

# ADDupol A028-UNU

RTM RESIN

## CHARACTERISTICS:

**A028-UNU** is a non-thixotropic, unsaturated polyester resin of low viscosity. It has been specially adapted for use in closed-mould applications such as infusion-moulding or resin transfer moulded glassfibre-reinforced applications where good mechanical properties are required.

**A028-UNU** is specifically designed for closed-mould applications where rapid cure is required, enabling fast mould turn-around rates to be achieved. The product also gives good glass wet- out properties, allowing for the moulded part to be fabricated without air entrapment.

**A028-UNU** is unaccelerated, and therefore requires the use of both accelerator and a peroxide-based catalyst to initiate the curing process. This gives the fabricator a wide range of options in the choice of accelerators to give the required pot-life and cure profile to suit the specific requirements of a particular project. Suitable accelerators that can be used include Cobalt 1% and Cobalt 6%.

## LIQUID PROPERTIES:

PROPERTY	SPECIFICATION
Liquid appearance	Pale straw
Viscosity (Brookfield ) @ 25°C	180 – 220 cPs
Acid Value	20 – 25 mg KOH / g
Non-volatile content	58 – 62 %
Stability @ ambient @ 120 °C	6 months minimum (in the dark) 4 hours minimum
Geltime (@ 25°C) using 3 phr <b>Cobalt 6%</b> + 2 phr MEKP	4 – 6 minutes



## CURE CHARACTERISTICS:

**A028-UNU** is formulated to cure using cobalt and / or amine accelerators in conjunction with MEKP (Methyl Ethyl Ketone Peroxide) as a catalyst, and should be allowed to attain workshop temperature (20 – 25 °C) before use. Temperature is an important factor in controlling the curing characteristics of **A028-UNU**, and therefore curing should not be carried out at temperatures below 15 °C.

The accelerator and catalyst levels may be varied in order to adjust the geltime as required for a particular project. Ideally, the catalyst loading should be 2 (two) parts per hundred (by mass of resin) and should not exceed the upper limit of 3 (three) parts per hundred, as this may affect both the curing process and quality of the finished product.

*Note that peroxide catalysts are highly reactive and may decompose violently or cause fires if exposed to high temperatures and accelerators. Care should be taken to avoid mixing of catalysts directly into accelerators.*

## STORAGE CONDITIONS:

**A028-UNU** should be stored under cool conditions (20 – 25 °C) in closed opaque containers. Exposure to sunlight and / or high temperatures should be avoided as this may lead to premature gellation even in the absence of a catalyst. The storage life of this product under ideal conditions is a minimum of six months from the date of manufacture.

First-in, first-out stock rotation must be adhered to in order to obtain optimum performance from this product. If screw-top drums are stored in open-air conditions for any length of time, they should be kept in a horizontal position to avoid the ingress of water.

**ADD RESINS BRANCHES AT:  
JOHANNESBURG / DURBAN / CAPE TOWN**

#### POLYESTER SAFETY INFORMATION

All sales of products supplied by ADD Resins (Pty) Ltd and described herein are made solely on condition that our customers comply with applicable health and safety laws, regulations and orders relating to the safe handling of our products in the workplace. Before using, read the following information and both the product label and Material Safety Data Sheet pertaining to each product.

Most polyester products contain styrene. Styrene can cause eye, skin and respiratory tract irritation. Avoid contact with eyes, skin and clothing. Impermeable gloves, safety eyewear and protective clothing should be worn during use to avoid skin and eye contact. Wash personal protective equipment thoroughly after use.

Styrene is a solvent and may be harmful if inhaled. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Extended exposure to styrene at concentrations above the recommended exposure limits may cause central nervous system depression causing dizziness, headaches or nausea and if overexposure is continued indefinitely, loss of consciousness, liver and kidney damage.

Do not breathe or ingest vapour, spray mists and dusts caused by applying, sanding, grinding and sawing polyester products. Wear an appropriate OSHA approved, properly fitted respirator during application and use of these products until vapours, mists and dusts are exhausted, unless air monitoring demonstrates vapours, mists and dusts are below applicable exposure limits. Follow respirator manufacturer's directions for respirator use.

The International Agency for Research on Cancer (IARC) has reclassified styrene as Group 2B "possibly carcinogenic to humans". This new classification is not based on new health data relating to either humans or animals, but on a change in the IARC classification system. The Styrene Information and Research Centre does not agree with the reclassification and has published the following statement: Recently published studies tracing 50 000 workers exposed to high occupational levels of styrene over a period of 45 years showed no association between styrene and cancer, no increase in cancer among styrene workers (as opposed to the average among all workers), and no increase in mortality related to styrene.

Styrene is classified by OSHA and the Department of Transport as a flammable liquid. Flammable polyester products should be kept away from heat, sparks and flame. Lighting and other electrical systems in the workplace should be vapour-proof and protected from breakage.

Vapours from styrene may cause flash fire. Styrene vapours are heavier than air and may concentrate in the lower levels of moulds and the work area. General clean air dilution or local exhaust ventilation should be provided in volume and pattern to keep vapours well below the lower explosion limit and all air contaminants (vapour, mists, dusts) below the current permissible exposure limits in the mixing, application, curing and repair areas.

Some polyester products may contain additional hazardous ingredients. To determine the hazardous ingredients present, their applicable exposure limits and other safety information, read the Material Safety Data Sheet for each product (identified by product code) before using.

**FIRST AID:** In case of eye contact, flush immediately with plenty of water for at least 15 minutes and get medical attention; for skin, wash thoroughly with soap and water. If affected by inhalation of vapours or spray mist, remove to fresh air. If swallowed, get medical attention.

Polyester products have at least two components that must be mixed before use. Any mixture of components will have hazards of all components. Before opening the packages, read all warning labels. Observe all precautions.

Keep polyester containers closed when not in use. In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations. Emptied containers may retain hazardous residue. Do not cut, puncture or weld on or near these containers. Follow container label warnings until containers are thoroughly cleaned or destroyed.

FOR INDUSTRIAL USE AND PROFESSIONAL APPLICATION ONLY. KEEP OUT OF REACH OF CHILDREN.

#### DISCLAIMER AND LIMITATION OF LIABILITY

The products sold hereunder shall meet Seller's applicable specifications at the time of shipment. Seller's specifications may be subject to change at any time without notice to Buyer. Buyer must give Seller notice in writing of any alleged defect covered by this warranty (together with all identifying details, including the product code(s), description and date of purchase) within thirty (30) days of the date of shipment of the product or prior to the expiration of the shipment's quality life, whichever occurs first. The warranty described herein shall be in lieu of any other warranty, express or implied, including but not limited to, any implied warranty or merchantability or fitness for a particular purpose. There are no warranties that extend beyond the description on the face hereof.

The Buyer's sole and exclusive remedy against Seller shall be for the replacement of the product or refund of the purchase price in the event that a defective condition of the product should be found to exist by Seller. No other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available to the Buyer.

The sole purpose of this exclusive remedy shall be to provide Buyer with replacement of the product or refund of the purchase price of the product if any defect in material or workmanship is found to exist. This exclusive remedy shall not be deemed to have failed its essential purpose so long as Seller is willing and able to replace the defective products or refund the purchase price.

Final determination of the suitability of the material for the use contemplated, the manner of use and whether the suggested use infringes any patents is the sole responsibility of the Buyer.