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We request specific use exemptions for Bear Spray and Pepper Spray.

Our main concerns with the ostensible "drop-in replacement" HFO-1234ze revolve around:

1. Reduced deploy distance (due to lower vapor pressure) relative to HFC-134a
2. Flammability (due to lack of suppressibility) relative to HFC-134a
3. Smaller temperature operating range (due to higher boiling point) relative to HFC-134a

We understand the need for all industries to adopt responsible long-term environmental practices, but that of course must be balanced against consumer safety. In the first instance, the reduced deploy distance with HFO-1234ze in Bear Spray products constitutes a very real hazard for many thousands of hikers a year. Guidelines from the IGBC state to deploy if the bear approaches within 20-30 ft; thus every foot counts: <http://igbconline.org/bear-spray/>

The flammability concern affects even greater numbers, primarily in Law Enforcement, although the risk of danger is not as acute. The higher boiling point issue translates to a smaller window of operating temperatures—at cold temperatures, the vapor pressure becomes too low for effective performance.

We currently hold use-exemptions in Canada and other countries for precisely these reasons, and we request that Washington State and other governmental organizations will follow suit until a more effective practical propellant or other solution can be found.