

Technical Data Sheet

Euro-Patent # 0624634

SIMALFA® 3091

Adhesive

SIMALFA® is a well established solvent free contact adhesive with a water base. Once some pressure is put on this adhesive it starts reacting. It can be used to bond a variety of foam products and upholstery materials. This adhesive has an excellent wet sticking property and high flexibility as well as good heat resistance. The initial adhesive strength of **SIMALFA®** is absolutely comparable with adhesives which contain solvents. The adhesive has to be applied to both sides, exceptionally one side, by means of low pressure spray gun (HVLP).

Application

SIMALFA® is especially suitable for the foam and upholstery industry, for gluing foams as latex, polyether, polyurethane and polyethylene. Also it can be applied to upholstery materials such as wood, chip board, cardboard, jute, rubber and hair etc.

Features

SIMALFA® has the following remarkable favourable features:

- very high initial adhesive strength immediately after spraying without additional drying time
- high heat resistance
- no solvents
- high contents of solid
- low overspray
- non-flammable
- equipment washable with water
- no hazards
- no restrictions from air purity control
- many applications possible

Product Description

Composition	dispersion of an acrylic resin in water / synthetic rubber
Appearance	milky white or red coloured
Solids	approx.. 52 %
Density of dispersion	1,06 g/cm ³ (cubic centimeter)
pH-factor	approx. 7.5...9.2
Viscosity (DIN 53019) shear rate 100s ⁻¹	approx. 100...300 mPas
Tearing resistance	approx. 600%
Heat resistance	approx. 80...90°C
Storage	in the original containers up to at least 6 months at temperatures not below approx. +5°C and not over +40°C
Cleaning	washable with water
The adhesive is sensitive to frost .	Temperatures below 0°C destroy the adhesive !

Application Equipment

SIMALFA® must be applied with low-pressure spray guns, (HVLP system). We recommend **SIMALFA G 1** or **Walther-Pilot XIII-N**. Nozzle size: 1.2 mm.

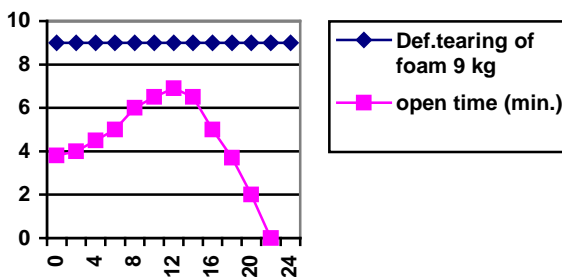
Handling by means of our patented „free flowing-system“ or pressure pot. All parts in contact with the adhesive, have to be made of chromium steel (V2A) or plastic materials. Definitely **no** coloured metals, aluminium or steel may be used. The adhesive has to be conveyed with a max. of 1,5 bar.

To clean and to take care of equipment and hands, we recommend our **ALFA hand cleaner**.

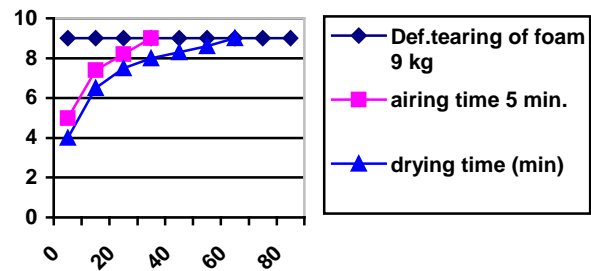
Film Coating

SIMALFA® should be applied on both sides. Single side application in exceptional situations possible. When applying approx. 60...150 g/m² on both sides (bonded surface), the desired initial adhesive strength is attained by pressing the two sides together for a short period. The initial adhesive strength can be enhanced by airing of the pieces to be glued (approx. 10 minutes). The application time is approx. 20 minutes. After 20 minutes, no attempt should be made to glue together, since otherwise the final adhesive strength is inferior or an „assumed bond“ only is attained. The final adhesive strength may be tested after 24 hours only.

Initial adhesive strength of **SIMALFA**®



Final adhesive strength of **SIMALFA**®



Test conditions:
Temp. 15°C, pressure 500g/5s,
applied amount 120g/m², surface 3x3 cm,
foam of medium hardness

Final adhesive strength:
Definitely tearing of foam

Important Notice

The usual precautionary measures have to be taken, the same as when handling chemical products. This includes a well ventilated working place, particularly when larger quantities are processed. For technical data see according safety data sheet.

The particulars on this data sheet are based on our present knowledge and experience. Of course each user has to make his own tests when using our products. Our data sheet cannot be considered legally binding in the case of certain material or suitability for all applications. Rules and legislation in each country have to be taken into consideration and we cannot be held responsible for local regulations unknown to us.

In case of any problem, please consult us.

Stand: May 2006
All rights preserved.

SIMALFA® Registration: Euro-Patent No. 0624634.
SIMALFA® is a registered trade mark of ALFA Klebstoffe AG
The **SIMALFA**® free-flowing-system is patented: U.S. Patent # 5,868,319

Visit our web site! WWW.SIMALFA.COM and experience **SIMALFA'S** online-videodemonstration!

Safety Data Sheet

Date: May 2006

SIMALFA® 3091 according 91/155/EWG

1. Substance / Preparation and Company Name

SIMALFA® 3091 water based dispersion adhesive for foam bonding

ALFA Klebstoffe AG, Vor Eiche 10, CH-8197 Rafz, Tel. ++41 (0)43 433 30 30, Fax. ++41 (0)43 433 30 33

2. Composition/Information on Ingredients

Approx. 52% aqueous copolymer dispersion based on acrylate and synthetic rubber.

3. Possible Hazards

Critical hazards to man and the environment: None

4. First Aid Measures

General advice: Remove contaminated clothing.

On skin contact: Wash thoroughly with soap and water.

On contact with eyes: Wash affected eyes for at least 15 minutes under running water with eyelids held open; consult an eye specialist.

On ingestion: Immediately rinse mouth and then drink plenty of water, summon physician.

5. Fire Fighting Measures

Suitable extinguishing media: Water spray, dry extinguishing media, foam.

The adhesive is not flammable in wet condition. (water based)

The dry substance (dry adhesive film) is of low flammability and self-extinguishing.

6. Accidental Release Measures

After spillage / leakage / gas leakage:

Pump large quantities into containers; use sand to soak up remainder or use absorbing material (i.e. diatomaceous earth). For smaller quantities clean up with water. Waste water must be disposed of correctly.

7. Handling and Storage

Handling advice on safe handling:

General ventilation is recommended during normal use. For larger quantities use respiratory protection.

Storage: Store protected against freezing, between + 5° and + 40°C.

8. Exposure Controls and Personal Protection

Eye protection: --

Skin protection: Use hand cleaner

Ventilation: The need for respiratory protection should be evaluated if this material is sprayed in poorly ventilated areas.

Hands and/or face should be washed before breaks and at the end of the shift.

Avoid contact with eyes and prolonged skin contact.

9. Physical and Chemical Properties

Form:	liquid	
Colour:	white or red	
Odour:	low	
Change in physical state		
Boiling point:	100°C at 1013 hPa	
Density:	approx. 1.06 g/cm ³ at 20 °C	DIN 51757
Vapour pressure:	130 hPa at 50 °C	
Viscosity Brookfield RV		
Sp. 2, 20 U/min.	approx. 700 mPa·s	
Solubility in water:	miscible	
pH-value:	approx. 7.5...9.2	DIN 53785
Flash point:	not applicable	
Ignition temperature:	not applicable	
Explosion temperature:	self ignition temperature 450°C	DIN 54863
	strange ignition temperature 340°C	DIN 34836
Explosion temperature:	not applicable	

10. Stability and Reactivity

Thermal decomposition: No decomposition if used correctly.
Hazardous reactions: No decomposition if used correctly.

11. Toxicological Information

According to our experience and the information available to us, the product does not present any health risks assuming it is correctly handled and the processing recommendations are followed.

12. Ecological Information

Elimination information: The product can be virtually eliminated from water by abiotic processes i.e. adsorption on to activated sludge. Do not discharge product into natural waters without pretreatment (biological treatment plant).

Behaviour and environmental fate:

Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.

Ecotoxic effects: no data available

Further ecological information: Local effluent treatment regulations should be complied with.

13. Disposal Consideration

The following EAK disposal code is valid for SIMALFA®:

(EAK: European Disposal Catalogue)

- 1) 080410 waste adhesives and sealants other than those mentioned in 08 04 09
- 2) 080416 aqueous liquid waste containing adhesives or sealants other than those mentioned in 080415

14. Transport Information

Not classified as hazardous under transport regulations.

15. Regulatory Information

Labeling according to EEC Directives: Not subject to labeling in accordance with EEC Directives

Handle in accordance with good industrial hygiene and safety practice.

National legislation/regulations: According to data available to us, the product is not hazardous under the relevant German Legislation (Gefahrstoffverordnung).

Water hazard class: WGK 1 (Germany)

16. Other Information

The information contained herein is based on the present state of our knowledge and does not therefore guarantee certain properties. Recipients of our product must take responsibility for observing existing laws and regulations.