

Technical Data Sheet

Capatue™ SCA-U60E

Abstract

SCA-U60E is a bifunctional organo-silane possessing a reactive organic ureido group and a hydrolysable inorganic triethoxysilyl group. The dual nature of its reactivity allows SCA-U60E to bind chemically to both inorganic materials (e.g. glass, metals, fillers) and organic polymers (e.g. thermosets, thermoplastics, elastomers), thus functioning as an adhesion promoter and as a surface modifier. SCA-U60E is a 50% solution of silane in methanol is a colorless liquid with an alcohol-like odor and is soluble in alcohols, ketones, esters or aromatic hydrocarbons.

Chemical Name

N-(Triethoxysilylpropyl)urea

Synonyms

Ureidopropyltriethoxysilane

CAS Registry Number

23779-32-0

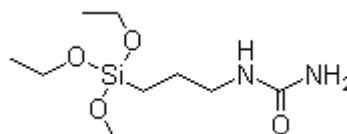
EINECS

245-876-7

Molecular Formula

$C_{10}H_{24}N_2O_4Si$

Molecular Structure



Molecular Weight

264.40

Equivalents

Product	Supplier

Z-6676	Dow Corning
2201 EQ	Evonik (formerly Degussa)
KBE-585	Shin-Etsu
T2507	UCT (United Chemical Technologies, Inc)

Typical Properties

Index	Value
Appearance	Colorless transparent liquid.
Density (ρ_{20}), g/cm ³	0.920
Boiling Point (760mmHg), °C	290
Refractive Index (n_D^{25})	1.3920
Flash Point, (open cup) °C	13
Viscosity	2.5 mPa.s
Solubility	Soluble in alcohol, ketone, aether, benzene, most aliphatic esters, hydrolysis releases methanol. React with water.

Applications and Performance

3-Ureidopropyltriethoxysilane (CAS No. 23779-32-0), Silane coupling agent SCA-U60E, is an essential ingredient in the products of many industries. Examples are:

as a size constituent of finish for glass fiber/glass fabric composites

as an additive to phenolic, furan and melamine resins for foundry resins and abrasives

as an additive for sealants and adhesives

as an additive and/or primer for paints and varnishes to improve adhesion to the substrate

Important product effects that can be achieved through the use of SCA-U60E are:

- improved mechanical properties: e.g. flexural strength, tensile strength, impact strength, modulus of elasticity
- improved resistance to moisture and corrosion
- higher temperature of deflection under load

SCA-U60E also helps improve processing properties such as increased filler content

Packing

The regular packing of this product is 25kg plastic pail, 200L steel drums and 1000L immediate bulk container.

Storage and Shelf Life

Should be stored in dry, cool, ventilated room; keep away from water, moisture, high temperature and fire. This product has a shelf life of at least 12 months if stored in tightly closed original container at room temperature.

If this product is kept beyond the shelf life recommend on the product label, it is not necessarily unusable, but a quality control should be performed on the properties relevant to the application.

Product Safety and Handling

When considering the use of any Capatue products in a particular application, you should read our latest Material Safety Data Sheets (MSDS) thoroughly for handling instructions, personal protective equipment if necessary, other safety issue and toxicological data as well as for information on proper transportation, storage and use to ensure that the use you intend can be accomplished safely. Our latest Material Safety Data Sheets (MSDS) and other product safety information are available at www.capatue.com or upon request, from our customer service department.

Use of other material in conjunction with Capatue products may require addition precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

This product is for industry use only; it is neither tested nor represented as suitable for food, medical or pharmaceutical uses.

Limited Warranty Information

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are

beyond our control, this information should not be used in substitution for customer's tests to ensure that Capatue's products are safe, effective, and fully satisfactory for the intended end use.

Suggestions of use shall not be taken as inducements to infringe any patent.

Capatue's sole warranty is that the product will meet the Capatue sales specifications in effect at the time of shipment.

Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

Capatue specifically disclaims any other express or implied warranty of fitness for a particular purpose or merchantability.

Capatue disclaims liability for any incidental or consequential damages.

Customer must do enough tests before their regular production to ensure that our product is suitable for their specific application.