WHAT ARE BLOWING AGENTS?

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PURPOSE: Blowing agents expand spray foam and boost insulation by slowing heat transfer. HFCs were once standard, but environmental concerns have pushed the industry toward cleaner, safer HFOs.

HFC = YESTERDAY'S STANDARD, TODAY'S LIABILITY

- Used in foams, refrigeration, aerosols
- High GWP (100x worse than CO_2)
- Long atmospheric life (15–29 years)
- Banned/restricted in several states

- HYDROGEN
- FLUORINE
- CARBON

HFO = THE FUTURE OF FOAM INSULATION

- Low GWP, zero ozone depletion
- Break down quickly in atmosphere
- Low flammability/toxicity, better R-values
- Not considered VOCs (foam systems still emit VOCs)

SIMILAR TO HFCS, BUT WITH A DOUBLE BOND THAT BREAKS DOWN FASTER IN THE ATMOSPHERE

WHAT'S NEW WITH HFO?

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KEY INNOVATION: CARBON DOUBLE BOND → FAST BREAKDOWN

HFOs (Hydrofluoroolefins) represent the next generation of blowing agent technology — engineered to meet modern environmental standards without sacrificing performance. While they share chemical similarities with HFCs, HFOs are designed with a key structural difference: a carbon-carbon double bond that allows them to break down rapidly in the atmosphere.

COMPLIANCE & FUTURE-PROOFING:

- ALIGNS WITH EPA & STATE MANDATES
- SHOWS LEADERSHIP IN PERFORMANCE AND SUSTAINABILITY

WHY IT MATTERS

Ultra-Low GWP

- GWP as low as 1 — dramatically reduces climate impact compared to HFCs.

No Ozone Depletion

- Safe for the ozone layer and fully compliant with EPA and international regulations.

Short Atmospheric Lifespan

- Breaks down in days instead of years, minimizing long-term environmental effects.

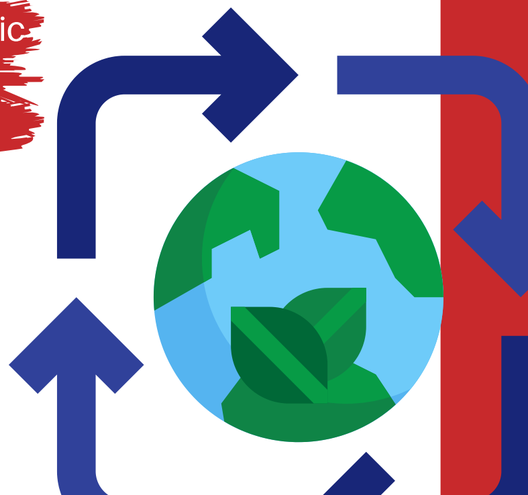
Improved Safety Profile

- Non-flammable, non-toxic, and not regulated as VOCs — safer handling and simpler compliance.

Enhanced Foam Performance

- More consistent cell structure, better adhesion, and reduced cracking or shrinkage.

Volatile Organic Compounds (VOCs)



HFO AND FIELD APPLICATION

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As someone who works with every foam we sell in the field, I've seen both benefits and challenges with HFO-based systems compared to HFCs.

Yield:

- 2" passes: ~4000–4400 bdft (vs. 3600–3800 bdft HFC)
- 1" passes: drops to ~3600 bdft

Sprayability:

- Less smooth, harder to control on detail work

Exothermic Reaction:

- Reacts faster, especially in heat
- Lower peak temperature → safer for thicker lifts

Takeaway:

- Good for thicker passes (up to 3.5" on high lifts)
- Yield loss on thin passes requires cost consideration

THE CHALLENGE: In thin passes, the foam doesn't generate enough internal heat to fully react and expand efficiently — leading to lower yield

Good news: You can spray thicker lifts (up to 3.5" in some cases) without risk of scorching or shrinkage.

PAINT OVER FOAM YIELD

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CLOSED CELL FOAM

Coverage: ~115 sq ft/gallon
Cost: $55–$60/gallon

OPEN CELL FOAM

Coverage: ~100 sq ft/gallon
Cost: $55–$60/gallon

NOTE: COVERAGE DEPENDS ON HOW SMOOTH AND FLAT THE FOAM SURFACE IS. OVER UNEVEN FOAM, EXPECT LOWER YIELD.

SPRAYER SETUP

Pressure: 2,500 PSI
Tip: 517–523
Flow Rate: 0.75 GPM
Hose: ¼" x 50' + ¼" x 6' whip
Filter: 30 mesh (recommend removal)

GENERAL COVERAGE

12 wet mils = 133 sf per gallon
14 wet mils = 115 sf per gallon
16 wet mils = 100 sf per gallon
18 wet mils = 89 sf per gallon
20 wet mils = 80 sf per gallon