Elvacite® 4345

Acrylic Resin

Elvacite® 4345 is a high molecular weight n-butyl methacrylate polymer. This product is useful in adhesives for smooth plastic films and aluminum, and in silk screen inks. It will plasticize and improve adhesion of harder butyl grades (Elvacite® 2045 and Elvacite® 2046) and nitrocellulose. Elvacite® 4345 can also be used to improve the outdoor durability of vinyl chloride resins in pigmented lacquers.

Performance Features and Applications

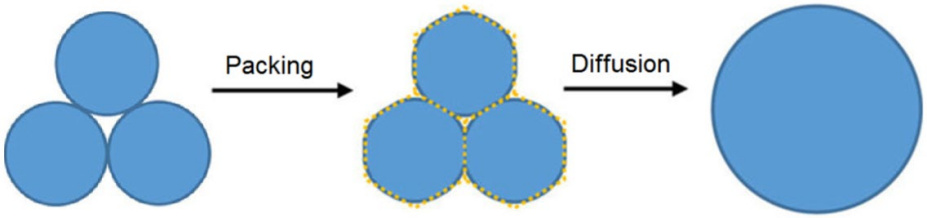
- Silk screen inks
- Adhesives for plastic and aluminum
- Plasticizer for hard butyl methacrylate resins
- Improve outdoor durability of vinyl chloride resins in pigmented lacquers.
- **ANTI-BLOCKING TECHNOLOGY**

Typical Properties[a]	
Appearance	Solid bead
Glass Transition Temp, onset (calculated)	20°C
Molecular Weight (Mw)	210,000
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.*

Problem: current high molecular weight n-butyl methacrylate (Elvacite® 2044)

- Beads made in production are poured into bags.
- Temperature increases in warehouse/shipping to soften beads and fuse them.



Product arrives as a white **BLOCK**

→must be hammered apart for dissolution

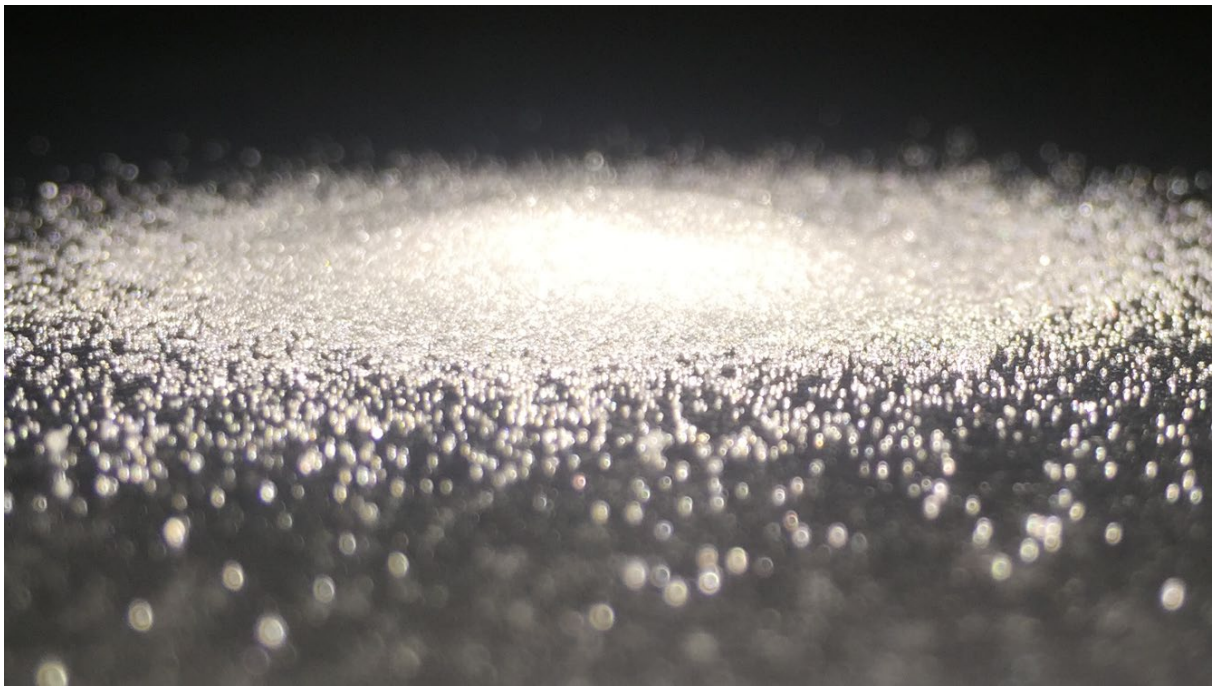
Elvacite® 4345

Anti-Blocking Technology

Beads do not pack and fuse to form a hard block.

After waist high bag drop,

product becomes free flowing beads!



Anti-Blocking Lab Evaluation

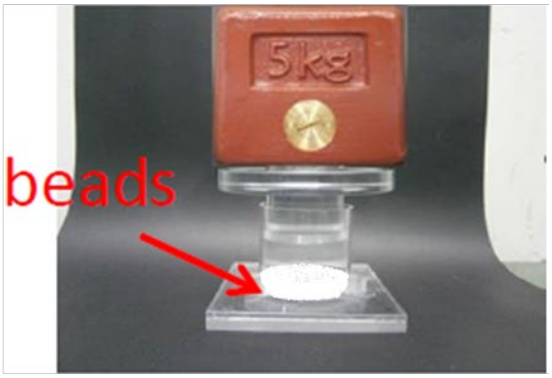
Test Conditions

I. 20 gram of sample are packed

II. Pressed under 5 kg weight

III. 6 hours at 50 °C in oven

IV. Release and shake for 3 mins



	Elvacite® 2044	Elvacite® 4345
Appearance after test		
Pass rate of free flowing beads	0	≥98%

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.

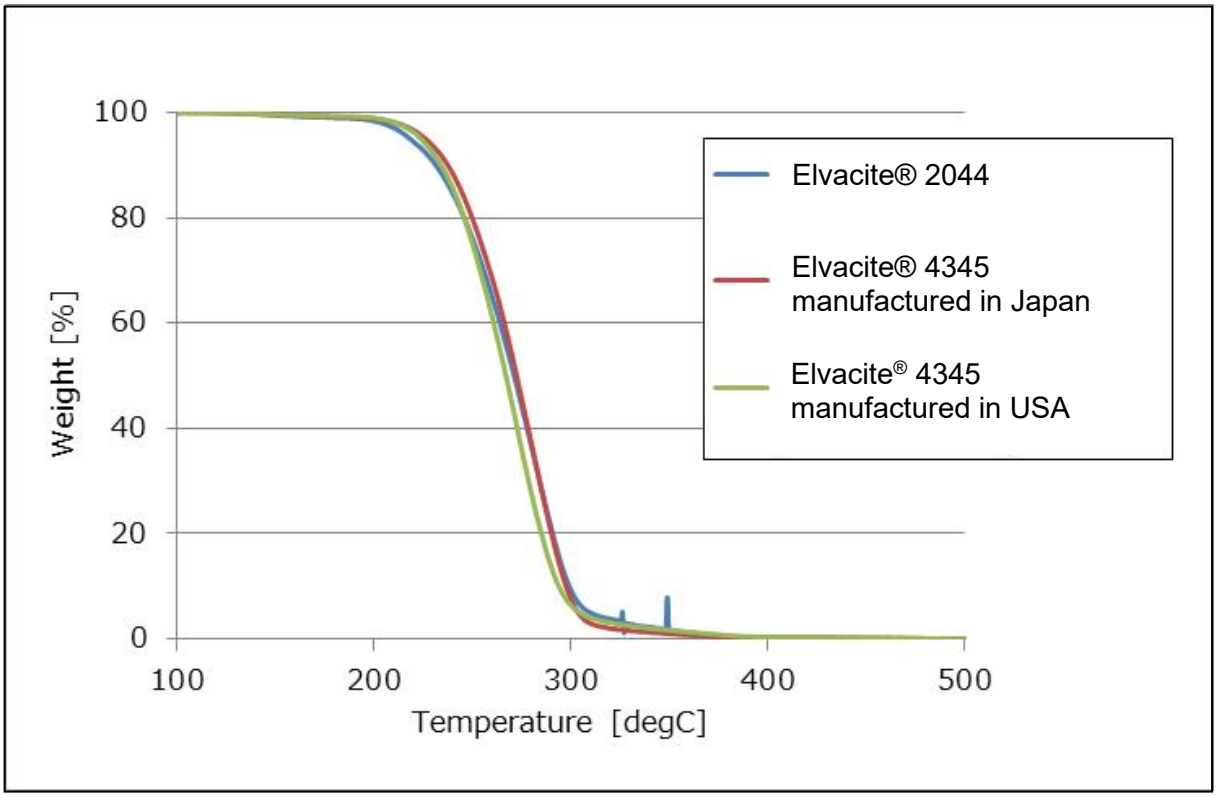
After the solution appears clear in the tank, a sample should be spread out on a Leneta card or glass. After the solvent evaporates and a film forms on the card or glass, there should not be any resin seeds. If there are any seeds, the tank should be agitated further to fully dissolve the resin. Tank 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 of 40% solids in various solvents

Solvent	Elvacite® 4345 Appearance	Elvacite® 2044 Appearance (Control)
Aromatic 100	CLEAR	CLEAR
Ethyl Acetate	CLEAR	CLEAR
Toluene	CLEAR	CLEAR
Isopropyl Alcohol	CLEAR	CLEAR
Mineral Spirits (10% aromatic)	HAZY	CLEAR

Thermal Gravimetric Analysis (in air)



COMPLIANCE WITH FDA REGULATIONS revised April 1, 2019

Pasadena, Texas, USA Grade: ELVACITE® 4345

Issue date: April 2020

We, Mitsubishi Chemical America, Inc., Specialty Resins Division, confirm that Elvacite® 4345 complies with the compositional requirements of the following United States of America's Food and Drug Administration (FDA) regulations.

Elvacite® 4345 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® 4345 is not 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.

Elvacite® 4345 is not cleared for use under FDA 21 CFR 175.320 in resinous and polymeric coatings for polyolefin films, used as the food contact surface of articles intended for use in producing, packing, processing, preparing, treating, packaging, transporting, or holding food.

Elvacite® 4345 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.

Elvacite® 4345 is not 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® 4345 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: June 2022

Mitsubishi Chemical America, Inc., Specialty Resins Division hereby certifies that the country chemical inventory status of Elvacite® 4345 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
PE	PE	N	N	N	N	N	Y	N	N	Y	Y

Y: Listed

N: Not Listed

PE: Listed as an active Polymer Exemption

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

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