

# Opteon™ YF

## Automotive Refrigerant

## Product Information

Opteon™ YF is a non-ozone depleting, low global warming potential (GWP) refrigerant that was developed to meet the EU Mobile Air Conditioning (MAC) Directive for phaseout of high GWP refrigerants for automotive air-conditioning. With a GWP of 4 (per AR4), Opteon™ YF readily meets the EU MAC Directive. Opteon™ YF exhibits similar operating conditions compared to HFC-134a (R-134a) and has the potential to replace R-134a in all applications where mild flammability is accepted.

Opteon™ YF is mildly flammable (A2L), but should require only modest design changes to be used in direct expansion mobile air-conditioning systems.

**ASHRAE #:** R-1234yf or HFO-1234yf

**ASHRAE and ISO817 Safety Rating:** A2L

### Applications

- New MAC systems

### Benefits

- Non-ozone depleting hydrofluoro-olefin (HFO)
  - Not subject to phaseout under Montreal Protocol
- Low GWP refrigerant
- Toxicity comparable to R-134a (A rating)
- Good environmental performance, lowest Life Cycle Climate Performance (LCCP) potential of all next generation alternatives
- Similar operating conditions compared to R-134a (similar Pressure-Temperature [P-T] curve)

- Thermally stable under extreme use conditions encountered in a MAC system
- Cooling capacity and energy efficiency similar to R-134a

### Lubricant Recommendation

- PAGs that have been formulated specifically for use with HFO-1234yf
- Compatible with POE lubricants

### Additional Information

- Opteon™ YF cannot be used for retrofit applications.
- Opteon™ YF is mildly flammable compared to R-134a, and may require additional safety measures during implementation, use, and service.
- Opteon™ YF will require use of recovery machines, leak detectors, and identifiers specifically designed for HFO-1234yf.
  - Recovery and recovery/recharge/recycle equipment should meet J2843, J2851, and/or VDA requirements.
  - Leak detectors should meet J2913 and/or VDA requirements.
  - Refrigerant identifiers should meet J2927 or J2912 and/or VDA requirements.
- Opteon™ YF will require use of evaporators specifically designed for HFO-1234yf.
  - Replacement evaporators should meet ISO 13043 and/or SAE J2842.

For more information on the Opteon™ family of refrigerants, or other refrigerants products, visit [opteon.com](http://opteon.com) or call (800) 235-7882.

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