

## FACT SHEET

### FINAL RULE TO EXCLUDE 2,3,3,3-TETRAFLUOROPROPENE FROM CONTROL AS A VOLATILE ORGANIC COMPOUND (VOC)

#### ACTION

- On September 19, 2013 the Environmental Protection Agency (EPA) issued a final rule that identified 2,3,3,3-tetrafluoropropene (also known as HFO-1234yf) as a chemical compound that will no longer be regulated as a volatile organic compound (VOC) under the Clean Air Act for purposes of meeting the national ambient air quality standards for ozone. EPA will add HFO-1234yf to the list of negligibly reactive compounds in EPA's regulatory definition of VOC.
- Some VOCs contribute significantly to the formation of ground-level ozone (smog). Exposure to ground-level ozone can cause serious respiratory illness.
- EPA is taking this action because scientific evidence shows that HFO-1234yf is "negligibly reactive," meaning it contributes little or nothing to the formation of smog.
- This action allows, but does not require, states to remove regulatory controls on this compound that are part of State Implementation Plans designed to meet the ground-level ozone standards. This enables industry to use HFO-1234yf with fewer restrictions.

#### BACKGROUND

- HFO-1234yf has been developed by industry for use in automobile air conditioners and can be used to replace the currently used HFC-134a which has a much higher global warming potential (GWP) than HFO-1234yf.
- A compound may be excluded as a VOC as a result of public petitions and scientific data that demonstrate its negligible effect on the formation of smog. Since 1977, EPA has removed over 60 specific compounds or classes of compounds from the list of VOCs that contribute to smog formation.
- EPA's policy on VOCs was codified on February 3, 1992, in a revised regulation, "Requirements for Preparation, Adoption, and Submittal of State Implementation Plans." Additional guidance was given in the September 13, 2005, "Interim Guidance on Control of Volatile Organic Compounds in Ozone State Implementation Plans."
- EPA has carefully reviewed the available scientific data before making a final decision to exclude HFO-1234yf from regulation as a VOC.
- The presence of HFO-1234yf in the air will not negatively impact human health or the environment.
  - Due to its low photochemical reactivity, HFO-1234yf is considered to be negligibly

reactive in the formation of tropospheric ozone and is not expected to contribute to violations of the national ambient air quality standards.

- Also, HFO-1234yf has a low GWP compared to other compounds currently used in automotive air conditioning systems as a refrigerant. Therefore, from the aspect of global warming, HFO-1234yf will be a considerable improvement over the compounds it replaces.
- HFO-1234yf is not listed as a hazardous air pollutant under the Clean Air Act.
- Since HFO-1234yf contains no chlorine, it does not deplete stratospheric ozone.
- By excluding this compound as a VOC, today's action would make it easier and less expensive for industry to use this compound.

### **FOR MORE INFORMATION**

- To download this final rule from EPA's Web site, go to Recent Actions at <http://www.epa.gov/airquality/ozonepollution/actions.html>.
- Today's action and other background information are also available either electronically at <http://www.regulations.gov>, EPA's electronic public docket and comment system, or in hardcopy at the EPA Docket Center's Public Reading Room.
  - The Public Reading Room is located at EPA Headquarters, room number 3334 in the EPA West Building, 1301 Constitution Avenue, NW, Washington, DC. Hours of operation are 8:30 a.m. to 4:30 p.m. eastern standard time, Monday through Friday, excluding Federal holidays.
  - Visitors are required to show photographic identification, pass through a metal detector and sign the EPA visitor log. All visitor materials will be processed through an X-ray machine as well. Visitors will be provided a badge that must be visible at all times.
  - Materials for this proposed action can be accessed using Docket ID No. EPA-HQ-OAR-2010-0605
- For further information about the proposed rule, contact Mr. David Sanders of EPA's Office of Air Quality Planning and Standards, at (919) 541-3356 or by e-mail at [sanders.dave@epa.gov](mailto:sanders.dave@epa.gov).