United States
Environmental Protection Agency

Air and Radiation
Stratospheric Protection Division
6205J

Foam Sector Substitutes Under SNAP as of April 2000

SNAP Information: http://www.epa.gov/ozone/title6/snap/snap.html
Stratospheric Ozone Protection Hotline: (800) 296-1996

EPA has created the Significant New Alternatives Policy (SNAP) Program under section 612 of the Clean Air Act Amendments. SNAP evaluates alternatives to ozone-depleting substances. Substitutes are reviewed on the basis of ozone depletion potential, global warming potential, toxicity, flammability, and exposure potential as described in the March 18, 1994 final SNAP rule (59 FR 13044). Lists of acceptable and unacceptable substitutes will be updated periodically in the Federal Register. SNAP notices and subsequent final rules included in this list can be found at http://www.epa.gov/ozone/title6/snap/chron.html.

Acceptable Substitutes for CFC Foams Under the Significant New Alternatives Policy (SNAP) Program as of April 2000

Substitute	CFC-11 Rigid Polyurethane & Polyisocyanurate Laminated Boardstock	CFC-11 Rigid Polyurethane, Appliance	CFC-11 Rigid Polyurethane, Commercial	CFC-11 Rigid Polyurethane, Slabstock	CFC-12 Polystyrene, Extruded Boardstock & Billet	CFC-11, CFC-113 Phenolic Insulation Board & Bunstock	CFC-12, CFC-114, CFC-11 Polyolefin[1]
HCFC-123							
HCFC-141b							
HCFC-142b							
HCFC-22							
HCFC-22 / HCFC-141b Blends							
HCFC-141b / HCFC-123 Blends							
HCFC-22 / HCFC-142b Blends							
HCFC-22 / Saturated Light Hydrocarbons C3-C6 Blends							

NOTE:

=Acceptable

1. - Under the Section 610 Non-Essential Use Ban, the sale and distribution or offer for sale and distribution of polyolefin ylene foam when such foam is suitable in shape, thickness and design to be used as a product that provides insulation around pipes used in heating, plumbing, refrigeration, or industrial process systems.

Acceptable Substitutes for CFC Foams Under the Significant New Alternatives Policy (SNAP) Program as of April 2000 (continued)

Substitute	CFC-11 Rigid Polyurethane & Polyisocyanurate Laminated Boardstock	CFC-11 Rigid Polyurethane, Appliance	CFC-11 Rigid Polyurethane, Commercial	CFC-11 Rigid Polyurethane, Slabstock	CFC-12 Polystyrene, Extruded Boardstock & Billet	CFC-11, CFC-113 Phenolic Insulation Board & Bunstock	CFC-11 Flexible Polyurethane	CFC-11 Polyurethane, Integral Skin	CFC-12 Polystyrene, Extruded Sheet	CFC-12, CFC-114, CFC-11 Polyolefin
Formic Acid										
Saturated Light Hydrocarbons C3-C6										
HFC-134a										
HFC-152a										
HFC-143a										
2-Chloropropane										
Electroset Technology										
Carbon Dioxide										
Vacuum Panels										
Methylene Chloride										
Acetone										
AB Technology										
HFC-152a/Saturated Light Hydrocarbon Blends										
Chemical Blend A										

=Acceptable

Unacceptable Substitutes for CFC Foams Under the Significant New Alternatives Policy (SNAP) Program as of April 2000

Substitute	ODS Being Replaced	End-Use	Reason
HCFC-141b	CFC-11	Polyolefin	HCFC-141b has an ODP of 0.11, almost equivalent to that of methyl chloroform, a Class I substance. The Agency believes that non-ODP alternatives are sufficiently available to render the use of HCFC-141b unnecessary in polyolefin foams.

Acceptable Substitutes for HCFC Foams Under the Significant New Alternatives Policy (SNAP) Program as of April 2000								
Substitute	Rigid Polyurethane & Polyisocyanurate Laminated Boardstock	Rigid Polyurethane, Appliance	Rigid Polyurethane, Commercial[1]	Rigid Polyurethane, Slabstock	Polystyrene, Extruded Boardstock & Billet	Phenolic Insulation Board & Bunstock	Integral Skin Polyurethane	Polyolefin
Water								
CO_2								
HFC-134a								
HFC-152a								
HFC-245fa								
Exxsol Blowing Agents								
Saturated Light Hydrocarbons C3-C6								
Formic Acid								
Acetone								

=Acceptable

NOTE:

1. - Saturated Light Hydrocarbons C3-C6 are acceptable as substitutes for HCFC-141b in all foam end-uses, except as HCFC replacements in spray foam applications. (Spray foam applications fall under the Rigid Polyurethane Spray and Commercial Refrigeration, and Sandwich Panels end-use.). The acceptability of hydrocarbons as HCFC-141b replacements in spray foam applications will be determined on a product-by-product basis until standard industry practices/training become more established. EPA may list hydrocarbon blowing agents as acceptable for spray foam applications if companies wishing to distribute or use hydrocarbons in spray foam applications establish safety training programs. Interested parties should contact EPA.