

Elvacite[®] 2614

Acrylic Resin

Elvacite[®] 2614 is a low molecular weight methyl methacrylate / n-butyl metacrylate copolymer. It is a fast-dissolving, low viscosity grade with quick solvent release for use in industrial lacquers, aerosols, inks, and coatings for plastics. Elvacite[®] 2614 is softer than the methyl methacrylate grades. Elvacite[®] 2614 is a low odor version of Elvacite[®] 2013.

Performance Features and Key Benefits

- Fast-dissolving grade for use in aerosols, industrial lacquers, inks, and coatings.
- Low viscosity
- Fast solvent release
- Low odor applications

Typical Properties^a

Appearance	Solid bead
Specific Gravity, 25° C	1.15
Glass Transition Temp, onset (calculated)	80°C
Molecular Weight (Mw)	45,000
Acid Number (mg KOH/g Resin)	14.3

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.

Viscosity

Elvacite[®] 2614 is a low molecular weight methyl methacrylate / n-butyl methacrylate copolymer. Table II illustrates typical viscosities of Elvacite[®] 2614 by varying both solvent and resin concentration.

Table II: Elvacite [®] 2614 Viscosity (cP)			
Solvent	Concentration (% Solids)		
	20%	30%	40%
Toluene	---	40	250
Methyl Ethyl Ketone	---	22	80
Isopropyl Acetate	---	45	270
Cellosolve Solvent	25	200	2200

Solvent Solubility at 20% solids

Alcohols		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	C	Methyl Isobutyl Ketone	C
Isopropyl Alcohol	I	Butyl lactate	C	Diisobutyl Ketone	C
Isoamyl Alcohol	I	Propylene glycol monoethyl ether acetate	C	Cyclohexanone	C
Cyclohexanol	I	Methyl amyl acetate	C	Isophorone	C
Ethylene glycol	I			Diacetone Alcohol	C
Glycerol	I	Ethers		Methyl amyl ketone	C
		Diethyl Ether	H		
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	C		
Perchloroethylene	H	n-Hexane	I	Vegetable Oils	
1, 1, 1-Trichloroethane	C	Cyclohexane	I	Castor oils	I
		VM & P Naphtha	I	Linseed oils	I
Esters		Turpentine	I		
Methyl formate	C	Mineral Spirits	I		
(C = Clear Solution, H = Hazy Solution, I = Insoluble)					

Resin Compatibility

Elvacite® 2614 is compatible with the following Elvacite® Resin Grades: 2008C, 2009, 2010, 2014, 2016, 2028, 2021, 2041, 2042, and 2043. It is also compatible with the other types of resins, as illustrated in the following table:

Blending Resin	Description	Form of Blended Resin Tested	Supplier	Elvacite / Blending Resin (by solids weight)		
Alkyd				75/25	50/50	25/75
Aroplaz 1271	Long linseed drying oil	30% in MEK	Reichold	C	H	H
Aroplaz 1351	Long castor nondrying oil	30% in MEK	Reichold	C	C	C
Chempol 13-1410	Safflower drying oil, acrylate modified	50% in Xylene	Cook Composites & Polymer	C	C	C
Paraplex RGA-2/80	Nondrying oil, sebacic	80% in nBuAc	C P Hall Co.	I	I	I
Blagden 3105	Short coconut nondrying oil	60% in Xylene	Blagden Chemicals Ltd	---	H	H
Cellulosic						
Cellulose acetate 39-5-5B		30% in Acetone or MEK	Hercules Inc.	I	I	I
Cellulose Acetate Butyrate, ½ - sec.		30% in MEK	Eastman Chemical	C	C	C
Ethyl Cellulose N-7		30% in MEK	Hercules Inc.	I	I	I
Nitrocellulose "RS", ½-sec Isopropyl		MEK/alcohol soln.	Hercules Inc.	C	C	C
Epoxy						
Epon 828		100% Resin	Resolution	C	---	C
Epon 1001		30% in MEK	Resolution	C	C	C
Elastomers						
EMD-504	Polyisobutylene	30% in Toluene	Exxon Chemical	I	I	---
Hypalon 30	Clorosulfonated polyethylene	15% in Toluene	Dupont Polymers	I	I	---
Neoprene AC-Soft	Polychloroprene	15% in Toluene	Dupont Polymers	I	I	---
Rosin Derivatives						
Ester Gum 8L		30% in MEK	Hercules Inc.	---	H	H
Pentalyn 255	Pentaerythritol ester	30% in MEK	Hercules Inc.	H	H	H
Pentalyn 830	Pentaerythritol ester	30% in MEK	Hercules Inc.	H	H	H
Vinyl Chloride Resins						
UCAR® Solution Vinyl VAGH	Copolymer	30% in MEK	Union Carbide	C	C	C
UCAR® Solution Vinyl VMCH	Copolymer	30% in MEK	Union Carbide	C	C	C
UCAR® Solution Vinyl VYHH	Copolymer	30% in MEK	Union Carbide	C	C	C
UCAR® Solution Vinyl VYNS	Copolymer	15% in MEK	Union Carbide	C	C	C

Exon 450	Copolymer	15% in MEK	Freestone Plastics	C	C	---
Exon 9290	Homopolymer	15% in THF	Freestone Plastics	C	C	C
Geon 103 EP	Homopolymer	15% in THF	B.F. Goodrich	C	C	C
Other Types						
Arochem 650	Maleic-modified hard resin	30% in MEK	Reichold	C	C	C
DC-840	Silicone resin	60% in Toluene	Dow Corning Corp.	C	C	C
Parlon S 10	Chlorinated rubber	30% in MEK	Hercules Inc.	C	C	C
Piccoumaron	Coumarone-indene resin	30% in MEK	Hercules Inc.	C	C	C
Santolite MHP	Sulfonamide-formaldehyde	30% in MEK	Monsanto Co.	C	C	C
Super-Bechacite 2000	Permanently fusible phenolic	30% in MEK	Reichold Chemicals	C	C	C
Uformite MX-61	Triazine-formaldehyde resin	30% in MEK	Rohm & Haas Co.	C	H	I
<i>(C=Clear solution, H=Hazy solution, I=Insoluble)</i>						

Typical Formulation

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

Automotive Refinish Clear Lacquer (#B2-2)

Ingredients	% by Wt
Elvacite® 2614	24.10
CAB 381 – 2	8.05
TXIB	8.05
Methyl Isobutyl Ketone	14.96
Isopropyl Alcohol	5.97
Toluene	35.26
Methyl Amyl Ketone	3.61
	<hr/> 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® 2614 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:

Mitsubishi Chemical America, Inc.

Specialty Resins Division
9675 Bayport Blvd.
Pasadena, Texas 77507
Phone (713)758-8190
www.m-chem.com/specialtyresins
MCA-SPR.sales@m-chem.com

The recommendations, suggestions and data contained herein are believed to be true and accurate as of the time of printing. Mitsubishi Chemical America, Inc. does not represent, warrant or guarantee the completeness or reliability of the same, since the conditions of use, including in combination with other products, are beyond our control and can affect the performance and properties of our products. The user is solely responsible for confirming that our product is suitable for the intended end use, and for compliance with all legal regulations and patents. Other than compliance with published Mitsubishi Chemical America, Inc. specifications for the warranty period if properly handled, and except as required by law, MITSUBISHI CHEMICAL AMERICA, INC. MAKES NO WARRANTIES, EXPRESS OR IMPLIED, ORAL OR WRITTEN, ARISING BY LAW, CONTRACT, STATUTE OR OTHER LEGAL THEORY OR OTHERWISE, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ANY WARRANTY ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If a product is found to be defective during the warranty period, user's sole remedy and our sole obligation is, at our option, replacement of the affected product or refund of the purchase price. Except as required by law, we are not liable for any damage, harm or loss resulting from our product, whether direct, indirect, consequential, incidental or special, and irrespective of legal theory asserted, including strict liability, contract, warranty, or negligence.