

Bonding Agent 51030

Bonding Agents

Description

Bonding Agent 51030 is a solvent-free one-component bonding agent used to improve the adhesion of PVC plastisol coatings to substrates made of polyester or polyamide. Bonding Agent 51030 is low in viscosity and therefore easy to handle during processing. Bonding Agent 51030 is a formulation in DINP.

Chemical Composition

Preparation of a polyisocyanurate in di-iso-nonyl phthalate (DINP).

CAS Registry Number

28553-12-0 (di-iso-nonyl phthalate)

Appearance

Yellow, viscous liquid

Typical Properties*

Property	Nominal Value	Unit
Viscosity at 23 °C	approx. 4.000 – 8.000	mPa·s
NCO content	approx. 4.0 – 6.0	%
Monomer content (TDI)	< 0.5	%
Flash point	approx. 200	°C

*The analytical data are guide values.



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Application

Bonding Agent 51030 is a one-component bonding agent used to improve the adhesion of PVC plastisols coatings to synthetic fabrics made of polyester and polyamide. The bond strength of a coating is wholly dependent on the composition of the base coat. For this reason, the section below deals with the base coat only. 2 – 8 % Bonding Agent 51030 is the quantity recommended for PVC base coat plastisols.

Packaging

215 kg steel drums

Storage conditions

Bonding Agent 51030 is sensitive to moisture and must therefore always be kept in its tightly sealed original container in a cool and well ventilated place. If stored properly, the product keeps for nine month.

Handling

Bonding Agent 51030 is a moisture-sensitive reactive system. The bonding agent should not be mixed into the PVC base coat plastisol until shortly before coating.

Care should be taken to prevent the PVC plastisol from becoming too hot during stirring and to stop air bubbles from becoming trapped.

Overheating of the plastisol during stirring can have an adverse effect on potlife as it causes an increase in viscosity and a reduction in bond strength.

Instructions and recommendations for use

Bonding Agent 51030 is a formulation of a polyisocyanurate based on toluene diisocyanate (TDI). Although it contains the smallest amount of monomeric TDI possible according to the current state of the art (< 0.5 % by wt. respectively), traces of monomeric diisocyanate are none the less sometimes present in the air around where the product is handled. Workplaces must be adequately ventilated (occupational exposure limits such as German MAK values must be observed). Respiratory protection is necessary in cases where the product is applied by spraying. Employees with a particularly sensitive respiratory tract (i.e. those with asthma, chronic bronchitis etc.) must not be allowed to handle the product.

General instructions for processing bonding agents and information on the properties common to isocyanate containing bonding agent systems are to be found in specialist literature. Of the bonding agent systems available, one-component bonding agents such as Bonding Agent 51030 are the easiest to handle. The product is solvent-free and generally has no effect on the initial viscosity of the base coat plastisol when added to it. The use of Bonding Agent 51030 in transparent, translucent or white-coloured coatings may cause yellowing on exposure to light owing to the product's aromatic character.

Handling & Safety

Particular care must be taken when handling Bonding Agent 51030. Technical protective measures



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Containers must be kept tightly sealed in a cool, dry place which is adequately ventilated. They must not be exposed to temperatures of 40 °C or above. Adequate ventilation and/or extraction must be provided at the workplace. If the product is sprayed, extraction is necessary.

Personal protective measures

When handling bonding agents, care must be taken to make sure the substances are not swallowed or inhaled. Contact with the skin or eyes should be avoided. Soiled clothing should be removed at once. During handling, suitable protective clothing and (PVC or rubber) gloves should be worn, along with protective eye wear/ facial protection. Respiratory protection must be worn in workplaces which are insufficiently ventilated and whenever the work involves spraying. Air-fed masks are recommended for longer periods of work, otherwise an ABEK-P3 combination filter should be worn.

A receiving inspection is recommended. The product should be stored in its tightly sealed original container in a cool, dry place. Once opened, containers should be resealed tightly after removal of product. Consult material safety data sheet (MSDS) for additional handling information on Bonding Agent 51030.

First aid in the event of accidents and fires

If the product comes into contact with the eyes, rinse the eyes with water, keeping the eyelids open, and seek medical advice immediately, preferably from an eye specialist. If the product comes into contact with the skin, remove it mechanically and wash it off carefully with plenty of water and soap. A doctor should be consulted if there is irritation of the respiratory tract or if the product is swallowed.

The product must be prevented from entering the sewerage system. Spilled material should be removed mechanically and any remaining residue should be smothered with moist, liquid-binding material (e. g. sawdust, chemical binders based on calcium silicate hydrate or sand). After approx. 1 hour, the material can be transferred to a waste container, which should be left open (risk of CO₂ evolution). The waste should be kept moist in a safe place in the open for several days.

Fire may cause the formation of carbon monoxide, nitrogen oxide, isocyanate vapours and traces of hydrogen cyanide. Fire-fighters must wear self-contained breathing apparatus.

Dry powder, carbon dioxide and halons are suitable extinguishing agents. In the case of larger fires, foam or a water spray can also be used.



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