

FACT SHEET

Air Quality: Revision to the Regulatory Definition of Volatile Organic Compounds – Exclusion of 1,1,2,2-Tetrafluoro-1-(2,2,2-trifluoroethoxy) ethane (HFE-347pcf2)

ACTION

- On July 20, 2016, the U.S. Environmental Protection Agency (EPA) issued direct final revisions to the regulatory definition of volatile organic compounds (VOC) under the Clean Air Act. This action adds 1,1,2,2-Tetrafluoro-1-(2,2,2-trifluoroethoxy) ethane (also known as HFE-347pcf2; CAS number 406-78-0) to the list of compounds excluded from the regulatory definition of VOC because it makes a negligible contribution to ground-level ozone formation.
- HFE-347pcf2 may be used in a variety of applications as a precision cleaning agent to remove contaminants such as oil, flux, and fingerprints from items such as medical devices, artificial implants, crucial military and aerospace items, electric components, printed circuit boards, optics, jewelry, ball bearings, aircraft guidance systems, film, relays, and a variety of metal components.
- Some VOCs contribute significantly to the formation of ground-level ozone. Exposure to ozone can cause serious respiratory illness.
- This action is based on consideration of HFE-347pcf2's contribution to ground-level ozone and the low likelihood of risk to human health or the environment associated with its use as an exempt compound.
- This action would allow, but does not require, states to remove regulatory controls on HFE-347pcf2 that are part of State Implementation Plans designed to help states meet the ground-level ozone standards. This enables industry to use HFE-347pcf2 with fewer restrictions.
- EPA is issuing these changes as a direct final rule because the changes are noncontroversial and no adverse comments are anticipated. If adverse comments are received, EPA will address the comments in a subsequent final rule based on the parallel proposal that is being issued in conjunction with the direct final rule.
- This direct final rule will be effective 60 days after publication in the *Federal Register*.

BACKGROUND

- A compound may be excluded as a VOC as a result of public petitions and new scientific data that demonstrate its negligible effect on the formation of smog. Since 1977, EPA has removed 61 specific compounds or classes of compounds from the list of VOCs that contribute to smog formation.
- Asahi Glass Company, AGC Chemicals America, Inc. submitted a petition to the EPA on February 5, 2007, requesting that 1,1,2,2-Tetrafluoro-1-(2,2,2-trifluoroethoxy) ethane (HFE-347pcf2) (CAS number 406-78-0) be exempted from the regulatory definition of VOC. The petition was based on the argument that HFE-347pcf2 has low reactivity relative to ethane.
- EPA has carefully reviewed any additional scientific data before making a final decision to exclude this compound from regulation as a VOC.
 - Due to its low photochemical reactivity, HFE-347pcf2 is considered to be negligibly reactive in the formation of ground-level ozone and is not expected to contribute to violations of the national air quality standards.
 - Can we say anything about global warming potential?
 - HFE-347pcf2 as a cleaning solvent has a lower stratospheric ozone depletion potential than other solvents, and given its available toxicity data, it is less harmful compared with other chemicals used for the same purpose.

FOR MORE INFORMATION

Interested parties can download the rule from EPA's Web site on the Internet under Recent Actions at the following address: <https://www.epa.gov/ozone-pollution/ozone-volatile-organic-compound-voc-exemptions-rules>.

- To view the final rule and any background information related to the rule (use Docket ID No. EPA-HQ-OAR-2015-0041), go to <http://www.regulations.gov>.
- **EPA's electronic public docket and comment system** at <http://www.regulations.gov>.
- **The EPA Docket Center's Public Reading Room** (for hard copies).
 - The Public Reading Room is located at EPA Headquarters, Room Number 3334 in EPA WJC 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. The telephone number for the Public

Reading Room is (202) 566-1744, and the telephone number for the Air and Radiation Docket is (202) 566-1742.

- You will have to show photo identification, pass through a metal detector, and sign the EPA visitor log. Any materials you bring with you will be processed through an X-ray machine as well. You will be provided a badge that must be visible at all times.
- For further information about these actions, contact Souad Benromdhane of EPA's Office of Air Quality Planning and Standards, at (919) 541-4359 or by e-mail at benromdhane.souad@epa.gov.