

## Storage

Silikal resins are low-viscosity methacrylic resins with monomer esters of acrylic and methacrylic acid, in particular methylmethacrylate (MMA). The proportion of monomer MMA determines the storage and transport regulations. For other products which do not contain MMA monomer, such like Epoxies or Polyurethanes apply different regulations. Please refer to the Product Safety Data Sheets for more details.

Silikal resins with monomer MMA are a fire hazard.

For more about the safe handling of Silikal resins, please refer to our safety information "Protective and safety measures". Because of the fire hazard, Silikal methacrylate resins should be kept well away from open sources of ignition. They must be stored in sealed containers in a cool place protected against direct sunlight, preferably at temperatures below +20 °C. You must always ensure that the store rooms are sufficiently ventilated. If this advice is followed, the Silikal resins can be stored in their unopened original containers for at least 6 months. Storage at low temperatures over lengthy periods of time can lead to small quantities of dissolved paraffin separating out on the surface of the resin. In these cases it is essential to stir the container before use. Certain restrictions on quantities apply for storage. Stores from a certain size are subject to notification and/or approval.

## Transport

Silikal resins and SILIKAL® Hardening Powder are subject to the following transport regulations:

GGVSE / ADR (roads)

GGVBinsch / ADNR (inland waterways)

GGVSee / IMDG (open seas)

ICAO-Ti / IATA-DGR (air).

They must be packed, labelled, loaded, conveyed and unloaded in accordance with these regulations (Germany).

## A) Packing

- (1) The packaging must be established and sealed in such a way that the content cannot escape under normal conveying conditions from a shippable consignment, particularly as a result of a change in temperature, humidity or pressure. No hazardous substances may adhere to the outside of the articles. These regulations apply for new packaging and for packaging that is reused.
- (2) The parts of the packaging coming into direct contact with hazardous substances must not be impaired through the chemical or other actions of these substances; they may need to be given a suitable inner lining or treatment as the case arises.  
These parts of the packaging must not contain any constituent elements which could react dangerously with the content, form hazardous substances or considerably weaken parts of it.
- (3) Each packaging, with the exception of the inner packaging of assembled packaging, must conform to a design type that is tested and approved according to the regulations in section IV. Mass-produced packaging must conform to the approved design type.
- (4) If packaging is filled with liquids, there must remain an unfilled space to enable you to check that the expansion of the liquid as a result of the temperatures which can be reached during transportation has neither caused the liquid to escape nor resulted in any lasting deformation of the packaging (Germany).

## B) Identification marking

Hazardous goods labels must be affixed to the individual consignments according to the following regulations:

- (1) Labels 1, 2, 3, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1, 6.2, 7, 7 B, 7 C, 8 and 9 inc. UN No. must be in the shape of a square standing on one corner with a side length of 10 cm. They must have an uninterrupted black line running down the side at a distance of 5 mm from the edge. The hazardous goods labels intended for affixing to firmly connected tanks, set-down tanks, containers and change platforms must have sides at least 25 cm in length.
- (2) Labels 10, 11 and 12 must be in the form of a rectangle in standard A5 format (148 x 210 mm). Labels on shipping articles may be reduced to standard A7 format (74 x 105 mm).
- (3) The lower half of the hazardous goods label must have an inscription in numbers of letters which indicates the type of hazard.
- (4) The hazardous goods labels required under the regulations for this equipment must be stuck to shipping articles and firmly connected tanks or secured in some other suitable way. Only if the outer condition of the shipping article does not permit this may they be stuck to cardboard or sheets, but these must then be firmly affixed to the shipping article. Instead of labels, permanent hazardous goods symbols which conform exactly to the models described above may be affixed to the shipping packs and to the firmly connected tanks.

(5) Shipping articles with Silikal reactive resins, acetone or MMA cleaners must have a label of model 3:



Shipping articles with SILIKAL® Hardening Powder must have a label of model 5.2:



## C) Loading

- Only undamaged shipping articles which have been packed and labelled according to regulations are permitted for transport.
- Written instructions, if required, are to be handed to the vehicle driver.
- Smoking is absolutely prohibited during the loading operation.
- Only vehicles which conform to regulations and carry the corresponding equipment are permitted for loading. This must be checked by the loading supervisor.
- The cargo is to be secured on the floor against tipping over and slippage.
- Warning signs must be attached if required.

The loader shares responsibility for ensuring that all provisions laid down in the individual regulations for loading and transport are observed.

## Conveying hazardous goods by car/estate car

It is common practice both privately and in industry to carry hazardous goods in passenger cars or estate cars. Small quantities of hazardous goods are also frequently transported by car in the chemical industry (e. g. sales representatives carrying samples).

The conveyance of hazardous goods on roads is governed by the transport regulations, regardless of whether they are conveyed by truck or by car. Nevertheless, cars are less suitable for the transport of hazardous goods because they are designed first and foremost for carrying people.

All those involved in the conveying of hazardous goods must take the necessary precautions required according to the nature and extent of the hazards in order to prevent incidents and, in the event of damage, to keep this as limited as possible.

The following requirements must be noted before commencing the journey:

1. Goods which could react dangerously with each other must not be packed together.
2. The cargo must be secured in such a way that it cannot change position, or only very slightly, during transportation (e. g. form-fit loading, securing with lashing belts etc.).
3. Stow separately from the driver (e. g. in the boot).
4. Distribute the load evenly.
5. Make sure the packaging is properly sealed.
6. Do not carry packaging which is damaged or leaks or to the outside of which product adheres.
7. Carry a fire extinguisher (recommended!).
8. Check your insurance cover. Consult your insurer to check whether you have sufficient insurance cover in the event of an incident with hazardous goods.
9. Do not park the vehicle in bright sunlight.
10. Note the restrictions on quantities.

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### Silikal general information

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Data sheet LUT

Page 2 of 3

## D) Transport (road)

- All the papers required for conveyance must be carried.
- The driver must be informed and suitably trained with regard to the dangers.
- Passengers are not allowed to be carried in vehicles subject to identification marking.

All other requirements (e. g. about stopping and parking) in the individual regulations must also be observed.

## E) Unloading

- Smoking is absolutely prohibited during the unloading operation.
- The floor of the vehicle must be cleaned immediately if necessary.
- If there are no more hazardous goods in the vehicle, warning signs and accident report sheets must be removed.

All requirements laid down in the regulations must also be observed. In general, it is a statutory requirement that the personnel entrusted with transporting hazardous goods are trained with regard to accidents that could occur when transporting hazardous goods.

Finally, you are advised that this list does not by any means cover all the rules regarding transport. The Silikal Hazardous Goods Officer would be happy to provide further information.