

Product Information

Dynasylan® HYDROSIL 2776

aqueous oligomeric aminoalkyl-functional silane hydrolysate

PRODUCT DESCRIPTION

Dynasylan® HYDROSIL 2776 is an aqueous oligomeric amino-functional silane hydrolysate. It is a colorless to slightly yellowish aqueous solution with an amine-like odour, miscible with alcohols or water.

Dynasylan® HYDROSIL 2776 can be diluted with water in all proportions (stirring for at least 1 h at RT). During dilution, the oligomeric structure changes and the number of SiOH groups increases. The hydrolysates are long-term stable.

Typical Properties

Property	Unit	Value
Appearance		Dynasylan® HYDROSIL 2776 is a clear or slightly yellowish liquid.
Color ISO 6271; Unit: mg Pt-Co/l		≤300
Density (20 °C) DIN 51757	g/cm ³	1.0-1.1
Flash Point, min. DIN EN 22719	°C	95
pH Value (20 °C) DIN 19268		10.0-11.4
Viscosity (20 °C) DIN 53015	mPa·s	4-8

The data represents typical values (no product specification)

TYPICAL APPLICATIONS

Dynasylan® HYDROSIL 2776 is a bifunctional organic compound in which the silanol groups can be bonded to an

inorganic substrate and the organophilic aminoalkyl-functional group can interact with a suitable polymer or resin.

Examples of suitable inorganic substrates are:

- glass, glass fibers, glass beads and glass wool
- mineral wool
- metals
- and various fillers like quartz, wollastonite or ATH.

Examples of suitable polymers or resins are:

- Thermosets like epoxy, phenolic, furanic, acrylic and melaminic resins
- Thermoplastics like PA, PBT, EVA, PPS, MAPE, MAPP, PVB, acrylates
- Elastomere like silicones

Dynasylan® HYDROSIL 2776 finds application in many industries. Advantages arise in water-based systems.

Examples are:

- as a glass and metal primer
- as a size constituent of glass fiber/glass fabric composites or mineral wool insulating materials
- as an additive to foundry resins and abrasives
- as a pretreatment or an additive to mineral-filled thermoplastic compounds
- as an additive for adhesives and sealants to improve adhesion to the substrate
- as an additive and/or primer for paints and varnishes to improve adhesion to the substrate

Product Composition

Product Composition	Unit	Value
Nitrogen (N₂) Content SAA 1078, average, measured as NH ₂	wt%	4.5
Solids Content DIN 38409-H1-1	wt%	23-27

The data represents typical values (no product specification)

BENEFITS & ADVANTAGES

The particular advantages of Dynasylan® HYDROSIL 2776 compared with the corresponding monomeric amino- or alkyl-functional alkoxysilanes are:

- Alcohol content of $\leq 1\%$ guarantees nonflammability, safe handling and minimal volatile organic constituents emission.
- No hydrolysis chemistry is needed as Dynasylan® HYDROSIL 2776 is a ready-to-use aqueous silane hydrolysate.
- Easily diluted with water to adjust to target concentration.
- Adaptable in a broad pH range.

Important product effects that can be achieved by using Dynasylan® HYDROSIL 2776 are:

- Improved mechanical properties, e.g. flexural strength, tensile strength, impact strength, modulus of elasticity.
- Improved resistance to moisture and corrosion.
- Improved adhesion by excellent surface wetting of inorganic substrates and optimal reaction with organic polymers.

Dynasylan® HYDROSIL 2776 helps as well to improve processing properties such as:

- Nonflammability making almost no particular equipment safety precautions necessary.
- Better filler dispersion leading to increased filler content during compounding.

HANDLING & PROCESSING

Before considering the use of Dynasylan® products please read their actual Safety Data Sheet (SDS) thoroughly for safety and toxicological data as well as for information on proper transportation, storage and use.

The Safety Data Sheet is available on our website <https://silanes.evonik.com/en> or upon request from your local representative, customer service or from Evonik Operations GmbH, Product Safety Department, E-MAIL sds-hu@evonik.com.

Please refer to your Evonik representative to discuss exact handling (e.g. dilution, wetting, curing temperature) of

Dynasylan® HYDROSIL 2776 with a technical expert to achieve the best possible results.

PACKAGING

Dynasylan® HYDROSIL 2776 is supplied in 25 kg PE cans and 211 kg drums.

STORAGE

It is recommended to store Dynasylan® HYDROSIL 2776 above 4°C.

However, singular freezing does not influence the product quality. Frozen product is re-useable after complete thawing and homogenization. Just stirring is sufficient for homogenization.

Dynasylan® HYDROSIL 2776 has a flash point $> =95^{\circ}\text{C}$ and can be stored and transported advantageously according to different local requirements, compared to flammable liquids (Category 2, 3 and 4), as the most established monomeric alkoxysilane materials are.

SHELF LIFE

Dynasylan® HYDROSIL 2776 has a shelf life of minimum 12 months from delivery in an originally sealed can or drum.

Registration Listings

Registry	Status
Canada (DSL)	Information on Request
China (IECSC)	Information on Request
EU (REACH)	Exempted
Japan (ENCS)	Information on Request
Türkiye (KKDIK)	Pending
Taiwan (TCSI)	Yes
USA (TSCA)	Yes

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