

MPF90: MATERIAL SAFETY DATA SHEET (MSDS)

1. Chemical Product and Company Identification

- Name of Sample: LPF Battery 12.8V 90Ah
- Type/Model: K2C90G24; 12.8V 90Ah 1152Wh
- Manufacturer: Kensun International of America, Inc. (Lynac Lithium)
- Manufacturer Address: 5005 Chapman Hwy, Knoxville, TN
- Emergency Telephone: +1 (865) 409-5522
- Inspection Standard: Recommendations on the Transport of Dangerous Goods, Model Regulations

2. Composition Information

Material	Chemical Formula	CAS No.	Wt %
Lithium iron phosphate	LiFePO ₄	15365-14-7	42.09
Super-p (Conductive agent)	C	1333-86-4	1.62
Poly(vinylidene fluoride)	[-CH ₂ -CF ₂ -] _n	24937-79-9	3.54
Styrene butadiene rubber	C ₁₂ H ₁₄	9003-55-8	1.8
Graphite	C	1333-86-4	20.01
Lithium hexafluorophosphate	LiPF ₆	21324-40-3	12.3
Copper Foil	Cu	7440-50-8	9.22
Aluminum Foil	Al	7429-90-5	4.00
Tin	Sn	7440-31-5	1.07
Nickel	Ni	7440-02-0	4.35
Lead	Pb	7439-92-1	0
Cadmium	Cd	7440-43-9	0
Mercury	Hg	7439-97-6	0

3. Hazards Identification

- Explosive Risk: This article is not classified as an explosive dangerous good.
- Flammable Risk: This article is not classified as a flammable material.
- Oxidation Risk: This article is not classified as an oxidation dangerous good.
- Toxic Risk: This article is not classified as a toxic dangerous good.
- Radioactive Risk: This article is not classified as a radiation dangerous good.
- Mordant (Corrosive) Risk: This article is not classified as a corrosion dangerous good.
- Other Risk: The battery has a watt-hour rate of 1520.64Wh and is classified as a Lithium-ion battery.

4. First Aid Measures

- Eye Contact: Flush eyes with plenty of water for at least 15 minutes, lifting eyelids occasionally. Seek medical aid.
- Skin Contact: Remove contaminated clothing and rinse skin with plenty of water or shower for 15 minutes. Seek medical aid.
- Inhalation: Remove from exposure to fresh air immediately. Use oxygen if available. Seek medical aid.
- Ingestion: Give at least 2 glasses of milk or water. Induce vomiting unless the patient is unconscious. Call a physician.

5. Fire-Fighting Measures

- Suitable Extinguishing Media: Water spray, fog, or fine mist for cooling and fire control. CO₂ or dry chemical extinguishers may be used for small fires.
- Specific Hazards: Batteries may rupture, vent, or explode when exposed to heat or fire. Thermal runaway and re-ignition may occur.
- Hazardous Combustion Products: Carbon monoxide (CO), carbon dioxide (CO₂), lithium compounds, and irritating/toxic fumes.
- Protective Equipment: Wear self-contained breathing apparatus (SCBA) and full protective gear.
- Fire-Fighting Procedures: Cool with water continuously, approach from upwind, and monitor for re-ignition.

6. Accidental Release Measures

Steps for Release or Spills: If internal material is released, evacuate the area until fumes dissipate. Provide maximum ventilation. Wipe up liquid with absorbent material, place in a plastic bag, and then into a steel can for incineration. Avoid skin/eye contact or inhalation of vapors.

7. Handling and Storage

- Handling: Do not open, destroy, incinerate, short circuit, overcharge, or force over-discharge. Avoid crushing, puncturing, or immersing in liquids.
- Storage: Store in a cool, dry, and ventilated area with minimal temperature fluctuation. Avoid high temperatures, heating equipment, and direct sunlight.

8. Exposure Controls/Personal Protection

- Respiratory Protection: Not necessary under normal use. If venting occurs, provide maximum ventilation and avoid confined spaces.
- Protective Equipment: Gloves, clothing, and safety glasses are not required for normal use but are recommended if a battery is venting.

9. Physical and Chemical Properties

- Appearance: Rectangle
- Odor: If leaking, smells of medical ether.
- pH: Not applicable as supplied.

10. Stability and Reactivity

- Stability: Stable under recommended storage conditions.
- Conditions to Avoid: Heating above 70°C, incineration, deformation, crushing, disassembly, overcharge, short circuit, and long-term humidity.
- Materials to Avoid: Strong oxidizing agents, excessive heat, open flames, and mechanical damage.
- Hazardous Decomposition: Toxic fumes; may form peroxides.

11. Toxicological Information

- Signs & Symptoms: None unless the battery ruptures. Internal contents can be highly irritating to eyes, skin, and lungs.
- Aggravated Medical Conditions: Exposure to internal contents may cause severe skin irritation, dryness, and damage to nerves, liver, and kidneys.

12. Ecological Information

- General: No known mammalian effects or environmental hazards at present.
- **Bio-accumulation:** Slowly biodegradable.

13. Disposal Consideration

Do not incinerate or expose to temperatures exceeding 70°C, as this may cause leakage or explosion.

Lithium batteries must not be disposed of in regular trash or buried. At end-of-life, batteries must be handled in accordance with applicable regulations and sent to an approved recycling or hazardous waste facility.

14. Transport Information

UN Number: 3480

Proper Shipping Name: Lithium ion batteries

Hazard Classification: Complies with IATA DGR (66th Edition, 2025) Section IB of Packing Instruction 965 and IMDG CODE (Amdt. 42-44, 2024 Edition)

Packing Instruction 188.

Label: LPF Battery Label

15. Regulatory Information

Complies with international regulations including IATA Dangerous Goods Regulations, IMDG Code, OSHA, TSCA, CPSA, and California Proposition 65.

16. Other Information

This document applies specifically to 12.8V 90Ah 1152Wh batteries manufactured by Kensun International of America, Inc(Lynac Lithium). The company assumes no responsibility for damage or loss resulting from misuse.