



# U N I L A M

## I N T E R N A T I O N A L

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## Some Advice on the Storage, Use and Handling of Unilam Products

Unilam International would like to assist you in making high quality glass laminates consistently, economically and safely. Please take time to read the advice below, as it will ensure safe usage, help prevent costly errors, and improve the quality of your finished product.

### SAFE STORAGE

- Resins, curing agents (catalysts) and associated solvents should be stored separately, in cool, dry, well-ventilated places away from the working area.
- Resin should be stored in the dark in suitable closed containers. It is recommended that the storage temperature should be less than 20°C where practical, but should not exceed 30°C. Ideally, containers should be opened only immediately prior to use, and should never be left open. Where containers have to be stored outside, they should be protected from the elements to prevent any ingress of water. Resin should not be stored in direct sunlight as this may lead to early polymerisation (seen as small particles suspended in the resin).
- Organic peroxide (Catalyst B) should be segregated from resins. Containers should be stored in a well-ventilated, flameproof area at a maximum temperature of 20°C. Bulk storage should ideally be in a secure brick building, but smaller quantities can be stored in suitable metal cabinets. Containers should be opened only immediately prior to use, and should never be left open. Use by the date shown on the container.
- The adhesion promotor (Catalyst A) should be stored away from Catalyst B, in a cool dry environment. Containers should be kept tightly sealed when not in use.
- All storage areas should be kept clean and free from combustible materials such as rags and paper-towels. Good standards of hygiene should be observed and **SMOKING SHOULD BE PROHIBITED**. Any accidental spillages must be dealt with immediately.

## WORKSHOP CONDITIONS

- Any building where resin laminating is carried out should be dry, adequately heated and well ventilated. Ideally, the building should have adequate room for all operations to be carried out safely. The temperature of the building should be controlled between 15°C and 25°C at all times. Major fluctuations in temperature should be avoided.
- Ventilation should be good by normal standards, but draughts should be avoided. Doors and windows should not, therefore, be used for ventilation control.
- Accurate measuring apparatus (weights & volumes) should be used. These should be well maintained and kept as clean as possible. Separate dispensers should be used for each additive (e.g. Catalyst A & Catalyst B). ***Catalyst can react with explosive force if mixed directly with materials other than the resin. Please read the relevant material data sheets carefully before commencing work.***

## STOCK CONTROL

- All containers and packaging should be appropriately marked, designated and documented. Good stock control is important as the use of stocks in strict rotation helps to avoid storage times longer than the recommended periods. This ensures that materials are always used in their optimum condition. Always stir the resin before use.
- **RESIN:** Note that the storage or shelf life can vary according to the storage conditions. Warm climates can reduce the effective working life of the resin. Unilam resins have a shelf life of at least 3 months, extending up to 6 months if stored under the correct conditions.
- **CATALYST A:** Use by the date shown on the container, but note that ingress of moisture can affect this considerably. If there is any colour change (yellowing), the catalyst should not be used.
- **CATALYST B:** Use by the date shown on the container.
- **PIGMENTS:** Pigments are best used within 2 years of opening. Containers should be kept tightly sealed when not in use, and the pigment should be well stirred prior to use.
- **TAPES:** Tapes should be kept in a cool, dry environment, away from direct sunlight.

**If you have any doubts over the shelf life or condition of any materials, refrain from using until you have consulted the Unilam sales department.**

## **BASIC HEALTH & SAFETY**

- Liquid polyester resins are flammable. They have a flashpoint below 32°C when tested in accordance with *Schedule No.1 of the Highly Flammable Liquids and Liquefied Petroleum Gases Regulations 1972* and are therefore subject to these regulations.
- Most polyester resins contain monomeric styrene. Styrene is an effective grease solvent; so can cause drying of, and irritation to, the skin. Impervious gloves should therefore be worn when handling these materials. Any resin that does come into contact with the skin should be removed using a proprietary resin removing cream. **Acetone or other solvents should NOT be used for this purpose.** Taking these simple precautions will minimise any risk of skin irritation or dermatitis. In sufficient concentration, styrene vapour is irritating to the eyes and respiratory passages. Workshops therefore, must be well ventilated.
- Most catalysts are organic peroxides and present a possible fire hazard. See the section above on Safe Storage.
- Catalysts are extremely irritating to the skin and can cause burns if not washed off immediately with copious amounts of warm water. Particular care must be taken, when using liquid peroxide, to avoid splashing or contact with the eyes. Protective safety glasses or goggles should be worn as a precaution when handling these materials. If organic peroxides do come into contact with the eyes, they can cause serious injury if not treated immediately. The affected eye should be washed with copious amounts of clean water for at least 15 minutes. Under no circumstances must the eye be treated with oily substances, as these will aggravate the injury.
- Combustible materials such as cloths and paper, which have been contaminated with catalyst, can ignite spontaneously and should not be left lying in the open. A closed metal bin should be provided for such waste, and its contents should be disposed of, daily.
- Where needles are used to remove air pockets, they should be disposed of into an approved and clearly labelled “sharps” container.
- Liquid resin is classified as hazardous waste and should always be disposed of according to local regulations. Fully cured resin may be treated as commercial waste and can be disposed of according to local regulations.
- If the precautions discussed in this leaflet are followed, and a regime of good housekeeping adopted, Unilam resins and their associated products can be used safely, and to best effect.
- **PLEASE NOTE THAT THE ABOVE ADVICE AND INFORMATION IS ONLY INTENDED AS A SUMMARY. PLEASE READ ALL RELEVANT HEALTH & SAFETY SHEETS BEFORE USING THESE PRODUCTS.**