Elvacite® 4067

Acrylic Resin

Elvacite® 4067 is a solid acrylic bead resin that has been designed for use in combinations with alkyd resins. The Elvacite® 4067 resin has good compatibility with a wide range of short, medium and long oil alkyds and can be used to shorten drying time of alkyd-based coatings. Elvacite® 4067 may also improve color and color stability, and enhance weatherability.

Performance Features and Key Benefits

- Laquer Coatings to improve pigment dispersion.
- Gravure Inks as the sole binder or as a modifying resin.
- Adhesives for viscosity modification.

Typical Properties[a]	
Appearance	Solid bead
Glass Transition Temp, onset (calculated)	48°C
Molecular Weight (Mw)	55,000
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.

Removable Glass Bottle Ink (Typical Formulation)

Due to the excellent solubility in relatively weak solvents, Elvacite® 4067 can be formulated into inks, which can be relatively easily removed from glass bottles by washing with a mild solvent.

80% Glass

92% Glass (glass needs to a lower melting point that the bottle)

8% Pigment

20% Binder

79% Cetyl alcohol

6-7% Elvacite® 4067

4-5% Staybelite

10-15% Paraffin Wax with melting point 70-72C

1-2% Terjitol XD

Solvent Solubility

Table depicts the solubility of Elvacite® 4067 at 30% solids in various solvents.

Solubility of Elvacite® 4067		
Solvent	**Solubility**	**Rating**
Toluene	S	C
Acetone	S	H
Methyl ethyl ketone	S	C
Dimethyl carbonate	S	C
Methyl isobutyl ketone	S	C
n-Butyl acetate	S	C
t-Butyl acetate	S	C
Ethyl acetate	S	C
n-Propyl acetate	S	C
Methyl acetate	S	C
2-propanol	S	C
Isopropanol	S	C
Parachlorobenzotrifluoride	S	C
Methanol	I	-
Low odor mineral spirits	I	-
(C= Clear solution, S = Soluble, H = Hazy solution, I = Insoluble)		

Viscosity and Gloss

The table below illustrates typical viscosities of Elvacite® 4067 in varying solvents at 30% solids.

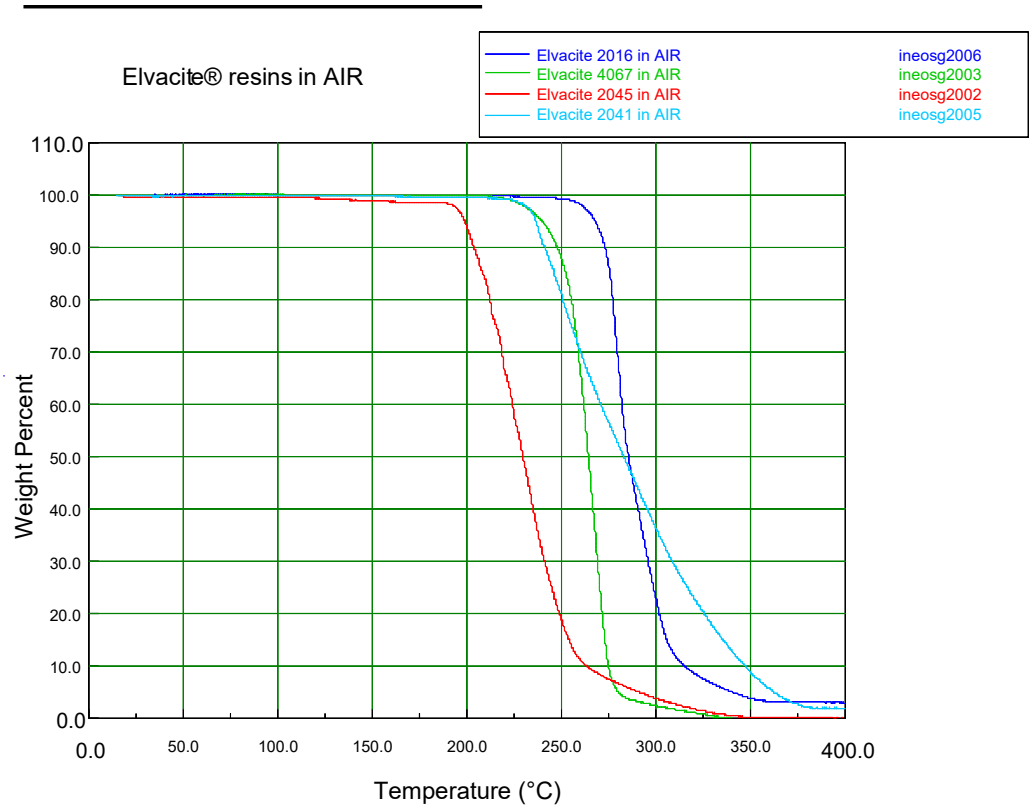
Solvent	Viscosity (cP)	Gloss (60°)
Toluene	40.3	88
Acetone	-	80
Methyl ethyl ketone	20.2	-
Dimethyl carbonate	16	-
Methyl isobutyl ketone	31	-
n-Butyl acetate	44.5	-
t-Butyl acetate	107	-
Parachlorobenzotrifluoride	407	75

Thermal Gravimetric Analysis

Sample Mass = 10-20 mg

Heating Rate = 2°C/minute

Purge Rate = 5.4 Liters/Hour



COMPLIANCE WITH FDA REGULATIONS

Pasadena, Texas, USA Grade: ELVACITE® 4067

Issue date: February 2009

We, MITSUBISHI CHEMICAL AMERICA, INC., Specialty Resins Division, confirm that Elvacite® 4067 complies with the compositional requirements of the following United States of America's Food and Drug Administration (FDA) regulations.

Elvacite® 4067 is cleared for use under the FDA 21 CFR 175.105 for adhesives used as components of articles intended for use in the packaging, transporting, or holding food.

Elvacite® 4067 is cleared for use under FDA 21 CFR 175.300 in resinous and polymeric coatings used as the food contact surface of articles intended for use in producing, packing, processing, preparing, treating, packaging, transporting, or holding food. The coating in its finished form in which it is to contact food is subject to a restriction on its chloroform soluble extractives.

Compliance with the limitation on extractives can only be demonstrated by tests carried out in the final article.

Elvacite® 4067 is cleared for use under FDA 21 CFR 175.320 in resinous and polymeric coatings for polyolefin films, provided it is intended for repeated food contact use as specified in FDA 21 CFR 175.300(a).

The coating in its finished form in which it is to contact food is subject to a restriction on its chloroform soluble extractives.

Compliance with the limitation on extractives can only be demonstrated by tests carried out in the final article.

Elvacite® 4067 is not cleared for use under FDA CFR 176.170 as a component of the uncoated or coated food contact surface of paper and paperboard intended for use in producing, manufacturing, packing, processing, preparing, treating, packaging, transporting or holding aqueous and fatty foods.

Compliance with the limitation on extractives can only be demonstrated by tests carried out in the final article.

Elvacite® 4067 is cleared for use under FDA 21 CFR 176.180 as a component of the uncoated or coated food contact surface of paper and paperboard intended for use in producing, manufacturing, packing, processing, preparing, treating, packaging, transporting, or holding dry food.

Elvacite® 4067 is not cleared under FDA 21 CFR 177.1010 as semirigid and rigid acrylic plastics articles intended for use in contact with food. The semirigid and rigid acrylic plastics in the finished form in which they are to contact food are subject to limitation on extractives

Compliance with the limitation on extractives can only be demonstrated by tests carried out on the final article.

This statement of compliance is correct at the date of issue.
As food contact regulations and product formulations are subject to change, it is the user's responsibility to ensure that they are in possession of a current statement of compliance.

Pasadena, Texas, USA

Issue date: February 2022

Mitsubishi Chemical America, Inc., Specialty Resins Division hereby certifies that the country chemical inventory status of Elvacite® 4067 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