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**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**  
WASHINGTON, D.C. 20549

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**POST-EFFECTIVE AMENDMENT TO**  
**FORM S-8 REGISTRATION STATEMENTS**  
**UNDER**  
***THE SECURITIES ACT OF 1933***

FORM S-8 REGISTRATION STATEMENT NO. 333-276377

FORM S-8 REGISTRATION STATEMENT NO. 333-276378

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**Arcadium Lithium plc**

(Exact Name of Registrant as Specified in Its Charter)

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**Bailiwick of Jersey**  
(State or Other Jurisdiction of  
Incorporation or Organization)

**1818 Market Street**

**Suite 2550**

**Philadelphia, PA**

**United States**

**19103**

**+1 215 299 5900**

**98-1737136**

(I.R.S. Employer  
Identification No.)

**Suite 12, Gateway Hub**

**Shannon Airport House**

**Shannon, Co. Clare V14 E370**

**Ireland**

**V14 E370**

**+353 1 687 5238**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

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**Arcadium Lithium plc Omnibus Incentive Plan**  
**Livent Corporation Incentive Compensation and Stock Plan**  
**Livent Nonqualified Savings Plan**  
(Full title of the plans)

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**Paul W. Graves**  
**President and Chief Executive Officer**  
**1818 Market Street**  
**Suite 2550**  
**Philadelphia, PA**  
**United States 19103**  
**+1 215 299 5900**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

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**+44 20 7456 2000**

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**Linklaters LLP**  
**1345 Avenue of the Americas**  
**New York, NY 10106**  
**+1 212 903 9000**

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Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer



Accelerated filer



Non-accelerated filer



Smaller reporting company



Emerging growth company



If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for comply with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of Securities Act ☐

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**EXPLANATORY NOTE  
DEREGISTRATION OF SECURITIES**

Arcadium Lithium plc, a public limited company incorporated under the laws of the Bailiwick of Jersey (the “Registrant”), is filing this Post-Effective Amendment (this “Post-Effective Amendment”) with respect to the following Registration Statements on Form S-8 (collectively, the “Registration Statements”), originally filed by the Registrant, with the Securities and Exchange Commission:

- Registration Statement No. 333-276377 on Form S-8, filed on [January 4, 2024](#), registering 71,127,305 ordinary shares of the Registrant, par value \$1.00 per share (“Ordinary Shares”).
- Registration Statement No. 333-276378 on Form S-8, filed on [January 4, 2024](#), registering 2,400,000 Ordinary Shares and \$15,000,000 in unsecured obligations of the Registrant to pay deferred compensation from time to time in the future in accordance with the terms of the Livent NQ Savings Plan.

On March 6, 2025, the acquisition by Rio Tinto BM Subsidiary Limited, a private limited company incorporated under the laws of England and Wales (the “Buyer”), of the entire issued and to be issued share capital of the Registrant, as contemplated by the Transaction Agreement dated as of October 9, 2024 (the “Transaction Agreement”), by and among, the Registrant, Rio Tinto Western Holdings Limited, a private limited company incorporated under the laws of England and Wales (the “Parent”), and the Buyer, was completed and the Registrant became a wholly owned subsidiary of the Buyer (or such affiliate of the Buyer designated by the Buyer in accordance with the terms of the transaction). The Buyer is a wholly owned indirect subsidiary of Rio Tinto plc, which together with each of Rio Tinto plc’s subsidiaries, Rio Tinto Limited, and each of Rio Tinto Limited’s subsidiaries, comprise the Rio Tinto Group.

The Registrant, by filing this Post-Effective Amendment, hereby terminates the effectiveness of the Registration Statements and removes from registration any and all securities registered but unsold or otherwise unissued under the Registration Statements as of the date hereof. This filing is made in accordance with an undertaking made by the Registrant in Part II of the Registration Statements to remove from registration by means of a post-effective amendment any securities that had been registered for issuance but remain unsold or unissued at the termination of the offering. The Registration Statements are hereby amended, as appropriate, to reflect the deregistration of such securities.

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## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended (the “Securities Act”), the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Post-Effective Amendment to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of Philadelphia, Pennsylvania, on March 7, 2025.

### ARCADIUM LITHIUM PLC

By: /s/ Paul W. Graves

Name: Paul W. Graves

Title: President and Chief Executive Officer

Pursuant to the requirements of the Securities Act, the trustees (or other persons who administer the Livent NQ Savings Plan) have duly caused this Post-Effective Amendment to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of Philadelphia, Pennsylvania on March 7, 2025.

### LIVENT NONQUALIFIED SAVINGS PLAN

By: /s/ Gilberto Antoniazzi

Name: Gilberto Antoniazzi

Title: Chair, Livent Benefits Plan Committee

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