 100 degree can result in loss of battery performance, leakage, or rust. Do not expose the battery to open flames.

8. *Exposure Controls / Personal Protection*

Engineering Controls : Keep away from heat and open flame. Store in a cool dry place

Personal Protection :

Respirator : Not required during normal operations. SCBA required in the event of a fire.

Eye/Face Protection : Not required beyond safety practices of employer.

Gloves : Not required for handling of battery.

Foot Protection : Steel toed shoes recommended for large container handling.

9. *Physical and Chemical Properties*

State	Solid
Odor	N/A
PH	N/A
Vapor pressure	N/A
Vapor density	N/A
Boiling point	N/A

Solubility in water	Insoluble
Specific gravity	N/A
Density	N/A

10. *Stability and Reactivity*

Reactivity : None

Incompatibilities : None during normal operation. Avoid exposure to heat, open flame, and corrosives.

Conditions to Avoid : Avoid exposure to heat and open flame. Do not puncture, crush or incinerate.

11. *Toxicological Information*

This product does not elicit toxicological properties during routine handling and use.

12. *Ecological Information*

Lithium ion battery pack can be disposable in accordance with appropriate federal, state and local regulations.

13. *Disposal Consideration*

Recommended methods for safe and environmentally preferred disposal:

Product(waste from residues)

Do not throw out a used battery cell. Recycle it through the recycling company.

Contaminated packaging

Neither a container nor packing is contaminated during normal use. When internal materials leaked from a battery cell contaminates, dispose as industrial wastes subject to special control.

14. *Transport Information*

With regard to transport, the following regulations are cited and considered:

- UN 3480
- UN proper shipping name: Lithium Ion Batteries.
- Transport hazard class : 9
- The International Civil Aviation Organization (ICAO) Technical Instructions (2023-2024 Edition)
- The International Air Transport Association (IATA) Dangerous Goods Regulations(64th Edition, 2023), Packing Instruction 965, Section IA.
- The International Maritime Dangerous Goods(IMDG) Code 2022 Edition(Amendment 41-22) [Special provision 230]
  US Hazardous Materials Regulations 49 CFR(Code of Federal Regulations) Sections 100-185 Lithium batteries and cells,
- The Office of Hazardous Materials Safety with the US Department of Transportation's(DOT) Research and Special Programs Administration(RSPA), and
- The UN Recommendations on the Transport of Dangerous Goods Model Regulations and the Manual of Tests and Criteria
- Lithium ion batteries only transport by air in accordance with PI965 at a state of charge(SOC) not to exceed 30 percent of rated design capacity.

15. *Regulatory Information*

The international regulations on air transportation of rechargeable Lithium Ion batteries (commercial and cargo) are governed mainly by the following regulations:

1. UN Recommendations on the Transportation of Dangerous Goods Model Regulations
2. U.S. Department of Transportation hazardous materials regulations (HMR)
3. International Civil Aviation Organization (ICAO) Technical Instructions
4. International Air Transport Association (IATA) Dangerous Goods Regulations UN3480 Packing Instruction 965
5. European Communities (EC) Hazard Classification according to directives 67/548/E
   R-Phases (R10/R11/R15/R17/R20/R22/R36/R37/R38/R43/R48/R49/R50/R51/R53/R62/R65/R67)
   S-phases (S5/S7/8/S9/S16/S22/S24/S25/S26/S29/S33/S36/37/S43/S45/S53/S60/S61/S62)

16. *DISCLAIMER*

The information contained herein is furnished without warranty of any kind, Users should consider this data only as a supplement to other information gathered by them and must make independent determinations of the suitability and completeness of information form all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.