A0700

Name: N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane  
CAS#: 1760-24-3

Molecular formula: $\text{H}_2\text{N}-(\text{CH}_2)_2-\text{NH}-(\text{CH}_2)_3-\text{Si}-(\text{OCH}_3)_3$

Structure:

\[
\begin{align*}
\text{CH}_3 & \\
\text{O} & \\
\text{H}_2\text{N}-(\text{CH}_2)_2-\text{NH}-(\text{CH}_2)_3-\text{Si}-(\text{OCH}_3)_3 & \\
\text{O} & \\
\text{CH}_3 & 
\end{align*}
\]

Properties:
- Purity: 97%
- Color: 100 APHA Max
- Flash Point: 120°C
- Specific Gravity: 1.01 @ 25°C
- Boiling Point: 140°C /24 mm
- Refractive Index: 1.443 @ 25°C

A0700 is a coupling agent. Coupling agents are used to bond an inorganic phase (material) to an organic phase (material).

Inorganic Phases can be materials such as:
- Refractories - Silica, Alumina, Titania
- Glass
- Wood Products
- Metals - Aluminum, Zirconium, Tin, Titanium, Copper, Iron

The material to be bonded to the inorganic phase includes compounds such as:

- Diallylphthalate
- Epoxy
- Imides
- Melamine
- Phenolic
- Polyester
- Urethane
- Cellulosics
- Polyamide-imide
- Polyamide
- Polycarbonate
- Polyethylene
- Polyphenylene oxide
- Polyphenylene sulfide
- Polysulfone
- Polyvinyl butyral
- Polysulfides
- Epichlorohydrin
- Silicone
Applications

- Diagnostics and study of biological materials
  - Coating for Petri-Dishes / wire mesh / Glass slides
  - Attached to hematite and placed in a solution of bio-attributes; the bio-matter integrates with the A0700 matrix. The total mass is removed and evaluated by a magnet.
- UV degradation resistance - added to nano-particles of zinc oxide (ZnO)
- Adhering rubber mats to iron (steel) rods to produce commercial rollers
- Primer coating for epoxy coatings
- Immobilizing Cu(II) catalysts on silica
- Added to the fabric of automobile interiors - improves wear-resistance of automobile seats

Preparation of Solution

1. Prepare a 1% to 2% A0700 solution using ordinary tap water (hard water won’t work – use DI water instead).
2. Stir the solution well and allow it to sit for 5 minutes before using.
3. Apply the solution to the object to be coated (typically the inorganic substrate) by immersion, spraying or painting.
4. Allow the solution to remain in contact with the object for 1 to 2 minutes.
5. Quickly rinse the treated object with water to remove the excess silane solution.
6. Cure the coating by drying at 80° C to 100° C for 3 to 5 minutes or until dry. Room temperature cure may be accomplished by air drying for 24 hours with relative humidity ≤65%.
7. Place the treated phase in contact with the other phase and add heat to promote adhesion.

Stability

- Only prepare a volume of solution with water that can be used in a day. If unused solution is stored, the silane will condensate with itself to form a useless mass (glob) of silicone.
- Shelf life is 6 months from date of manufacturing.

Storage

- The bottle should be stored in a cool, dry location, away from light.
- After opening the headspace at the top of the bottle should be purged with nitrogen prior to recapping and storing.

Available Sizes: 25g to 55gal
PRICES AND TERMS
Our prices are subject to change without notice. The price in effect when we receive your order will apply. All prices are in US Dollars and are F.O.B. Bristol, PA 19007. Terms of payment are net 30 days.

MINIMUM ORDERS
We welcome all orders, therefore, we do not have a minimum order requirement. When ordering, please include your purchase order number, complete “Ship To” and “Bill To” address, catalog number, quantity, and description of product(s). Also include your name and a phone number where you can be reached should we have any questions concerning your order.

SHIPMENTS
Normal process is shipment within one business day after receipt of an order if material is in stock. Unless special shipping arrangements are made, all orders will be sent via Federal Express Ground. Shipping and handling charges (freight, insurance, hazardous materials fee) will be added to the invoice unless requested by the customer.

SPECIAL PRICING
We offer special pricing for volume purchases and standing orders. Please call a sales representative for more information on special pricing qualifications.

RETURN POLICY
Our sales staff will process your return. Before returning merchandise, please call to obtain a return authorization number from a sales representative. We will need to know the reason for the return, date of purchase, purchase order number, invoice number, catalog number and lot number of product returned in order to issue a return authorization number.

WARRANTY
All products manufactured by UCT are guaranteed against defects in materials and workmanship for a period of 90 days after shipment. UCT will replace any items that prove to be defective during this time period. The exclusive remedy requires the end user to first advise UCT of the defective product by phone or in writing and must include order number, the lot number and the shipping date.

To initiate this action, photographs of the product, including packaging and labeling of the containers, must be submitted to the UCT Representative for approval. With approval a return authorization can be initiated, and must be received within 30 days. Once the materials arrive at UCT a further inspection of the materials must be completed and accepted by our Quality Manager prior to further action of credits or replacement. UCT’s total liability is limited to the replacement cost of UCT products.

This warranty does not apply to damage resulting from misuse.

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