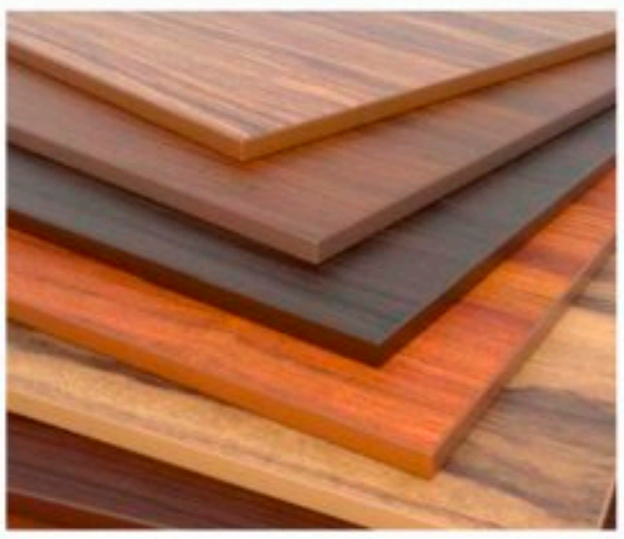
Product Information

Jowatherm-Reaktant® MR






Reactive hot melt adhesives without GHS labelling*

Minimal emissions

Increased health protection

No P and H statements necessary*

(*according to EU regulation 1272/2008 and EU directive 2008/58/EC)

Jowat Klebstoffe

Monomer-reduced PUR hot melts

Polyurethane hot melt adhesives with a low monomer content have been available for quite some time. One-component, moisture-curing PUR hot melts have already been an established technology in many industries and applications for several decades. Processors are recognising and benefiting from the technological advantages of these products in ever more fields of application.

In keeping with the growing acceptance and demand for monomer-reduced PUR hot melts, the adhesives specialists have developed the **Jowatherm-Reaktant® MR** series and continuously modernised and expanded the portfolio for different applications. These products are sold with increasing success for instance in the furniture, automotive, textile, and pakkaging industries.

The main advantage of these adhesives is that they are not classified as hazardous material. Therefore, they can be used in many production environments which have to be free of hazardous substances and where standard PUR adhesives may not be used. Also, it is frequently the customers who demand that no hazardous adhesives are used in production. Such adhesives may be used for many different reasons.
The excellent characteristics of these products are well-known and the adhesives are well established in many fields of application due to their outstanding performance. However, processors often ask how it can be that a monomer-reduced PUR is non-hazardous while a standard PUR is classified as hazardous.

Reactive hot melt adhesives contain isocyanates which are necessary for the crosslinking reaction and play an essential role in the outstanding bonding properties of these adhesives. The isocyanates are either bound to a polymer or present in a monomer form as diphenylmethane diisocyanate, short MDI (CAS No. 101-68-8). Standard PUR adhesives are classified as hazardous material mainly due to the monomer MDI content of the product.

Before processing, the adhesives have to be molten. This may lead to the formation of vapours containing monomer isocyanate which may have acute toxic properties. To protect processors from exposure to these substances, Jowat SE has always recommended in its Safety Data Sheets and Technical Information Leaflets the installation of an exhaust ventilation system and wearing of proper personal protection equipment. Affected persons with a sensitisation or hypersensitivity to isocyanates have to be protected immediately and permanently from any exposure to isocyanate.

Depending on the concentration, isocyanates have an irritating effect on the skin, mucous membranes, eyes, and the respiratory tract. Isocyanates may also cause allergies. Therefore, adhesive formulations with a monomer MDI content of 0.1 % and more have to be labelled with the GHS symbol 08 – health hazard – according to the currently valid regulation on the labelling of chemicals (GHS).

Monomer-reduced adhesives have a monomer MDI content of less than 0.1 %. According to current EU regulations (EU1272/2008 and the related amended regulation EU790/2009), these adhesives therefore do not have to be labelled as hazardous substances (H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled).