

LanzaTech

May 22, 2023

Via EDGAR

U.S. Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Washington, D.C. 20549

Attn: Jordan Nimitz
Jane Park

**Re: LanzaTech Global, Inc.
Registration Statement Filed on Form S-1 (the "Registration Statement")
File No. 333-269735**

Ladies and Gentlemen:

Pursuant to Rule 461 under the Securities Act of 1933, as amended, LanzaTech Global, Inc. (the "Company") hereby respectfully requests that the effective date for the above-referenced Registration Statement be accelerated to 4:00 p.m., Eastern Time, on May 24, 2023, or as soon as practicable thereafter.

Please contact Kerry S. Burke of Covington & Burling LLP at (202) 662-5297 or kburke@cov.com with any questions you may have regarding this request. In addition, please notify Ms. Burke by telephone when this request for acceleration has been granted.

Respectfully,
LanzaTech Global, Inc.

By: /s/ Geoff Trukenbrod
Name: Geoff Trukenbrod
Title: Chief Financial Officer

cc: Kerry S. Burke, Covington & Burling LLP
Brian K. Rosenzweig, Covington & Burling LLP