

UNIPLEX FRP 44-57 FLAME RETARDANT

Description: A liquid flame retardant plasticizer containing bromine and chlorine compounds. Improves on low temperature brittleness and lower smoke than conventional brominated phthalate diesters used in wire and cable industry applications.

Applications: Flexible PVC, EPDM, and TPO applications in the wire and cable industries.

Features: Pale yellow liquid
Improved flame retardant efficiency due to bromine/chlorine synergy
Superior electrical properties
Lower smoke (NBS smoke chamber)
Improved low temperature brittleness properties

Typical Properties:
Total esters: 98% minimum
Gardner Color: 3 maximum
Water Content 0.1% maximum
Acid Value: 0.05meq/100g maximum
Thermal Stability
5% Wt. Loss: 295°C

Uniplex FRP 44-57		Date Issued: 6/18/09
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APPLICATIONS IN POLY(VINYL CHLORIDE) WIRE AND CABLE INDUSTRIES

FORMULATION

COMPONENT	phr
PVC Resin (Geon 30)	100
Uniplex FRP-45	Varied
Uniplex 546-A (TOTM)	34.3
Lead Stabilizer	5
Antimony Trioxide	15

CONTROL: 40 phr Uniplex FRP-45

Uniplex FRP 44-57: Total Halogen equivalent to above (Bromine/Chlorine Synergy)

UL1581 - 105°C Rating	UNIPLEX FRP-45	UNIPLEX FRP 44-57
Tensile Modulus at 100% Strain (psi)	1576	1663
Tensile Strength at Break	2883	3391
Elongation (%)	288	371
Shore A Hardness	95	94

TEST	UNIPLEX FRP-45	UNIPLEX FRP 44-57
Oxygen Index	33	36
NBS Smoke Value (ASTM E-662) Smoldering (D_{MC})	180	140
NBS Smoke Value (ASTM E-662) Flaming (D_{MC})	440	328
Low Temp Brittleness, °C (ASTM D-746)	-16	-28