

## Product Information

## NANOCRYL® D 322

## Nanosilica – UDMA in TRGDMA – Composite

## PRODUCT DESCRIPTION

NANOCRYL® D 322 is a 50 wt% dispersion of colloidal silica in a difunctional methacrylate blend (80% UDMA in TRGDMA), for the use in dental applications. The silica phase consists of surface-modified, synthetic SiO<sub>2</sub>-nanospheres of very small size (Ø 20 nm), and narrow particle size distribution.

Despite the high SiO<sub>2</sub>-content NANOCRYL® D 322 is transparent, low viscous and shows no sedimentation due to the agglomerate-free dispersion of the nanoparticles in the monomer.

## Typical Properties

Property	Unit	Value
Appearance		clear, slightly yellow liquid
Base Acrylate		UDMA 80% in TRGDMA
Density at 20 °C	g/cm <sup>3</sup>	1.3
Viscosity at 25°C	mPa·s	10000

The data represents typical values (no product specification)

## TYPICAL APPLICATIONS

NANOCRYL® D 322 can be used as any common UV-curable acrylate. However, the compatibility between NANOCRYL® D 322 and all other components should be tested separately before starting formulation development.

The colloidal silica in NANOCRYL® products tends to agglomerate if the stabilisation is affected by inappropriate formulation components like hydrocarbon solvents (e. g. xylene) or certain performance additives (e. g. several silanes or amines).

## Product Composition

Product Composition	Unit	Value
Silicon Dioxide (SiO <sub>2</sub> ) Content	wt%	48-52

The data represents typical values (no product specification)

## BENEFITS &amp; ADVANTAGES

- Suitable for dental applications
- Enables extremely high loading levels in combination with suitable micron particles
- Significantly improved tear resistance, fracture toughness and modulus
- Lower CTE, reduced shrinkage & thermal expansion
- UV-curable

## HANDLING &amp; PROCESSING

The rules and regulations for the handling and use of chemicals have to be observed. Please refer to the Material Safety Data Sheet for further details.

## PACKAGING

5 kg canister, 25 kg pail

## STORAGE

Storage dry and dark, up to 30°C (86 °F) in sealed containers.

NANOCRYL® D 322 is hygroscopic. Therefore, keep container tightly closed when not in use! The product may polymerise under improper storage conditions.

## SHELF LIFE

6 months in originally sealed containers.

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 NANOCRYL® D 322 are listed/registered or exempt in the following chemical inventories.

### Registration Listings

Registry	Status
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Canada (DSL)	Yes
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China (IECSC)	Yes
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EU (EINECS/ELINCS)	Yes
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South Korea (TCCL)	Yes
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Taiwan (TCSI)	Yes
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USA (TSCA)	Yes
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### Disclaimer

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