

Product Information

# TEGOMER® DA 646

## PRODUCT DESCRIPTION

TEGOMER® DA 646 is a wetting and dispersing additive based on polyether technology and can be used as dispersant in liquid or solid concentrates. Furthermore TEGOMER® DA 646 is an emulsifier technology to replace APEO in polymer dispersions.

### Typical Properties

Property	Unit	Value
<b>Appearance</b>		liquid, yellowish to red colored, clear
<b>Refractive Index</b> at 25°C		1.506
<b>Viscosity</b> at 25°C	mPa·s	200-800

The data represents typical values (no product specification)

## TYPICAL APPLICATIONS

TEGOMER® DA 646 is a liquid dispersing additive used for the surface treatment of pigments to improve dispersion properties of:

- Organic pigments
- Inorganic fillers e.g. talc
- Inorganic pigments e.g. titanium dioxide, ultramarine blue, iron oxides

TEGOMER® DA 646 can be used for the manufacturing of liquid color pastes, based on oils, polyols or phthalates, containing:

- Organic pigments
- Carbon blacks

Due to its HLB balance the additive is even suitable for the manufacturing of water-based pigment concentrates. These can be used in water-based or hydrophobic let-down systems afterwards. TEGOMER® DA 646 is a primary or

secondary emulsifier for the polymerization of acrylates or PVAc.

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

0 = no effect, 5 = highly recommended

### Product Composition

Product Composition	Unit	Value
<b>Active Content</b>	wt%	100-100

The data represents typical values (no product specification)

## BENEFITS & ADVANTAGES

The use of TEGOMER® DA 646 offers several advantages:

- High loaded pigment pastes or masterbatches
- Excellent rheological properties without gelling in liquid pastes
- Improved durability
- Higher colour strength
- Less speck formation
- Improved mechanical properties
- 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

Surface treated pigments with TEGOMER® DA 646 can be used in hydrophilic and hydrophobic surroundings.

## DOSAGE

Used as dispersant in concentrates, the required dosage level depends on the nature of the solid particle and composition of polymeric formulation to use it in water-based or liquid colour pastes with a hydrophobic continuous phase.

	% AOP* (100 % dispersant)	% AOP TEGOMER® DA 646
Filler	0.2 – 2.0 %	0.2 – 2.0 %
Inorganic Pigment	1.0 – 5.0 %	1.0 – 5.0 %
Organic Pigment	10 – 30 %	10 – 30 %
Carbon black	10 – 50 %	10 – 50 %
Nano particles	5 – 15 %	5 – 15 %

\*AOP = additive on pigment/filler

## HANDLING & PROCESSING

Stir before use.

Formulation example of a PVAc dispersion:

Pos	Substance	Weight (g)
1	Water	211.00
2	Polyvinyl alcohol. Gohsenol GH-17R	7.70
3	<b>TEGOMER® DA 646 (100 % active)</b>	3.85
4	Ammoniumperoxodisulfate	1.53
5	Water	8.00
6	Natriumacetate Trihydrat	1.40
7	Vinylacetate	150.00
8	Ammoniumperoxodisulfate	0.39

Formulation example of an acrylic dispersion:

Pos	Substance	Weight (g)
1	Substance	170.00
2	Water	7.42
3	<b>REWOPOL® SB FA 50 (31 % active)</b>	1.84
4	<b>TEGOMER® DA 646 (100 % active)</b>	72.00
5	Ethylacrylate	76.00
6	Methylmethacrylate	27.00
7	Butylacrylate	5.00
8	Acrylic acid	100.00
9	Water	1.00

## PACKAGING

200 kg drums

950 kg containers

## STORAGE

At temperatures below 15°C slight turbidity can occur. This does not affect the product quality. The product should be stirred and slightly heated to reverse that completely.

## SHELF LIFE

TEGOMER® DA 646 can be stored for a minimum of 12 months in original sealed containers at room temperature.

The shelf life period can be subject to prolongations based on reapprovals in accordance with the established Evonik ISO 9001 quality management process.

## HAZARDOUS SUBSTANCE

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.

## REGISTRATION LISTING SUMMARY

The relevant components of TEGOMER® DA 646 are listed/registered or exempt in the following chemical inventories.

### Registration Listings

Registry	Status
Canada (DSL)	Yes
China (IECSC)	Yes
EU (REACH)	Yes
European Union (EINECS/ELINCS)	Yes
Japan (ENCS)	Yes
Korea (KECL)	Yes
New Zealand (NZIoC)	Yes
Philippines (PICCS)	Yes
Taiwan (TCSI)	Yes
United States of America (TSCA)	Yes

### Disclaimer

This information and all further technical advice are based on our present knowledge and experience. However, it implies no liability or other legal responsibility on our part, including with regard to existing third-party intellectual property rights, especially patent rights. In particular, no warranty, whether express or implied, or guarantee of product properties in the legal sense is intended or implied. We reserve the right to make any changes according to technological progress or further developments. The customer is not released from the obligation to conduct careful inspection and testing of incoming goods. Performance of the product described herein should be verified by testing, which should be carried out only by qualified experts in the sole responsibility of a customer. Reference to trade names used by other companies is neither a recommendation, nor does it imply that similar products could not be used.

### Evonik Operations GmbH

Interface & Performance  
Goldschmidtstraße 100  
45127 Essen, Germany  
Phone Europe +49 201 173-2665  
Phone Asia +86 21 61191 125  
Phone Americas +1 804 727 0700  
interface-performance@evonik.com  
[evonik.click/interface-performance](https://evonik.click/interface-performance)