



# Harwick Standard Distribution Corporation

## Plasticizers

Harwick Standard offers a broad line of plasticizers to meet the needs of both rubber compounders and flexible PVC formulators. By offering a large range of products, we provide our customers the versatility of identifying a plasticizer family that is effective with various polymers, and gives several product options from which to choose for optimum performance characteristics - from general use to most demanding requirements.

Harwick Standard's experienced technical and sales staff can assist in selecting the best plasticizer to meet your requirements. Please contact us for assistance with your compounding needs.

### *Non-Phthalate C-9*

Tradename(s)	Chemical Name	Polymer Usage	CAS #	Low Temperature/ Flexibility	Low Volatility	Low Extraction	Heat Aging Resistance	High Solvating	Miscellaneous
Polycizer® DHIN	1,2 cyclohexane dicarboxylic acid di-isononyl ester	R-1,2/P-1	474919-59-0		√				Performance similar to DINP, DOP in NBR compounds

### *Adipates*

Tradename(s)	Chemical Name	Polymer Usage	CAS #	Low Temperature/ Flexibility	Low Volatility	Low Extraction	Heat Aging Resistance	High Solvating	Miscellaneous
Polycizer® DOA	Di(2-ethylhexyl) adipate	R-1,2/P-1,2	103-23-1	√					Low water extraction, UV stability
Merrol® 4206 (DBEA)	Di(butoxyethyl) adipate	R-1,2,3/P-2	141-18-4	√					Very good low temperature resistance
Polycizer DBEEA Merrol 4226	Di(butoxyethoxyethyl) adipate	R-1,2,3	141-17-3	√	√	√	√		Very good low temperature resistance

### Polymer Usage Key

R-1	NBR, NBR/PVC
R-2	CR, CPE, CSM
R-3	ECO, Fluoroelastomers, Polyacrylates
P-1	PVC
P-2	PVAC, PS, ABS, Cellulosics
P-3	Eng, Resins, Polyester, Alloys

## Azelates

Tradename(s)	Chemical Name	Polymer Usage	CAS #	Low Temperature/ Flexibility	Low Volatility	Low Extraction	Heat Aging Resistance	High Solvating	Miscellaneous
Merrol DOZ-E	Di(2-ethylhexyl) azelate	R-1,2/P-1,2	103-24-2	√	√				Excellent low temperature

## Benzoates

Tradename(s)	Chemical Name	Polymer Usage	CAS #	Low Temperature/ Flexibility	Low Volatility	Low Extraction	Heat Aging Resistance	High Solvating	Miscellaneous
Benzoflex® 9-88	Dipropylene glycol dibenzoate	R-1/P-1,2	27138-31-4		√			√	Polyurethanes
Benzoflex 50	Diethylene/dipropylene glycol dibenzoate	R-1/P-1,2	120-55-8/ 27138-31-4		√			√	Water-based adhesives
Benzoflex 2088	Diethylene glycol dibenzoate, triethylene glycol dibenzoate, dipropylene glycol dibenzoate	R-1/P-1,2	Proprietary		√	√		√	High solvator, low VOC's, FDA

## Chlorinated Paraffins

Tradename(s)	Chemical Name	Polymer Usage	CAS #	Low Temperature/ Flexibility	Low Volatility	Low Extraction	Flame Resistance	High Solvating	Miscellaneous
Chloroflo 42	Liquid chlorinated paraffins	R-2/P-1	63449-39-8		√		√		Long chain 20 plus carbons, 40 % Chlorine
Paroil 140	Liquid chlorinated paraffins	R-2/P-1	63449-39-8		√		√		Long chain 20 plus carbons, 42% Chlorine
Paroil 142-LV	Liquid chlorinated paraffins	R-2/P-1	63449-39-8		√		√		Long chain 20 plus carbons, 43 % Chlorine
Paroil 54 NR	Liquid chlorinated paraffins	R-2/P-1	68410-99-1		√		√		Medium chain 14-17 carbons, 54 % Chlorine
Paroil 58 NR	Liquid chlorinated paraffins	R-2/P-1	68410-99-1		√		√		Medium chain 14-17 carbons, 59 % Chlorine
Paroil 60 H	Liquid chlorinated paraffins	R-2/P-1	85535-85-9		√		√		Medium chain 14-17 carbons, 60 % Chlorine
Paroil 63 NR	Liquid chlorinated paraffins	R-2/P-1	68410-99-1		√		√		Medium chain 14-17 carbons, 62 % Chlorine

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### Polymer Usage Key

P-1	PVC
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## *Mono-Esters*

Tradename(s)	Chemical Name	Polymer Usage	CAS #	Low Temperature/ Flexibility	Low Volatility	Low Extraction	Heat Aging Resistance	High Solvating	Miscellaneous
Polycizer Butyl Oleate	N-butyl oleate	R-2/P-2	142-77-8	√					Primary light color plasticizer for polychloroprene
Polycizer MO	Vegetable Oil	R-2	8001-30-7	√	√		√	√	Low & high temperature for polychloroprene
Plasticizer OLN	Oleyl nitrile	R-1	112-91-4			√		√	Low & high temperature for polychloroprene
Natro-Flex® IOT	Isooctyl tallate	R-1,2	68333-78-8	√					Low temperature aliphatic ester for CR, NBR, and PVC

## *Petroleum Process Oils*

Tradename(s)	Chemical Name	Polymer Usage	CAS #	Viscosity SUS @ 40°C 100°F-secs.	Color-ASTM D-1500	Aniline Point °C/°F	Volatility 22 hrs 107/225 °C/°F	Flash Point COC °C/°F	Miscellaneous
Stan-Lube 10	Paraffinic oil	Non-polar	64742-54-7	80	1.5	100/212	0.8	200/590	Light color, good for EPRs
Stan-Lube 15	Paraffinic oil	Non-polar	64741-88-4	150	2.0	105/220	0.6	205/400	Light color, good for EPRs
Stan-Lube 60	Paraffinic oil	Non-polar	64742-54-7	500	2.0	115/240	0.2	270/520	Light color, good for EPRs
Stan-Lube 80	Paraffinic oil	Non-polar	64742-0-14	2500	7.0	127/260	0.01	310/590	Light color, good for EPRs
Stan-Lube 6006	Paraffinic oil	Non-polar	8042-47-5	75	Saybolt D-156 plus 20	105/221	4.9	150/300	Light color, good for EPRs
Stan-Lube 6056	Paraffinic oil	Non-polar	8042-47-5	570	plus 20	120/250	0.3	240/460	Light color, good for EPRs
Duoprime 350	Paraffinic oil	Non-polar	8042-47-5	350	plus 30	115/240	0.2	252/450	Very light colored mineral oil-NF grade

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**Petroleum  
Process Oils  
(con't)**

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Stan-Plas 100/105	Naphthenic oil	R-1	6742-52-5	105	1.5	75/170	10.0	151/305	General Processability
Stan-Plas 101C	Naphthenic oil	R-1	6742-52-5	105	1.5	75/170	10.0	151/305	FDA / General Processability
Stan-Plas 150	Naphthenic oil	R-1	6742-52-5	155	2.0	75/170	6.0	170/335	General Processability
Stan-Plas 300	Naphthenic oil	R-1	6742-52-5	300	2.0	75/170	1.8	195/380	General Processability
Stan-Plas 500	Naphthenic oil	R-1	6742-52-5	520	2.0	85/184	1.0	200/390	General Processability
Stan-Plas 1200	Naphthenic oil	R-1	6742-52-5	1200	2.0	90/195	0.2	230/450	General Processability
Stan-Plas 2000	Naphthenic oil	R-1	6742-52-5	2000	3.5	95/205	0.08	250/480	General Processability
Stan-Flux® LV-1	Aromatic oil	Non-polar	64742-05-8	300	8.0	38/101	0.8	214/420	Dark color, good for SBR, NR, and CR

**Phosphate  
Esters**

Tradename(s)	Chemical Name	Polymer Usage	CAS #	Low Temperature/ Flexibility	Low Volatility	Low Extraction	Flame Resistance	High Solvating	Miscellaneous
Lindol®	Tricresyl phosphate	P-1,2	1330-78-5		√		√	√	Applications in polar elastomers and PVC
Phosflex® 41L Merrol 521	Isopropylated triaryl phosphate/ blend triphenyl phosphate	R-1,2/P-1	68937-41-7/ 115-86-6				√		Applications in polar elastomers-NBR aryl type
Phosflex T-BEP	Tributoxyethyl phosphate	R-1,2,3/P-1,2	78-51-3	√			√	√	Applications in non-polar elastomers EPDM-alkyl type

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**Phosphate  
Esters  
(con't)**

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Phosflex 362	2-Ethylhexyl diphenyl phosphate	R-1,2/P-1,2	1241-94-7				√		Applications in polar elastomers-SBR alkylated aryl type
Phosflex 390	Isodecyl diphenyl phosphate	R-1,2/P-1,2	29761-21-5				√		Applications in polar elastomers-SBR alkylated aryl type

**Phthalates**

Tradename(s)	Chemical Name	Polymer Usage	CAS #	Low Temperature/ Flexibility	Low Volatility	Low Extraction	Heat Aging Resistance	High Solvating	Miscellaneous
Merrol DAP	Diallyl phthalate	R-1,2/P-3	131-17-9					√	Co-curing
Polycizer DBP Merrol DBP	Di-n-butyl phthalate	R-1,2/P-1,2	84-74-2					√	Good emollient for cosmetics
Polycizer DIDP Polycizer DIDP-E	Diisodecyl phthalate	R-1,2/P-1,2	26761-40-0		√	√			General purpose
Polycizer DINP Merrol DINP	Diisononyl phthalate	R-1,2/P-1,2	28553-12-0		√				General purpose
Polycizer DOP Merrol DOP	Di(2-ethylhexyl) phthalate	R-1,2/P-1,2	117-81-7						General purpose
Polycizer DUP-E	Di-n-undecyl phthalate	R-1,2/P-1,2	3648-20-2	√	√		√		Low fogging Also CA grade

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**Polymeric**

Tradename(s)	Chemical Name	Polymer Usage	CAS #	Low Temperature/ Flexibility	Permeability	Migration Resistance	Low Extraction	Heat Aging	Miscellaneous
Admex 334F	Polyester adipate	R-1/P-1,2	Proprietary				√		Excellent compatibility, critical applications
Admex 523	Mixed dibasic acid polyester	R-1/P-1,2	Proprietary			√	√		Widely compatible with low fusion temperature
Admex 760	Polyester adipate	R-1,2/P-1,2	68511-11-5		√	√			Excellent permanence, low water extractability
Admex 761	Polyester adipate	R-1/P-1,2	Proprietary				√		Speciality type polymeric plasticizer
Admex 6187	Polyester adipate	R-1/P-1,2	63149-79-1			√	√		Solvent & oil resistance
Admex 6985	Polyester adipate	R-1/P-1,2	68332-62-7			√	√	√	Very low volatility
Merrol P-6320	Polyester adipate	R-1,2/P-1	68332-61-6	√		√			Solvent & oil resistance, low temperature flexibility
Polycizer P-6400	Polyester adipate	P-1,2	Proprietary		√	√			Excellent for humidity aging and dielectric
Merrol P-6420	Polyester adipate	P-1	63149-79-1			√			Good color

### Sebacates

Tradename(s)	Chemical Name	Polymer Usage	CAS #	Low Temperature/ Flexibility	Low Volatility	Low Extraction	Heat Aging Resistance	High Solvating	Miscellaneous
Polycizer DBS	Di-n-Butyl sebacate	R-1,2/P-1,2	109-43-3	√				√	FDA
Polycizer DOS Merrol DOS	Di(2-ethylhexyl) sebacate	R-2/P-1,2	122-62-3	√		√			Low temperature greases & caulks

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### Specialty

Tradename(s)	Chemical Name	Polymer Usage	CAS #	Low Temperature/ Flexibility	Permeability	Migration Resistance	Low Extraction	Heat Aging	Miscellaneous
Plasticizer SC-B	Triethylene glycol dicaprate/caprylate	R-1,2,3	Proprietary	√				√	FDA
Plasticizer SC-E	Triethylene glycol di(2-ethylhexanoate)	R-1,2,3	94-28-0	√					Flexibility over a wide temperature range
Hercoflex® 600	Pentaerythritol ester of fatty acids	R-1,2	Prop.	√	√	√	√	√	Excellent low and high temperature
Polycizer ESO and ESO-D Merrol E-68	Epoxidized soybean oil	R-1/P-1,2,3	8013-07-8		√	√		√	Good heat stabilizer

### Trimellitates

Tradename(s)	Chemical Name	Polymer Usage	CAS #	Low Temperature/ Flexibility	Permeability	Migration Resistance	Low Extraction	Heat Aging	Miscellaneous
Polycizer TOTM, Polycizer TOTM-E	Tri-2-ethylhexyl trimellitate	R-1,2/P-1,2	3319-31-1		√		√	√	Also E&CA grades, excellent water resistance
Merrol 810TM-E	Tri(n-octyl/n-decyl) trimellitate	R-2	67989-23-5	√	√		√	√	Excellent oxidation and water resistance
Polycizer TINTM	Tri Isononyl trimellitate	R-1,2/P-1,2	5389-23-8		√	√	√	√	Extreme low volatility

### Disclaimer of Liability

The information and recommendations contained herein are based upon data that are believed to be accurate and reliable to be the best of Harwick's knowledge and belief. Application and performance information are provided only as a guide, since the conditions of use are beyond Harwick's control. No warranty is made of the merchantability or fitness for a particular purpose, and Harwick Standard Distribution Corporation shall not be liable for any cost, loss, damage, or liability arising from the failure to achieve a particular result by the application of any method or process that is recommended herein.



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