Elvacite® 2010

Acrylic Resin

Elvacite® 2010 is a medium molecular weight methacrylate polymer. Elvacite® 2010 is excellent for use as a general purpose grade for lacquer coatings, such as barrier topcoats for vinyl. It provides high tensile strength and hardness.

Performance Features and Key Benefits

- Vinyl Topcoats to provide excellent barrier properties.
- General purpose grade for lacquers.

Typical Properties[a]	
Appearance	Solid bead
Specific Gravity, 25° C	1.20
Glass Transition Temp, onset (calculated)	97°C
Molecular Weight (Mw)	75,000
Acid Number (mg KOH/g Resin)	0

a) *Typical physical properties listed are approximate values and should not be considered manufacturer's release specifications. Manufacturer's release specifications are subject to change without notice, please contact your Elvacite® representative for the latest product specification details.*

Preparing Solutions

Elvacite® resins dissolve at room temperature but require constant agitation to prevent solvent-swollen granules of polymer from forming agglomerates and sticking to the walls of the vessel. Important: The polymer beads should be sifted directly into the vortex of the stirred solvent to speed wetting-out and dispersion. Continuous low-shear agitation for periods of 1-12 hours, depending on the grade and concentration of resin, is recommended.

After the solution appears clear in the tank, a sample should be spread out on a Leneta card or glass. After the solvent evaporates and a film forms on the card or glass, there should not be any resin seeds. If there are any seeds, the tank should be agitated further to fully dissolve the resin. Tank agitation should not be stopped (except for sampling) until the film test indicates there are no resin seeds. Any cloudiness or residue may indicate that some polymer remains undissolved. The presence of water in the system can also cause cloudiness.

Solution time can be reduced by heating; most common solvents can be heated to approximately 49°C (120°F) without the need for reflux equipment. High-shear agitation also cuts dissolving time, but requires care to avoid overheating and excessive solvent loss.

Solvent Solubility at 20% solids

Alcohols	I	Ethyl acetate	C	**Ketones**	
Methyl Alcohol	I	Isopropyl acetate	C	Acetone	C
Ethyl Alcohol	I	n-butyl acetate	C	Methyl Ethyl Ketone	C
n-propyl Alcohol	I	n-amyl acetate	H	Methyl Isobutyl Ketone	H
Isopropyl Alcohol	I	Butyl lactate	C	Diisobutyl Ketone	I
Isoamyl Alcohol	I	Propylene glycol monoethyl ether acetate	C	Cyclohexanone	I
Cyclohexanol	I	Methyl amyl acetate	I	Isophorone	I
Ethylene glycol	I			Diacetone Alcohol	C
Glycerol	I	**Ethers**		Methyl amyl ketone	I
		Diethyl Ether	I		
Amides		Diisopropyl ether	I	**Nitrile**	
Formamide	I	Tetrahydrofuran (THF)	C	Acetonitrile	C
Dimethyl formamide (DMF)	C	"Cellosolve" Solvent	C		
				Nitroparaffins	
Chlorohydrocarbons		**Hydrocarbons**		Nitromethane	C
Methylene Chloride	C	Toluene	C	Nitroethane	C
Ethylene dichloride	C	Xylene	I		
Perchloroethylene	H	n-Hexane	I	**Vegetable Oils**	
1, 1, 1-Trichloroethane	I	Cyclohexane	I	Castor oils	I
		VM & P Naphtha	I	Linseed oils	I
Esters		Turpentine	I		
Methyl formate	C				
(C = Clear Solution, H = Hazy Solution, I = Insoluble)					

Solubility of Elvacite® 2010 at 30% solids	
Solvent	**Solubility**
Toluene	C
Acetone	C
Methyl ethyl ketone	C
Dimethyl carbonate	C
Methyl isobutyl ketone	I
n-Butyl acetate	I
t-Butyl acetate	I
Ethyl acetate	C
n-Propyl acetate	C
2-propanol	I
(C= Clear solution, H = Hazy solution, I = Insoluble)	

Viscosity and Gloss

The table below illustrates typical viscosities of Elvacite® 2010 in varying solvents at 30% solids.

Solvent	Viscosity (cP)	Gloss (60°)
Acetone	499	88
Toluene	205	82
Methyl ethyl ketone	240	-
Dimethyl carbonate	397	-
Ethyl acetate	408	-
n-Propyl acetate	966	-

Resin Compatibility

Elvacite® 2010 is compatible with the following Elvacite® Resin Grades: 2008, 2009, 2021, 2041and 2013. It is also compatible with the other types of resins, as illustrated in the following table:

Blending Resin	Description	Form of Blended Resin Tested	Elvacite / Blending Resin (by solids weight) 75/25	50/50	25/75
Alkyd					
Aroplaz 1271	Long linseed drying oil	30% in MEK	I	I	H
Aroplaz 1351	Long castor nondrying oil	30% in MEK	C	C	I
Chempol 13-1410	Safflower drying oil, acrylate modified	50% in Xylene	-	I	H
Paraplex RG-2	Nondrying oil, sebacic	30% in MEK	I	I	I
Plaskon 3105	Short coconut nondrying oil	60% in Xylene	---	H	H
Cellulosic					
Cellulose acetate 39-5-5B		30% in Acetone or MEK	I	I	I
Cellulose Acetate Butyrate, ½ - sec.		30% in MEK	C	C	C
Ethyl Cellulose N-7		30% in MEK	I	I	I
Nitrocellulose "RS", ½-sec Isopropyl		MEK/alcohol soln.	C	C	C
Epoxy					
Epon 828		100% Resin	C	---	C
Epon 1001		30% in MEK	C	C	C
Elastomers					
EMD-504	Polyisobutylene	30% in Toluene	I	I	I
Hypalon 30	Clorosulfonated polyethylene	15% in Toluene	I	I	I
Neoprene AC-Soft	Polychloroprene	15% in Toluene	I	I	I
(C = Clear solution, H = Hazy solution, I = insoluble)					

Resin Compatibility (cont'd)

Blending Resin	Description	Form of Blended Resin Tested	Elvacite / Blending Resin (by solids weight)		
Nitrocellulose "RS", ½-sec Isopropyl		MEK/alcohol soln.	C	C	C
Epoxy					
Epon 828		100% Resin	C	---	C
Epon 1001		30% in MEK	C	C	C
Elastomers					
EMD-504	Polyisobutylene	30% in Toluene	I	I	I
Hypalon 30	Clorosulfonated polyethylene	15% in Toluene	I	I	I
Neoprene AC-Soft	Polychloroprene	15% in Toluene	I	I	I
Rosin Derivatives					
Ester Gum 8L		30% in MEK	H	I	I
Pentalyn 255	Pentaerythritol ester	30% in MEK	H	H	H
Pentalyn 830	Pentaerythritol ester	30% in MEK	H	H	H
Vinyl Chloride Resins					
Bakelite VAGH	Copolymer	30% in MEK	C	C	C
Bakelite VMCH	Copolymer	30% in MEK	C	C	C
Bakelite VYHH	Copolymer	30% in MEK	C	C	C
Bakelite VYNS	Copolymer	15% in MEK	C	C	C
Exon 450	Copolymer	15% in MEK	C	C	C
Exon 9290	Homopolymer	15% in THF	C	C	C
Geon 103 EP	Homopolymer	15% in THF	C	C	C
Other Types					
Arochem 650	Maleic-modified hard resin	30% in MEK	C	C	C
Aroset 4110	Acrylic resin	30% in MEK	C	H	H
Dammar		30% in Toluene	H	I	H
DC-840	Silicone resin	60% in Toluene	C	C	C
Parlon S 10	Chlorinated rubber	30% in MEK	I	I	I
(Clear = Clear solution, H = Hazy solution, I = insoluble					

Resin Compatibility (cont'd)

Blending Resin	Description	Form of Blended Resin Tested	Elvacite / Blending Resin (by solids weight)		
Piccoumaron	Coumarone-indene resin	30% in MEK	C	I	I
Santolite MHP	Sulfonamide-formaldehyde	30% in MEK	C	C	C
Shellac		30% in Methanol	H	I	I
Super-Bechacite 2000	Permanently fusible phenolic	30% in MEK	C	C	C
Uformite MX-61	Triazine-formaldehyde resin	30% in MEK	I	I	I
(C = Clear solution, H = Hazy solution, I = Insoluble)					

Typical Formulation

The following formulation is given as a starting point only. The final formulation will be determined by the coating properties desired.

Starting Formulation for PVC Topcoat (#C1-27)

Ingredients	% by Wt
Elvacite® 2010	5.0
PVC/PVAc Resin	6.0
CAB	0.5
TXIB	3.5
MEK	30.0
MIBK	30.0
THF	25.0
	100.00

Pasadena, Texas, USA

Issue date: January 2022

Mitsubishi Chemical America, Inc., Specialty Resins Division hereby certifies that the country chemical inventory status of Elvacite® 2010 is as follows.

US	CA	AU	CN	KR	NZ	PH	TW	JP	Russian Federation	TH	Vietnam
TSCA	DSL	AIIC	IECSC	KECI	NZIoC	PICCS	TCSI	ENCS	Unified list of chemicals	DIW	NCI
Listed as Active	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Y: Listed

N: Not Listed

For further information or samples, please contact your local distributor, or:

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