

## Andisil® 186 Silane

CAS# 3388-04-3



## TYPICAL PROPERTIES\*

|                   |                                                   |
|-------------------|---------------------------------------------------|
| CHEMICAL NAME     | 2-(3,4-Epoxy cyclohexyl)ethyltrimethoxysilane     |
| EMPIRICAL FORMULA | C <sub>11</sub> H <sub>22</sub> O <sub>4</sub> Si |
| MINIMUM PURITY    | ≥ 98%                                             |
| APPEARANCE        | Colorless transparent liquid                      |
| MOLECULAR WEIGHT  | 246.38                                            |
| REFRACTIVE INDEX  | 1.451                                             |
| FLASH POINT       | > 110 C                                           |
| SPECIFIC GRAVITY  | 1.065 g/ml                                        |

\* These properties are not intended to be used as specifications but only as suggested characteristics

## DESCRIPTION

Andisil® 186 Silane is epoxy functional and used as an adhesion promoter (coupling agent) for organic/inorganic interfaces, as a surface modifier (e.g. regulating surface polarity) or as a crosslinking agent (moisture-curing of polymers). The cyclo-aliphatic epoxy functionality provide good reactivity with organic acid groups and/or anhydride groups which provide better chemical stability and UV-resistance for exterior exposure. Andisil® 186 Silane can hydrolyze to generate active silicone hydroxyl groups, while releasing methanol as a byproduct of the hydrolysis reaction. These silicone hydroxyl groups can undergo condensation reactions with hydroxyl groups on various inorganic materials (substrates or pigment fillers) to form chemical bonds, while its epoxy groups can undergo epoxy ring-opening reactions with suitable polymers (containing primary amino, hydroxyl, carboxyl, epoxy, acid anhydride groups, etc.) under heating or catalysis by acids or bases, thereby achieving coupling and connection between inorganic fillers (or substrates) and organic polymer materials through the aforementioned bidirectional reactions..

## APPLICATIONS

- Products made with Andisil® 186 Silane exhibit excellent heat resistance and electrical insulation properties.
- Andisil® 186 Silane can be applied to mineral fillers or glass fiber filled plastics (PBT, nylon, etc.), rubber, and resins (epoxy, etc.) to improve the dispersion and bonding of fillers and fibers in the resin phase, and to improve the mechanical strength of the products.

## STORAGE &amp; SHELF LIFE

The shelf life, when the container is stored unopened and under proper conditions above 50 °F, is expected to be a minimum of two (2) years.

## HANDLING

Material is moisture sensitive and should be handled under an inert atmosphere.

## PACKAGING

Andisil® 186 Silane is available in 440 pound net weight drums or 40 pound pails. Other packaging options may be available upon request.

For additional information on the product, please contact your Sales Representative.

We believe that the information shown in this Product Bulletin to be an accurate description of the typical characteristics and/or uses of the product. Any suggestions of uses are not to be taken as an inducement to infringe any particular domestic or foreign patent. We recommend that the product be thoroughly tested for a specific application to determine the performance, efficacy and its safe handling and use.