## A. Proposal Details

### Part - 1

**Organization Type: Others**

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| **1. Name of Proposer** | Anshuman Agrawal |
| **2. Email ID** | anshuman.agrawal@gfclev.co.in |
| **3. Phone** | 9891944883 |
| **4. Address** | GFCL EV Products Limited, INOXGFL Towers, 17, Sector -16A, Noida-201301 (UP), India |

### Part - 2

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| **5. Proposed title of Standard** | Lithium Hexafluorophosphate - Specification |
| **6. Aspect** | Safety Standard |
| **7. Define subject of standard** | This Standard outlines the requirements, testing methods, and application guidelines for Lithium Hexafluorophosphate (LiPF6), a commonly used lithium salt in the electrolyte solutions of lithium-ion batteries. This standard applies to LiPF6 used in various applications, including electrolyte solutions for lithium-ion batteries, energy storage systems, and portable electronic devices. The objective of this standard is to define the chemical properties of LiPF6, including their testing and evaluation. |
| **8. Most Relevant Technical Department** | ETD (Electrotechnical Department) |

### Part - 3

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| **9. Scope of proposed standard** | This Standard outlines the requirements, testing methods, and application guidelines for Lithium Hexafluorophosphate (LiPF6), a commonly used lithium salt in the electrolyte solutions of lithium-ion batteries. This standard applies to LiPF6 used in various applications, including electrolyte solutions for lithium-ion batteries, energy storage systems, and portable electronic devices. The objective of this standard is to define the chemical properties of LiPF6, including their testing and evaluation. |
| **10. Purpose and Justification** | Purpose: The purpose of this standard on LiPF6 is to establish a consistent framework of quality, safety and performance for LiPF6 used in lithium-ion batteries. Such standard will not only ensure that the LiPF6 used in production of EV batteries meets the necessary purity and stability requirements, contributing to the overall safety, efficiency, and longevity of lithium ion batteries manufactured or utilized in India. Additionally, the standard seeks to protect the health and safety of workers involved in the handling and processing of LiPF6 by providing clear guidelines on safe practices. Justification: LiPF6 is a vital component in Lithium ion batteries, which are pivotal for emerging technologies like EV. Standardizing LiPF6 is essential for ensuring consistent performance, safety, and quality control across different battery systems and manufacturers. Lack of standardization of LiPF6 will have an impact on the final product too. |
| **11. Likely users of standards and their inputs** | This Indian Standard for LiPF6 can be utilized by battery manufacturers, electronics and automotive industries. |
| **12. Any related standards/series of standard/system standard required to make this subject standard complete** | Not Applicable |

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| **13. When the final standard would be required** | 01-01-2025 |
| **14. Any specific problem being faced without this standard** | Without a specific standard for LiPF6, several problems can arise, particularly concerning dumping of sub-standard materials from countries like China, which can severely disrupt local manufacturers, and lead to over reliance on foreign suppliers and potential monopolization. The other problems being faced without this standard can include Quality assurance issues, increased risk of defects or safety issues in batteries due to unregulated or inconsistent quality of LiPF6, and environmental and safety concerns. |
| **15. Bearing with Govt legislation regulation, etc** | The Company has complied with requisite compliance regulations |
| **16. Name and address of manufacturers/ implementing/ industries/ purchasing organization /component supplier/ raw material supplier, if any** | Gujarat Fluorochemicals Limited (GFCL-EV Products), Plot No. D-2 - CH - 173 & 222, Village - Jolva , GIDC Dahej Industrial Estate, Dahej II, Taluka - Vagra, District - Bharuch-392 130 Gujarat |
| **17. Status of the industry in the country** | In 2023, the Indian market demand for LiPF6 was 3 KTPA, which is expected to reach 6 KTPA in 2025 and 17 KTPA by 2028. That LiPF6 is used to manufacture electrolyte, which is a key constituent of battery, which will lead to lower performance, less operational life and will have safety concerns, hence, a standard is required for the said product. |
| **18. Availability of test facilities in the country** | The test facility for LiPF6 is duly available with GFCL EV. The Company ensures that all the requisite test are undertaken and completed with appropriate tools, apparatus and machinery. |
| **19. Whether related to variety reduction, export, health, safety consumer protection, mass consumption, energy conservation, technology transfer, technology upgradation, protection of environment & other National priorities** | This Standard on Lithium hexafluorophosphate (LiPF6) addresses several key national priorities: 1. Health and Safety: Sets guidelines for safe handling, storage, and use of LiPF6, protecting workers from potential health risks. 2. Consumer Protection: Ensures LiPF6 in lithium-ion batteries meets stringent quality and safety standards, reducing risks like fires or leaks. 3. Technology Upgradation: Promotes innovation and adoption of advanced technologies by setting benchmarks for manufacturers. 4. Energy Conservation: Contributes to energy conservation by ensuring efficient and reliable battery performance with high-quality electrolytes. 5. Export: Enhances the export potential of Indian-made lithium-ion batteries by meeting international quality and safety benchmarks, making them more competitive globally. This standard supports health, safety, consumer protection, technology advancement, energy conservation, and export potential. |
| **20. Whether subject requires consideration to be given to women/girl issues in line with Sustainable Goal 5 of the UN. If so, whether the issues are proposed to be addressed suitably in the proposed standard** | Not Applicable |
| **21. Relevant supportive document (download docs)** | |
| **22. R & D work done in india** | GFCL EV does undertake the R&D work in India for this product to ensure high quality standards for their products while considering the safety of end consumer. However, the Company is not privy to the scale of similar exercise undertaken by other palyers in the same industry. |
| **23. Any foreign collaboration (give details)** | No |
| **24. Liaison with any organisation(s)** | No |
| **25.A. Preparatory work** | draft attached |
| **25.B. Preparatory work (Details)** | The PDF version of the draft of this standard is attached. Attachment |
| **26. Whether this project can be funded by your organization** | Happy to understand the relevance and requirement, if required |

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| **27. Whether your organisation would be interested to opt for BIS Standard Mark once the standard is published?** | Yes |

**28. Any Other Attachment (extra)**

## B. Action Logs

## C. Communications

## Circulate Proposal to Members