



Technical Data Sheet

Capatue™ SCA-MA10E

Abstract

SCA-MA10E is a masked aminosilane and can be triggered the demasking with moisture. This masked aminosilane can stably exist in isocyanate, epoxy, acrylic and other amino-reactive resins but, when exposed to any form of water, hydrolysis occurs rapidly. The ketone byproduct escapes to leave an activated primary amine.

To take advantage of these above characteristics, aminosilanes can now be used as additives for formulated resins that usually are not compatible with aminosilanes, such as epoxy, isocyanate, acrylic, UV or phenol for paints, adhesives and surface treating agents. These new formulations enable good adhesion and reinforcement while enabling one-component packaging systems.

Chemical Name

3-(1,3-Dimethylbutylidene)aminopropyl-triethoxysilane

Synonyms

1-Propanamine,N-(1,3-dimethylbutylidene)-3-(triethoxysilyl)-;

2-N-[(1E)-1,3-dimethylbutylidene]-3-(triethoxysilyl)-

CAS Registry Number

116229-43-7

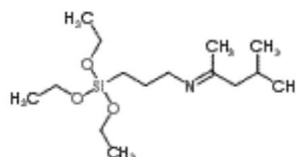
EINECS

N/M

Molecular Formula

$C_{15}H_{33}NO_3Si$

Molecular Structure



Molecular Weight

303.51

Equivalent

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Add: Lande Industry Park, 18 Lingshan North Road, Xianlin, Qixia District, Nanjing, Jiangsu, China, 210023



Manufacturer	Product Code
Shin-Etsu	KBE 9103

Typical Properties

Index	Value
Appearance	Colorless to slightly yellow transparent liquid
Purity	≥ 95%
Refractive Index (n_D^{25})	1.4335
Specific Gravity at 25° C	0.924

Applications and Performance

Maximum bond strength in some adhesion and bonding systems requires that the organic functionality of a silane coupling agent becomes available during a discrete time period of substrate - matrix contact.

Examples are epoxy adhesives in which reaction of the silane with the resin increases viscosity of an adhesive to the extent that substrate wet-out is inhibited and pretreated fillers for composites which can react prematurely with moisture before melt compounding or vulcanization. A general approach is to mask the organic functionality of the silane which converts it to a storage-stable form and then to trigger the demasking with moisture, or heat concomitant with bonding or composite formation.

For example single-component liquid-cure epoxy adhesives and coatings employ dimethylbutylidene blocked amino silanes SCA-MA10E. It shows excellent storage stability in resin systems, but is activated by moisture provided by water adsorbed on substrate surfaces or from humidity. Deblocking begins in minutes and is generally complete within two hours in sections with a thickness of less than 1mm.

In different applications, SCA-MA10E can be used as adhesion promoters, crosslinking agents and surface modifiers for pigments and fillers, etc.. It can be used for a variety of solvent-based inks, coatings, adhesives and other resin coatings and resin-based composite materials based on the epoxy, isocyanate, acrylic, UV or phenol resins.



Packing

The regular packing of this product is 25kg plastic pail, 210L steel drums and 1000L immediate bulk container.

Storage and Shelf Life

This product should be stored in dry, cool, ventilated room; keep away from water, moisture, high temperature and fire. After the containers have been opened, it should be protected from atmospheric moisture to prevent gelation; nitrogen-filled seal is strongly recommended.

When stored at or below 25°C in the original unopened containers, this product has a usable life of 12 months from the date of production.

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.



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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.