## UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

### FORM 8-K

#### CURRENT REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Date of Report (Date of earliest event reported): October 23, 2023

### ALKERMES PUBLIC LIMITED COMPANY

(Exact name of registrant as specified in its charter)

Ireland

(State or other jurisdiction of incorporation)

001-35299

(Commission File Number) **98-1007018** (IRS Employer Identification No.)

**Connaught House, 1 Burlington Road** 

Dublin 4, Ireland D04 C5Y6

(Address of principal executive offices)

#### Registrant's telephone number, including area code: + 353-1-772-8000

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

□ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

□ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

Dere-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

D Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered	
Ordinary shares, \$0.01 par value	ALKS	Nasdag Global Select Market	

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company  $\Box$ 

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

### Item 7.01 Regulation FD Disclosure.

On October 23, 2023, in connection with its participation at the World Sleep Congress, Alkermes plc (the "Company") announced initial results from a phase 1 study evaluating ALKS 2680, the Company's novel, investigational orexin 2 receptor agonist in development for the treatment of narcolepsy. Copies of the related press release and presentation are furnished herewith as Exhibit 99.1 and Exhibit 99.2, respectively.

The information in this Item 7.01, and in Exhibits 99.1 and 99.2 furnished herewith, shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, or incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as shall be expressly set forth by specific reference in such a filing.

#### Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

#### EXHIBIT INDEX

Exhibit No.	Description
99.1	Press release issued by Alkermes plc dated October 23, 2023.
99.2	Presentation of Alkermes plc dated October 23, 2023.
104	Cover page interactive data file (embedded within the Inline XBRL document).

### SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

### ALKERMES PLC

Date: October 23, 2023

/s/ David J. Gaffin By: David J. Gaffin

Secretary

Alkermes Contacts: For Investors: Sandy Coombs, +1 781 609 6377 For Media: Gretchen Murphy, +1 781 609 6419

### Alkermes Presents First Clinical Data for Orexin 2 Receptor Agonist ALKS 2680 at World Sleep Congress

— Initial ALKS 2680 Data Demonstrated Dose-Dependent, Significantly Improved Sleep Latency Compared to Placebo in Narcolepsy Type 1 —

- ALKS 2680 Was Generally Well Tolerated at All Doses Tested -

- Pharmacokinetic Profile of ALKS 2680 Supports Once-Daily Dosing and Mimics the Natural Sleep/Wake Cycle -

- Consistent, Dose-Dependent Effects Enable Dose Selection for Evaluation in Planned Phase 2 Study -

**DUBLIN, Oct. 23, 2023** — Alkermes plc (Nasdaq: ALKS) today announced preliminary results, including initial proof-of-concept data, from a phase 1 study evaluating ALKS 2680, the company's novel, investigational orexin 2 receptor (OX2R) agonist in development for the treatment of narcolepsy. The ongoing phase 1 study is evaluating the safety, tolerability, pharmacokinetics and pharmacodynamics of ALKS 2680 in healthy volunteers and patients with narcolepsy or idiopathic hypersomnia via once-daily, oral administration. Initial data from the single- and multiple-ascending dose evaluations in healthy volunteers and the first cohort of four patients with narcolepsy type 1 (NT1) will be presented today at the 2023 World Sleep Congress in Rio de Janeiro.

The patients with NT1 were randomized to a crossover study in which each of them received 1 mg, 3 mg and 8 mg of ALKS 2680, and placebo, with washout periods between each treatment. Single administration of each dose strength of ALKS 2680 achieved statistically significant, clinically meaningful improvements compared to placebo in wakefulness, as measured by the maintenance of wakefulness test (MWT).

In the four patients with NT1, treatment with ALKS 2680 demonstrated improved sleep latency compared to placebo at all doses tested, with a clear dose response. Following treatment with ALKS 2680, mean sleep latency in patients improved by 18 minutes, 30 minutes and 37 minutes from mean pre-treatment baseline sleep latency of three minutes at the 1 mg, 3 mg and 8 mg doses, respectively (least squares mean). Placebo treatment resulted in a one-minute reduction in mean sleep latency. The differences between ALKS 2680 and placebo were statistically significant for all doses: 1 mg (p<0.01), 3 mg (p<0.001), and 8 mg (p<0.001).

Treatment with ALKS 2680 resulted in clinically meaningful improvements in MWT from baseline at all doses tested. At the 8 mg dose of ALKS 2680, patients maintained wakefulness for the full 40-minute MWT duration, up to 10 hours post-dose. MWT scores at 3 mg were comparable to the 8 mg scores for the first 6 hours post-dose, and treatment with both the 1 mg and 3 mg doses of ALKS 2680 resulted in improved MWT scores up to 8 hours post-dose.

ALKS 2680 was generally well tolerated across all doses tested in the patients with NT1. Drug-related adverse events (AEs) were seen only at the 8 mg dose and were mild in severity. The AEs observed in >1 participant and deemed to be treatment-emergent at the 8 mg dose were insomnia (n=3), pollakiuria (urinary urgency or frequency) (n=2) and salivary hypersecretion (n=2). There were no serious AEs or AEs leading to discontinuation. Additionally, there were no clinically meaningful, treatment-emergent changes in hepatic and renal parameters, vital signs, or electrocardiogram (ECG) parameters.

"The early proof-of-concept and safety data we've seen in this ongoing phase 1 study of ALKS 2680 in both healthy volunteers and four patients with narcolepsy type 1 are compelling. These data support further evaluation of ALKS 2680 as a potential treatment for narcolepsy," said Brendon Yee, Ph.D., Professor and Respiratory and Sleep Physician at the Woolcock Institute of Medical Research. "Orexin 2 receptor agonists such as ALKS 2680 represent an exciting new class of potential treatments for narcolepsy, with the opportunity to transform the treatment paradigm for people living with this disease."

In healthy volunteers, ALKS 2680 was evaluated at single- and multiple-ascending doses. In the single-dose evaluation, ALKS 2680 was dosed from 1 mg to 50 mg. In the multiple-dose evaluation, participants received single daily doses of ALKS 2680 at 3 mg, 8 mg, 15 mg and 25 mg strengths for

up to 10 days. ALKS 2680 was generally well tolerated across all doses tested and the maximum tolerated dose was not reached. Most AEs were mild, transient, and resolved without intervention or treatment interruption. In the single-ascending dose evaluation, AEs observed in >1 participant and deemed related to study drug were dizziness, pollakiuria, nausea and blurred vision, and most occurred at or above the 15 mg dose level. In the multiple-ascending dose evaluation, AEs observed in >1 participant and deemed related to study drug were insomnia, dizziness, pollakiuria and visual disturbances described as blurred or distorted vision, and most occurred at or above the 8 mg dose. There were no safety signals identified in vital signs, laboratory parameters or ECGs.

In healthy volunteers, ALKS 2680 was observed to be centrally active and to have a pharmacokinetic and pharmacodynamic profile that supports once-daily, oral dosing.

"Narcolepsy is a serious, chronic, neurological disease that impairs regulation of the sleep-wake cycle and negatively impacts daily life. There is significant unmet need for people with narcolepsy, as no currently available treatments address the underlying biology of the disease: orexin deficiency or dysfunction," said Craig Hopkinson, M.D., Chief Medical Officer and Executive Vice President of Research & Development at Alkermes. "These initial data support our design rationale for ALKS 2680 as a highly potent, orally bioavailable, selective orexin 2 receptor agonist designed to address the underlying pathology of narcolepsy. The consistent and dose-dependent effects observed in the initial proof-of-concept data enable dose selection for evaluation in phase 2. We look forward to sharing additional updates from the phase 1 study, and plan to initiate our phase 2 study of ALKS 2680, in the first half of 2024."

#### About the ALKS 2680 Phase 1 Study

The phase 1 study for ALKS 2680 includes single-ascending dose and multiple-ascending dose evaluations in healthy volunteers, and a doubleblind, cross-over treatment in patients with narcolepsy type 1 (NT1), narcolepsy type 2 (NT2) and idiopathic hypersonnia (IH).

In the healthy volunteer phase of the study, each cohort included eight participants, six of whom were randomized to receive ALKS 2680 and two of whom received placebo. In the single-dose portion, ALKS 2680 was dosed from 1 mg to 50 mg. In the multiple-dose portion, participants received single daily doses of ALKS 2680 at 3 mg, 8 mg, 15 mg and 25 mg strengths for up to 10 days. The objectives

of this part of the study were to assess ALKS 2680's safety, tolerability, pharmacokinetics and pharmacodynamics.

The phase 1b proof-of-concept part of the study is enrolling patients with NT1, NT2 or IH, with up to eight patients for each such indication. Following an initial two-week washout period of existing medications, patients receive single doses of three active dose levels of ALKS 2680 and placebo in a randomized sequence in a four-way crossover design, with washout periods between each treatment in the sequence. The primary objectives are to assess safety and tolerability, and changes from baseline in the average sleep latency through the Maintenance of Wakefulness Test (MWT) at each cross-over, along with plasma PK, biomarkers such as quantitative electroencephalogram (qEEG) and event-related potential (ERP), and a cognitive test, the Sustained Attention to Response Task (SART). Data from the first four patients with NT1 will be presented at World Sleep Congress.

### About ALKS 2680

ALKS 2680 is a novel, investigational, oral, selective orexin 2 receptor (OX2R) agonist in development for the treatment of narcolepsy. Orexin neuropeptides are important regulators of the sleep/wake cycle through OX2R activation, and loss of orexinergic neurons in the brain is associated with excessive daytime sleepiness and cataplexy in narcolepsy.<sup>1</sup> ALKS 2680 was designed to address the underlying pathology of narcolepsy with the goal of improving duration of wakefulness and providing cataplexy control. Once-daily oral administration of ALKS 2680 is currently being evaluated in a phase 1 study in healthy volunteers and people living with narcolepsy type 1, narcolepsy type 2 and idiopathic hypersomnia.

#### About Alkermes plc

Alkermes plc is a fully-integrated, global biopharmaceutical company developing innovative medicines in the fields of neuroscience and oncology. The company has a portfolio of proprietary commercial products focused on alcohol dependence, opioid dependence, schizophrenia and bipolar I disorder, and a pipeline of product candidates in development for neurological disorders and cancer. Headquartered in Dublin, Ireland, Alkermes has a research and development (R&D) center in Waltham, Massachusetts; a research and manufacturing facility in Athlone, Ireland; and a manufacturing facility in Wilmington, Ohio. For more information, please visit Alkermes' website at www.alkermes.com.

#### **Note Regarding Forward-Looking Statements**

Certain statements set forth in this press release constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, including, but not limited to, statements concerning: the potential therapeutic and commercial value of ALKS 2680 for the treatment of narcolepsy; the company's expectations regarding plans and timelines for further clinical development activities for ALKS 2680, including dose selection, initiation of the phase 2 study and presentation of additional data from the phase 1 study. The company cautions that forward-looking statements are inherently uncertain. Although the company believes that such statements are based on reasonable assumptions within the bounds of its knowledge of its business and operations, the forward-looking statements are neither promises nor guarantees and they are necessarily subject to a high degree of uncertainty and risk. Actual performance and results may differ materially from those expressed or implied in the forward-looking statements due to various risks and uncertainties. These risks and uncertainties include, among others: whether ALKS 2680 could be shown to be ineffective or unsafe; whether preclinical and initial clinical results for ALKS 2680 will be predictive of results of further clinical studies or real-world results; potential changes in the cost, scope and duration of the ALKS 2680 development program; whether future clinical trials or future stages of ongoing clinical trials for ALKS 2680 will be initiated or completed on time or at all; and those risks and uncertainties described under the heading "Risk Factors" in the company's Annual Report on Form 10-K for the year ended Dec. 31, 2022 and in subsequent filings made by the company with the U.S. Securities and Exchange Commission (SEC), which are available on the SEC's website at www.sec.gov. Existing and prospective investors are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof. Except as required by law, the company disclaims any intention or responsibility for updating or revising any forward-looking statements contained in this press release.

<sup>1</sup> Nagahara T, Saitoh T, Kutsumura N, Irukayama-Tomobe Y, Ogawa Y, Kuroda D, Gouda H, Kumagai H, Fujii H, Yanagisawa M, Nagase H. Design and Synthesis of Non-Peptide, Selective Orexin Receptor 2 Agonists. J Med Chem. 2015 Oct 22;58(20):7931-7. doi: 10.1021/acs.jmedchem.5b00988. Epub 2015 Aug 26. PMID: 26267383.

## Preliminary Results from a Phase 1 Study of ALKS 2680, an Orexin 2 Receptor Agonist, in Healthy Participants and Patients with Narcolepsy or Idiopathic Hypersomnia

**Brendon Yee**,<sup>1</sup> Julia Chapman,<sup>1</sup> Ron Grunstein,<sup>1</sup> Christopher Argent,<sup>2</sup> Angela D'Rozario,<sup>1</sup> Craig Hopkinson,<sup>3</sup> Jandira Ramos,<sup>3</sup> Ishani Landry,<sup>3</sup> Sergey Yagoda,<sup>3</sup> Bhaskar Rege<sup>3</sup>

<sup>1</sup>Woolcock Institute of Medical Research, Sydney, Australia;<sup>2</sup>Scientia Clinical Research, Ltd., Randwick, Australia; <sup>3</sup>Alkermes, Inc., Waltham, MA, USA







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## Financial Relationship Disclosure

Ineligible companies are those whose primary business is producing, marketing, selling, re-selling, or distributing health care products used by, or on patients.

**No**, I HAVE NOT had a financial relationship with an ineligible company in the past 24 months.
**Yes**, I HAVE had a financial relationship with an ineligible company in the past 24 months.

Relationship type	Name of company	
Institutional funding	Alkermes (B. Yee, R. Grunstein, C. Argent); Lilly (B. Yee, R. Grunstein); Takeda (B. Yee, R. Grunstein); Vanda (B. Yee, R. Grunstein)	
Employment	Alkermes (C. Hopkinson, J. Ramos, I. Landry, S. Yagoda, B. Rege)	
Speaker fees	Eisai (R. Grunstein); GlaxoSmithKline (B. Yee); SomnoMed (B. Yee, R. Grunstein); TEVA (B. Yee)	
Advisory Board	Apnimed (R. Grunstein); Lilly (R. Grunstein)	

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## Forward-Looking Statements

Certain statements set forth in this presentation constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, including, but not limited to, statements concerning: the potential therapeutic and commercial value of ALKS 2680 for the treatment of narcolepsy; and the company's expectations regarding plans and timelines for further clinical development activities for ALKS 2680, including study design, dose selection, initiation of the phase 2 study and presentation of additional data from the phase 1 study. The company cautions that forward-looking statements are inherently uncertain. Actual performance and results may differ materially from those expressed or implied in the forwardlooking statements due to various risks, assumptions and uncertainties. These risks, assumptions and uncertainties include, among others: whether ALKS 2680 could be shown to be ineffective or unsafe; whether preclinical and initial clinical results for ALKS 2680 will be predictive of future clinical results or real-world results; potential changes in the cost, scope, design or duration of the ALKS 2680 development program; whether future clinical trials or future stages of ongoing clinical trials for ALKS 2680 will be initiated or completed on time or at all; and those risks and uncertainties described under the heading "Risk Factors" in the company's Annual Report on Form 10-K for the year ended Dec. 31, 2022 and in subsequent filings made by the company with the U.S. Securities and Exchange Commission (SEC), which are available on the SEC's website at www.sec.gov, and on the company's website at www.alkermes.com in the "Investors - SEC filings" section. Existing and prospective investors are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof. Except as required by law, the company disclaims any intention or responsibility for updating or revising any forward-looking statements contained in this presentation.

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# ALKS 2680 Is an Investigational Oral Orexin 2 Receptor Agonist for the Treatment of Narcolepsy

- ALKS 2680 is a highly potent, orally bioavailable, selective OX2R agonist
  - $\circ$  ≥10 fold more potent than orexin A<sup>a</sup>
  - >5,000-fold selectivity relative to OX1R<sup>a</sup>
- Designed to address underlying pathology of narcolepsy and achieve:
  - Improved wakefulness duration and quality, with a PK/PD profile that mirrors natural sleep/wake cycle
  - Cataplexy control
  - $^{\circ}\,$  Low the rapeutic dose with once-daily oral dosing
  - $^{\circ}\,$  Acceptable safety profile with wide the rapeutic window
- ALKS 2680 demonstrated dose-dependent improvements in wake duration and cataplexy control in a mouse model of narcolepsy<sup>b</sup>
- Initial data from the ongoing Phase 1 study, which includes innovative translational approaches, has shown:
  - ° ALKS 2680 is generally well tolerated
  - Proof of concept in patients with narcolepsy type 1

<sup>a</sup>Data from preclinical studies using CHO cells. <sup>b</sup>Orexin DTA mice

CHO: Chinese Hamster Ovary; DTA: diphtheria toxin subunit A; OX1R: orexin receptor type 1; OX2R: orexin receptor type 2; PD: pharmacodynamic; PK: pharmacokinetic

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## Ongoing Randomized, Double-Blind, Placebo-Controlled First-in-Human Study of ALKS 2680



## Ongoing Randomized, Double-Blind, Placebo-Controlled First-in-Human Study of ALKS 2680: SAD and MAD



## ALKS 2680 Was Generally Well Tolerated in Healthy Volunteers in Both SAD and MAD

- Maximum tolerated dose not reached
- Most AEs were mild and observed at doses  $\geq$ 15 mg (SAD) and  $\geq$ 8 mg (MAD)
  - $\,\circ\,$  No severe AEs or serious adverse events (SAEs) were reported
  - ° Most AEs were transient and resolved without intervention or treatment interruption
  - AEs observed in >1 participant (>5%) and deemed related to study drug were:
    - <sup>-</sup> SAD: dizziness, pollakiuria, nausea, and blurred vision
    - MAD: insomnia, dizziness, pollakiuria, and visual disturbance (described as blurred or distorted vision, increased light sensitivity)
- No safety signal identified in vital signs, laboratory parameters, or ECGs
- One participant in MAD discontinued after taking a single 25 mg dose due to transient, non-serious, non-severe AEs that resolved without treatment

AE: adverse event; ECG: electrocardiogram; MAD: multiple ascending dose; SAD: single ascending dose

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# ALKS 2680 Achieved Desired Pharmacokinetic Profile With Once-Daily Dosing



# ALKS 2680 Exhibited CNS Activity in Non-Sleep Deprived Healthy Volunteers

**Dose-Dependent Increase in Frontal Cortex Beta Power** Placebo-corrected percent change from pretreatment baseline Correlation Between Beta Power (Objective Measure) and Karolinska Sleepiness Scale (Subjective Measure)



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## Ongoing Randomized, Double-Blind, Placebo-Controlled First-in-Human Study of ALKS 2680 in Patients With NT1



IH: idiopathic hypersomnia; NT1: narcolepsy type 1; NT2: narcolepsy type 2; PBO: placebo; MWT: Maintenance of Wakefulness Test

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## Demographics and Baseline Characteristics

Demographic Characteristic	Total (N=4)		
Age, years, mean (SD)	23.5 (6.40)		
Female, n (%)	1 (25)		
White Race, n (%)	4 (100)		
Body Mass Index, kg/m <sup>2</sup> , mean (SD)	30.5 (5.45)		
Baseline Disease Severity	Total (N=4)		
Narcolepsy Severity Scale, mean (SD) Severe 29-42, very severe 43-54	39.8 (3.50)		
<b>Epworth Sleepiness Scale</b> , mean (SD) Score >10 suggests excessive daytime sleepiness	16.0 (2.83)		

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## Single Doses of ALKS 2680 Were Generally Well Tolerated

	Placebo	ALKS 2680		
	n=4	1 mg n=4	3 mg n=4	8 mg n=4
Adverse events (AEs) reported as related to study drug, n (%)	0	0	0	4 (100)
Insomnia	0	0	0	3 (75)
Pollakiuria	0	0	0	2 (50)
Salivary hypersecretion	0	0	0	2 (50)
Blood pressure increased	0	0	0	1 (25)
Bruxism	0	0	0	1 (25)
Dizziness	0	0	0	1 (25)
Hyperhidrosis	0	0	0	1 (25)

• All AEs were mild in severity; no serious AEs or AEs leading to discontinuation were reported

• No treatment-emergent, clinically meaningful changes in laboratory parameters or ECGs at any dose AE: adverse event; ECG: electrocardiogram

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# ALKS 2680 Significantly Improved Sleep Latency With a Clear Dose Response



# ALKS 2680 Single Dose Time Course Suggests a Therapeutic Dose Between 3 mg and 8 mg in NT1



## Conclusions

Initia	al benefit/risk profile supports continued clinical evaluation of ALKS 2680
ALKS 2680 in Healthy Volunteers (N = 80)	Generally well tolerated up to doses of 50 mg Increased objective and subjective measures of alertness PK/PD profile supports once-daily oral dosing
ALKS 2680 in NT1 Patients (N = 4)	Generally well tolerated at all doses tested; drug-related adverse events only observed at highest dose (8 mg) Statistically significant, clinically meaningful, and durable improvement of sleep latency Profile supportive of once-daily administration Improvement in sleep latency observed at a low therapeutic dose targeted between 3 and 8 mg in narcolepsy type 1
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## Next Steps

- Additional data to be presented at upcoming conferences
- Phase 1b study ongoing in patients with narcolepsy and patients with idiopathic hypersomnia
- Phase 2 study planned for first half of 2024

## Acknowledgments

- The authors would like to thank:
  - $^\circ$  The volunteers and patients who are participating in this study and their families
  - $^{\circ}$  The investigators and research staff
- This study is sponsored by Alkermes, Inc.





