

Technical Information

TEGOMER® DA 640

TEGOMER® DA 640 is an anionic modified polyether to be used for the following main applications:

- dispersing of fillers, inorganic and organic pigments in water-based systems
- flocculation of inorganic pigments or fillers even in the presence of a high electrolyte content
- emulsifier for the polymerization

Physical properties

Active content	29.0 - 31.0 %
pH value	8.0 - 9.0
Viscosity (25 °C)	100 - 500 mPas
Appearance (25 °C)	Liquid, slightly yellowish coloured

Application

TEGOMER® DA 640 is a liquid dispersing additive used for surface wetting to improve the dispersion properties of:

- inorganic fillers e. g. talc, barium sulfate
- inorganic pigments e. g. titanium dioxide, ultramarine blue, iron oxides
- organic pigments and carbon blacks with higher addition levels

TEGOMER® DA 640 is suitable at lower addition levels to be used as flocculent for inorganic particles only, e.g. titanium dioxide, metal hydroxides.

TEGOMER® DA 640 is used in pigment manufacturing processes as a TMP (Trimethylol propane) replacement.

TEGOMER® DA 640 is a primary or secondary emulsifier for the polymerization of acrylates or PVAc.

Starting formulation can be found on page 2 of this leaflet.

Dispersion type / continuous phase	0	5
Water-based dispersions		
Mineral oil vegetable oil		
Plasticizer (adipates, Phthalates)		
Polyol		
Sealants (TEGOPAC, VS Polymer)		
Epoxy resins, UP-resins		

0 = no effect, 5 = highly recommended

Dosage

TEGOMER® DA 640 should be added to the water-based resin or to the water before adding the pigment/filler. Pre-dilution is not necessary but possible in any ratio with water.

In case of a foam build up during grinding or pumping, add TEGO® Antifoam 1488 with 0.1 % (dosage recommendation for a first trial). Alternative defoaming agents are TEGO® Antifoam 2291 and TEGO® Antifoam D 2315.

The required dosage level depends on the nature of the particle.

	% AOP* (100 % dispersant)	% AOP TEGOMER® DA 640
Filler	0.2 - 2.0 %	0.7 - 7.0 %
Inorganic Pigment	1.0 - 5.0 %	3.5 - 16.5 %
Organic Pigment	10 - 30 %	35 - 100 %
Carbon black	10 - 50 %	35 - 165 %
Nano particles	5 - 15 %	17 - 50 %

*AOP = additive on pigment/filler

To flocculate inorganic particles a dosage between 0.5 % and 2.5 % additive on filler/pigment is required. The dosage should be pre-evaluated with settlement trials and further depends on the exchange capacity and time available for the settlement.

TEGOMER® DA 640 can be used as secondary and primary emulsifier with typically 0.5 – 2.5 % calculated on solid content of the polymerized emulsion.

TEGOMER® DA 640 can be easily combined with its non-ionic version TEGOMER® DA 646 especially for polymerization but also for pigment pastes.

TEGOMER® DA 640 is applied as an emulsifier for the polymerization of acrylates or PVAc. Below, a formulation example of a PVAc dispersion:

Pos	Substance	Weight (g)
1	Water	202.00
2	Polyvinyl alcohol. Gohsenol GH-17R	7.70
3	TEGOMER® DA 640 (30 % active)	12.82
4	Ammoniumperoxodisulfate	0.80
5	Water	8.00
6	Natriumacetate Trihydrat	1.40
7	Vinylacetate	150.00
8	Ammoniumperoxodisulfate	0.39

Benefits

- higher filling of pastes at low addition levels in combination with excellent rheological properties and no occurrence of gelling
- higher colour strength and improved hiding power for titanium dioxide pastes
- improved water repellence which goes parallel with the flocculation ability of high density materials
- improved durability due to the hydrophobic character when used for surface treatment

- less abrasion of doctor blades using filler or titanium dioxide pastes for the application of paper coatings
- water-based formulations which contain significant amounts of glycol or other solvents can be stabilized as well
- solvent- and nonylphenol ethoxylate-free emulsifier technology
- pure acrylates as well as those with high EHA content for adhesive formulation reach fine particle size distribution if it is used as emulsifier
- water pick up of emulsions and pigments/fillers is lowered

Registration

The ingredients of TEGOMER® DA 640 are listed in the following chemical inventories: EINECS, TSCA, DSL, AICS, TCCL, PICCS, NZIOC, TCSI

Based on the submitted information of our raw material suppliers we can confirm, that TEGOMER® DA 640 is compliant with EC Regulation 1907/2006 (REACH).

Storage

TEGOMER® DA 640 can be stored for a minimum of 12 months in original sealed containers at room temperature. Do not store below 10 °C because of the water-based nature. Stir before use.

Packaging

200 kg plastic drums (800 kg each pallet)
1 000 kg containers

Hazardous goods classification

Information concerning

- classification and labelling according to regulations for transport and for dangerous substances
- protective measures for storage and handling
- measures in case of accidents and fire
- toxicity and ecological effects

is given in our material safety data sheets.

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