

Many materials commonly used for storage or display purposes can cause damage to objects by giving off harmful vapours or through direct contact with the object. Harmful volatile substances include formaldehyde, acetic acid, formic acid, sulphuric acid, carbon dioxide, sulphur dioxide, nitrogen dioxide and ammonia gas.

The list below sorts commonly used materials such as wood products, coatings, adhesives and fabrics into suitable and unsuitable categories.

Timber – suitable

- Solid hoop and kauri pine
- Exterior or marine grade hoop pine ply
- Soft woods sealed with multiple coats of Cabot's clear coat varnish or aluminium barrier foil

Timber – unsuitable

- Chipboard
- Particle Board
- Fibreboard
- HDF®, MDF®, Custom Wood®
- Masonite®
- Hardwoods such as Oak, Oregon (Douglas fir), Cypress, Western red cedar, Jarrah etc
- Timber or timber products pre-treated with insect or fire retardants

Glass – suitable

- Toughened glass
- Laminated glass

NB: Whenever possible use Perspex instead of glass as it will not damage objects in the event of an accident.

Metal – suitable

- Aluminium
- Stainless steel
- Brass
- Mild steel coated with micaceous paint

Coatings – suitable

- Water based acrylic paints
- VOC free paints
- Microcrystalline wax in pure gum turpentine (for furniture)
- Microcrystalline wax in white spirit (for metals)
- Powder coating (for metals)
- Shellac

Coatings – unsuitable

- Solvent based paints
- Oil based paints
- Alkyd based paints (Enamels)
- Polyurethane varnishes (Estapols®)

Adhesives – suitable

- Acrylic emulsions
- Hot melt polyethylene adhesive
- Epoxies
- Araldite® range

Adhesives – unsuitable

- Polyvinyl acetate/alcohol (PVA, PVOH, Wood glue) e.g. Aquadhere
- Cyanoacrylates
- Supaglu®
- Cellulose Nitrate adhesives
- Tarzan's Grip®, UHU®
- Rubber/contact cement

Plastics – suitable

- Polyethylene plastic sheet
- Polyethylene fishing lines
- Polypropylene
- Coreflute®
- Polymethylmethacrylate
- Perspex®, Plexiglass®
- Polycarbonate
- Polyester film e.g. Mylar® or Melinex®

Plastics – unsuitable

- Polyvinyl chloride (PVC)
- Nylon fishing line

Foams – suitable

- Closed cell polyethylene foam
- Ethafoam® / Pakfoam®
- Softlon®
- Protectafoam®
- Polyethylene sheet foam

Foams – unsuitable

- Polyurethane foams
- PVC foams
- Polystyrene foams
- Expanding foams

Fabrics (including carpets and curtains) – suitable

- Pre-washed cotton and linen fabrics, woven and knitted
- Polyester
- Polyester felt

Fabrics (including carpets and curtains) – unsuitable

- Silk
- Wool (felt)
- Artificial suede
- ‘Permanent Press’ finished fabrics
- Fabrics with glossy applied finishes

Paper and paperboards – suitable

- Acid free mount board
- Acid free tissue paper
- Acid free honeycomb board
- Tycore®
- Acid free corrugated board
- Multi-use board®
- Library board
- Archivertext®

Paper and paperboards – unsuitable

- All non-archival papers and cardboards

Adhesive tapes – suitable

- 3M 415 double sided tape
- Jac® paper
- Self adhesive Velcro®

Adhesive tapes – unsuitable

- Scotch® double sided foam tape
- Sticky tape

Packing materials – suitable

- Acid free tissue
- Protectafoam®
- Tyvek®
- Bubble wrap®
- Spun bonded polyethylene
- Spun bonded polypropylene e.g. Evolution®

Packing materials – unsuitable

- Newspaper
- Shredded paper
- Biodegradable foam fillers made from cornstarch (attracts insects)

Other unsuitable materials

- Unsealed concrete and cement
- Unsealed plaster and plaster/gypsum board