

Varisoft® 3690 75%

- Cationic, imparting good softening efficiency
- Particularly suited for specialized fabric softeners
- Good rewettability
- Reduces static cling and wrinkling

Chemical and Physical Properties (Not Part of Specifications)

Form, 25°C	Clear liquid
Gardener color, max. (1963)	7
pH (5% in 50:50 water/IPA)	5.0–6.5
Total solids, %	74–76
Isopropanol content, avg., %	23
Specific gravity, avg.	0.95
DOT classification	Flammable
Pensky–Martens flash point, °F	65

Product Description

VARISOFT® 3690 75% is a 1-methyl-1-alkylamidoethyl-2-alkylimidazolium methosulfate. It is a low viscosity clear liquid system designed to produce fluid dispersions used for softening fabrics and tissue or as paper debonding agents. VARISOFT® 3690 75% is cationic, imparting good softening efficiency because of its substantivity to fabric. It is particularly suited for specialized fabric softeners giving treated fabrics that soft and fluffy feel, and it imparts good rewettability. VARISOFT® 3690 75% reduces static cling and wrinkling, and makes fabrics easier to iron.

Formulations

VARISOFT® 3690 75% based softeners for household and commercial laundry use can be made in a wide range of concentrations (% solids). A range of 4–8 percent is usually preferred for household, bottled products. Commercial laundry liquid systems of nominally 25% can also be prepared. The addition of salt and a solvent such as isopropanol or hexylene glycol may be necessary to couple and control the viscosity of these high active systems.

Parts Required for Desired Concentration

	4 wt.%	5 wt.%	6 wt.%	8 wt.%
VARISOFT® 3690 75%	5.4	6.7	8.0	10.8
Water	94.6	93.3	92.0	89.2

Charge water to a suitable mixing vessel; add VARISOFT® 3690 75% to the water with mild agitation. Continue mixing for 15–30 minutes. Then add coloring, perfume or brighteners. Although satisfactory dispersions can be made from cool water, optimum dispersion stability and appearance are obtained by using warm water of 90–120 °F. In most cases, VARISOFT® 3690 75% should be warmed to clarity, preferably 80–100 °F, prior to mixing. Dyes found to be suitable are Calco Blue ZU (American Cyanamid) and Maxilon not TSCA (Ciba, Geigy Corporation). Liquid brighteners are easiest to use; Tinopal UNPL (Ciba–Geigy Corporation) and Artic White CC not in TSCA (Hilton Davis) are effective at levels of 0.05 to 0.15 percent. The use of a suitable preservative such as methyl parasept or sodium benzoate may be desirable.

Application

The amount to use in the last deep rinse of the wash cycle will depend on the concentration of your product. Recommended use levels for 8–10 pounds wash loads are as follows:

If the softener has:	4% solids	6% solids	8% solids
Use label directions of	3–3½ oz.	2–2½ oz.	1½ – 1¾ oz.

These amounts are calculated by dividing product concentration into 13 to get ounces per wash load.

$$13 \div \text{concentration percentage} = \text{ounces/load}$$

A 6% solids softener is especially suitable for packeting to be dispensed from coin-operated vending machines in self-service laundries. The ideal package contains 2 to 2½ ounces of softener as the proper amount for a single wash load.

Service

Fabric softeners are a specialty with Evonik Corporation. Production, service and research capability spans the chemistry of imidazolines, amidoamines, and fatty amines and their derivatives such as methyl sulfate and chloride quaternary salts. Contact your local Evonik representative for further information on formulation assistance or custom synthesis.

Toxicology

A 5% dispersion of VARISOFT® 3690 75% was submitted for screening for eye irritation potential on 3 rabbits. All 3 gave positive responses. The consulting laboratory thus classified the 5 percent dispersion to be mildly irritating to the eye. The primary skin irritation index was 3.3 showing the 5 percent dispersion to be nonirritating to the skin (F.H.S.A.). The 75% active material was tested as is and found to have an LD50 in excess of 20 g/kg, thus considered to be nontoxic (F.H.S.A.) orally. The concentrate was also found to be eye and skin corrosive under F.H.S.A. interpretations. It was not DOT skin corrosive.

Packaging

425 lb drum

Hazardous goods classification

Information concerning

- Classification and labeling according to
- Regulations for transport and for dangerous substances,
- Protective measures for storage and handling
- Measures in case of accidents and fires
- Toxicity and ecological effects

is given in our Material Safety Data Sheets.

Product Safety

Please refer to our Material Safety Data Sheet (MSDS) or contact your local representative for more information.

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