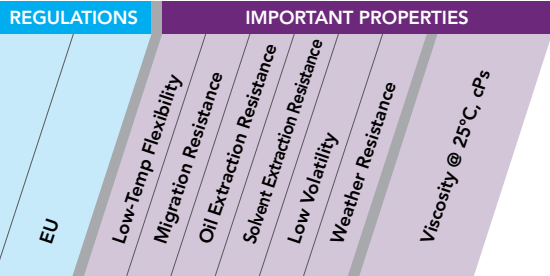


## PLASTICIZER SELECTION GUIDE FOR PVC FOOD CONTACT



**ADDITIONAL LINKS:**  
[PVC Brochure](#)  
[Thermoplastic Modifiers](#)

POLYMERICS												
PRODUCT NAME	CHEMISTRY	FDA	EU	Low-Temp Flexibility	Migration Resistance	Oil Extraction Resistance	Solvent Extraction Resistance	Low Volatility	Weather Resistance	Viscosity @ 25°C, cPs	DESCRIPTION	
Paraplex® A-8000	Adipate	•		3						1,000	Low MW polymeric ester. Offers excellent low-temperature performance. A-8000 also has better permanence, volatility and migration resistance than monomeric plasticizers. Good general performance plasticizer.	
Paraplex® A-8200	Adipate	•		3	3	3	2			720 @ 80°C, cSt	Medium MW polymeric ester. Offers excellent extraction resistance to both polar and non-polar mediums while still offering good low-temperature properties for a polymeric plasticizer. The low-fogging characteristics make A-8200 ideal for use in automotive interiors.	
Paraplex® A-8210	Adipate	•	•	•	•	•	•			2,200	Medium MW polymeric ester. Provides properties of high and low MW plasticizers; that is, permanence and ease of handling. Offers very good low-temperature performance {for a polymeric plasticizer} while offering improved extraction resistance. Good humidity resistance.	
Paraplex® A-8600	Adipate	•		1	3	2	3			900 @ 80°C, cSt	Medium MW polymeric ester. Provides a permanent plasticizer with superior humidity and extraction resistance. Offers excellent resistance to migration as well as polar and non-polar fluids; well suited for use in PVC that is in contact with ABS, polystyrene and lacquers.	
Paraplex® G-25	Sebacate	•	•	1	1	2	1			10,000 @ 80°C, cSt	High MW plasticizer combines plasticizing permanence and excellent compatibility. Ultimate in durability, excellent resistance to extraction in gasoline, oils, detergents and soapy water. Freedom from migration into plastics, rubber, lacquers, alkyds and varnish. Excellent compatibility in PVC resins where no tack or exudation is evident even when exposed to high temperatures and humidity. Outstanding retention of physical properties after prolonged service at elevated temperatures.	
Paraplex® G-40	Adipate	•	•		3					4,100 @ 80°C, cSt	High MW permanent plasticizer offering excellent durability. G-40 has low-volatility, excellent resistance to extraction by hydrocarbon solvents and freedom from migration. Well suited for PVC compounds which are in contact with rubber or rubber-based materials.	
Paraplex® G-41	Adipate	•	•	2	2	1	1			3,000 @ 80°C, cSt	High MW polyester plasticizer, similar to Paraplex® G-40, offering advantages in color, plasticizing efficiency, processing characteristics, compatibility at high plasticizer levels, and resistance to soap and detergent solutions. G-41 also exhibits better compatibility when exposed to high-temperature and high-humidity conditions. Excellent permanence properties in PVC as shown by very low-volatility, resistance to migration into rubber or polystyrene type polymers and very low hydrocarbon extraction.	
Paraplex® G-54	Adipate	•	•	•	•	•	•			45 @ 25°C, TBR	Medium MW polyester developed specifically as a permanent plasticizer in PVC with good high-humidity resistance at elevated temperatures. Well suited for PVC compounds in contact with lacquer, baked enamels, alkyd-type finishes, modified and unmodified polystyrene and rubber or rubber-based compounds. Excellent resistance to migration in rubber-based adhesives and is particularly useful for PVC electrical and surgical tape applications. Outstanding durability and non-fogging characteristics.	
Paraplex® G-57	Adipate	•	•	•	•	•	•			63 @ 25°C, TBR	Medium MW plasticizer, provides a balance of the best properties of high and low MW plasticizers; that is, permanence and handling characteristics of a low MW plasticizer. Also provides high volume resistivity and dielectric strength in standard electrical formulations. In comparison with similar MW plasticizers, G-54 offers faster fluxing, higher tensile strength and greater elongation, as well as better resistance to polar and non-polar fluids, improved migration resistance and easier handling.	
Paraplex® G-59	Adipate	•	•		3					200 @ 25°C, TBR	Medium MW plasticizer with outstanding permanence properties. Offers extraction resistance and low-volatility characteristics, which make it a good choice for a variety of high-temperature, migration-resistant applications.	
Plasthall® P-643	Adipate	•	•							3,800	Low MW plasticizer well suited for applications requiring FDA acceptance. Has extraction and migration resistance superior to typical monomeric plasticizers, especially where stress cracking resistance is important.	

1 - first choice  
 2 - second choice  
 3 - third choice

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REGULATIONS		IMPORTANT PROPERTIES						
FDA	EU	Low-Temp Flexibility	Migration Resistance	Oil Extraction Resistance	Solvent Extraction Resistance	Low Volatility	Weather Resistance	Viscosity @ 25°C, cPs

**ADDITIONAL LINKS:**  
[PVC Brochure](#)  
[Thermoplastic Modifiers](#)

POLYMERICS										
PRODUCT NAME	CHEMISTRY									DESCRIPTION
Plasthall® P-670	Adipate	•	•	3					1,250	Low MW plasticizer noted for its excellent efficiency, processing characteristics and low-temperature properties. Provides good permanence after exposure to humid conditions, soapy water and hexane.
Plasthall® P-953	Adipate		•	2					8,500	High-viscosity polymeric plasticizer that is compatible with PVC. Excellent resistance to oils, fats, aliphatic hydrocarbons and water. It is soluble in organic esters, ketones, ethers, aromatic and chlorinated hydrocarbons.
Plasthall® CF	Mixed Acid Diester, modified Monomeric	•		1					<100	Low-temperature performance and low-fogging characteristic for interior automotive applications.
Plasthall® PR-A200	Adipate	•	•	2					<100	Highly efficient, easy processing, very low-viscosity polymeric plasticizer. Similar handling profile as standard monomeric, yet provides an improvement in the level of resistance to extraction by various media when compared to monomeric such as DOP, DINP and linear phthalates. Excellent cold-flex properties and compares favorably with most phthalates and trimellitates.
Plasthall® PR-A217	Adipate	•	•	2					2,500	Low MW, readily biodegradable polyester adipate. Efficient softener with excellent low-temperature performance. Combination of permanence to polar and non-polar mediums, which makes PR-A217 well suited for general use plastisol applications as well as flexible PVC. Product is "readily biodegradable" (> 95% in 28 days) according to OECD 301B test requirement > 60% in first 10 days.
Dioplex® 904	Adipate		•					2	3,300	Combines excellent extraction resistance with good low-temperature performance. Good resistance to oil and grease. In humid environments, performs just as well as phthalates, of particular value for PVC plastisol applications. Excellent choice for wire and cable applications.
Dioplex® 925	Adipate	•							1,750	Low-viscosity polymeric plasticizer offering good heat stability, water resistance and permanence. Biodegradable (80.6%) according to OECD301B (requiring products to show > 60% biodegradation in 28 days).

1 - first choice  
 2 - second choice  
 3 - third choice