



## OFFICE OF ATMOSPHERIC PROTECTION

WASHINGTON, D.C. 20460

November 6, 2023

Mr. Nicholas Poole  
Technical Manager  
Refrigerant Solutions Limited  
8 Murieston Road  
Hale, Altrincham, Cheshire, WA15 9ST  
United Kingdom

Re: Incompleteness Determination of SNAP Submission for R-480A in MVACs, Chillers, Cold Storage Warehouses, Refrigerated Transport, Vending Machines, Water Coolers, Commercial Ice Machines, and Cellar Cooling

Dear Mr. Poole:

Thank you for Refrigerant Solutions Limited's submission to the U.S. Environmental Protection Agency (EPA). The EPA established the Significant New Alternatives Policy (SNAP) program to implement section 612 of the Clean Air Act. Your application, received on August 2, 2023, has been reviewed for completeness. We have found the submission to be incomplete. The following information is necessary in order to allow the agency to continue the review of Refrigerant Solutions Limited's submission for R-480A.

1. *Specific End-Use.* In Part I, Section B, Number 2 and Part IV, Section A, Number 1 of the SNAP Information Notice, R-480A is proposed for an additional refrigeration and air conditioning end-use in the "Cellar Cooling" application.
  - a. In Part IV, Section A, Number 2, please provide additional end-use description for the "Cellar Cooling" application, including whether the application is for refrigeration or air conditioning use and types of locations where the equipment will be used (e.g., residential, commercial).
  - b. Please indicate in Part IV, Section A, Number 9 the applicable end-use specific standard(s) for the "Cellar Cooling" application.
2. *Exposure Concentrations.* In Part IV, Section D, Number 1a, the Occupational Exposure Limit (OEL) for the proposed substitute is listed at 1,000 ppm. In Part IV, Section D, Number 2 the typical and maximum worker concentrations are both listed at 1,000 ppm during all stated activities (i.e., manufacture and charging, installation and serving, and disposal).

- a. Please confirm the typical and maximum worker exposure concentrations for use of the proposed substitute.
  - b. Please confirm if the expected typical worker exposures account for the use of Personal Protective Equipment (PPE) (i.e., would the provided value be lower with the use of PPE?).
  - c. If the expected typical worker exposure is anticipated to equal the OEL of the proposed substitute, please elaborate on additional personal protective measures taken by technicians during installation and servicing to limit worker exposure (e.g., the required use of PPE such as protective work clothing, and suitable respiratory protection in case of accidental release of insufficient ventilation, consistent with OSHA guidelines). Alternatively, if the expected typical worker exposure is anticipated to be below the OEL of the proposed substitute, please provide a revised estimate.
  - d. If the expected typical worker exposure is anticipated to equal the OEL of the proposed substitute, please elaborate on what additional engineering control measures are taken during installation and servicing to limit worker exposure (e.g., automated closed systems, workplace and employee monitoring, ventilation).
3. *Toxicity Limits*. In Part IV, Section D, Number 1a, the OEL for the proposed substitute is listed at 1,000 ppm. However, in Part III, Section A, Number 13, the OEL for the proposed substitute is listed at 900 ppm.
- a. Please confirm the OEL value for the proposed substitute.
  - b. Please indicate if the typical and maximum worker exposure concentrations are anticipated to exceed the OEL of the proposed substitute.
4. *MVAC Technology Changes*. In Part IV, Section A, Number 3, the submission indicates there are no technology changes needed for any type of vehicle in the MVAC sector. According to 40 CFR part 82 subpart G, “refrigerant used in motor vehicle air conditioning may only be used with a set of fittings that is unique to that refrigerant.”
- a. Noting that unique servicing fittings are required to retrofit MVAC systems, please describe your plans to implement such requirements. Refer to 40 CFR part 82, subpart G, Appendix H, for the criteria for uniqueness of fittings, [linked here](#).

Here is a summary of information concerning your submission:

Substitute name: R-480A

Sector: Refrigeration and Air Conditioning

End-uses: MVACs, Chillers, Cold Storage Warehouses, Refrigerated Transport, Vending Machines, Water Coolers, Commercial Ice Machines, and Cellar Cooling

New or retrofit usage: New and retrofit equipment

Date received: August 2, 2023  
Status of submission: Incomplete

The information requested above is necessary for us to continue our review. If you have any questions about your submission or to make arrangements for secure transmission of any confidential business information, please contact me at (202) 564-2473. You may instead send the information via e-mail, at [Silver.Joshua@epa.gov](mailto:Silver.Joshua@epa.gov), if you are willing to accept the risks associated with e-mail transition.

Sincerely,

A handwritten signature in black ink that reads "Joshua Silver". The signature is written in a cursive style with a large initial 'J' and a long, sweeping underline.

Joshua Silver  
Case Manager  
Technology Transition Branch  
Stratospheric Protection Division