TECHNICAL INFORMATION SHEET

EVO-STIK 613
MULTI PURPOSE CONTACT ADHESIVE

INTRODUCTION
Evo-Stik 613 is a general purpose, one part, synthetic, rubber/resin contact adhesive, particularly suitable for bonding decorative laminated plastic sheets, and other rigid plastics sheets (e.g. PVC and ABS), to wood, metal and all types of boards, except bituminous materials. Evo-Stik 613 may also be used to bond boards of insulating fibre and cane fibre, rigid polyurethane foam, laminated panels and acoustic tiles to suspended or vertical surfaces such as flat-surfaced ceilings or walls. Most types of rigid plastics nosings and covings may also be bonded.

The adhesive is intended to be used in interior situations. It is not suitable for use with expanded polystyrene, nor with polyolefins such as polythene, and it is also unsuitable for use where only point contact is obtainable between the surfaces to be bonded.

FEATURES
- Excellent final bond and high shear strength
- Good temperature resistance
- Variety of application
- Easy to apply by brush or serrated spreader
- High initial grab

METHOD OF USE
Important: Before embarking on any work involving Evo-Stik 613 Adhesive, study the section overleaf headed “Precautions in Use”. The safe usage of 613/S Adhesive Primer, Accelerator (DF or DFE) and Cleaners 60 and 191 is described in separate Product Data Sheets.

Surface Preparation
Surfaces should be clean, dry and free from dust and grease. Smooth or polished surfaces should be finely abraded. Degrease with a detergent/water treatment; if this is inappropriate, Evo-Stik Cleaner 60 may be used, after checking the effect of the solvent on plastics, rubber materials and painted surfaces. All traces of solvent must evaporate before application of the adhesive.

Porous surfaces soak up the adhesive and lead to poor bonding. In such cases, Evo-Stik 613/S Adhesive primer may be applied by brush or paint roller to provide a seal.

Application
Apply an even ribbed coat of adhesive to both surfaces, using a serrated trowel or spreader. For correct coverage, use the spreader to such an angle as to give good rib formation after drying. If a white “bloom” appears on the surface, raise the temperature and/or dry the atmosphere.

Drying of Adhesive
Drying time depends on film thickness, surface porosity, temperature and humidity.

Touch-dry times	Porous substrates	15 – 20 minutes
	Non-porous substrates	25 – 35 minutes
Assembly time	45 minutes maximum after application	

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Assembly
Evo-Stik 613 bonds as soon as the two surfaces touch. It is hence essential to avoid contact before the parts are in alignment. Bring the two coated and touch-dry surfaces into contact and press together over the whole bond area. Hand pressure is normally sufficient, but a press or a hand roller may be used. Sustained pressure is unnecessary. Bringing the surfaces together before they are touch-dry will result in solvent being trapped, adversely affecting the final bond, and possibly giving rise to blistering problems.

The initial bond strength allows immediate handling, but maximum bond strength is reached after approximately 24-48 hours.

Special Methods

Reactivation By Heat	In some applications, it is convenient to precoat components some time before assembly is required. The dried adhesive may be reactivated by heating to a temperature not less than about 80ºC. The heated surfaces are then bonded in the normal way. Tests must be made to ensure the substrates are not harmed by this process.
Reactivation by Solvent	Precoated areas may also be reactivated by the brush application of Evo-Stik Cleaner 191, to only one surface. The bond should not be made until the activated film has reached the "touch-dry" condition.
Addition of Accelerator (DF or DFE) for Increased Resistance to Temperature	For temperature resistance above 60ºC, stir into the adhesive 5% by volume of Evo-Stik Accelerator (DF or DFE) and use the adhesive in the normal way. The mixture has a pot life of about 4 hours.

PRODUCT CHARACTERISTICS

Colour and Form	Off-white to amber moderately viscous liquid
Constitution	A blend of polychloroprene rubber and synthetic resins, none of which are classified as "dangerous", as the term is defined by the Classification. Packaging and Labelling of Dangerous Substances Regulations, 1984, in a mixture of toluene, ethyl acetate, and C_6 and C_7 aliphatic and alicyclic hydrocarbons, containing less than 3% n-hexane in total. The solvents are subject to Occupational Exposure Standards, as listed in H & SE Guidance Note EH40.
Packaging	In 25 litre drums; in 5 litre screw cap or lever-lid cans, as required; in cartons containing twelve 1 litre tins; and in cartons containing twelve 500 ml tins.
Storage	Store in accordance with the requirements of the Petroleum Regulations. When stored in original, sealed containers, in a dry place, within the temperature range of 5º - 30ºC, the usable life is at least one year.
Coverage	Approximately 5.5 m²/litre on a single, smooth, non-porous surface; increased surface porosity or non-uniformity will reduce this coverage. Calculation of the coverage for the bond area should take account of the fact that two surfaces are involved.
Performance	Good bond strength is maintained up to 60ºC. Improved resistance to temperatures up to 120ºC can be obtained by using Evo-Stik Accelerator (DF or DFE).

PRECAUTIONS IN USE
Evo-Stik 613 Adhesive is safe in use and without risk to health provided due attention is paid to the following points.

Flammability

Evo-Stik 613 is classed as a "PETROLEUM MIXTURE" and as a "HIGHLY FLAMMABLE LIQUID". Do not smoke during its use, and do not use near sources of ignition such as radiant heaters, pilot lights or sparks. Electrical installations in the vicinity must also be such as to be free from the risk of spark generation, and in general, industrial usage of the adhesive must be in accordance with the requirements of the Highly Flammable Liquids and Liquefied Petroleum Gases Regulations, 1972.

Fire Precautions

Have available a quantity of dry sand, for dumping on to a fire, and also an extinguisher of the dry powder, vaporising liquid, or foam type.

Health

Evo-Stik 613 is classified as “Harmful”, under the Classification Packaging and Labelling of Dangerous Substances Regulations, 1984, because of the presence of an essential proportion of toluene in its solvent content. Inhalation of the vapour in sufficient quantity can result firstly in apparent intoxication, followed possibly by drowsiness, dizziness and nausea, leading eventually to unconsciousness. Possible effects of long-term excessive exposure are the risks of anaemia and damage to liver and kidneys.

Ingestion of the adhesive may cause nausea and vomiting, leading to the risk of inhalation of vomit and a resulting pneumonia-like illness.

As is advisable for all solvent-containing materials, avoid contact of the adhesive with the skin. Use resin-removing cream, NOT solvent, to remove any contamination of the skin that might occur.

Avoid contact of the material with the eyes.

Ventilation

Effective removal of solvent vapour from the working environment is essential, partly to ensure complete freedom from the risk of explosion, but also to prevent the risk of vapour inhalation by those in the vicinity. Although natural ventilation is sometimes sufficient and acceptable, it will otherwise be necessary to provide a safe form of extraction ventilation, designed to remove as much of the solvent vapour as possible, from as close to the work as possible, and aiming to reduce aerial contaminants so that they are at worst below the limit for the solvents published in Guidance Note EH40.

First Aid Measures

In case of inhalation of vapour resulting in discomfort or other cause for concern, provide the patient with fresh air at once, and seek medical advice.

In case of contact of the adhesive with the eyes, irrigate continuously with water for 15 minutes, and meanwhile seek medical advice.

In case of swallowing of the adhesive, DO NOT induce vomiting, and seek medical advice.

SPILLAGE

Cover spilt adhesive with sand or earth, and then scrape up with sparkproof tools. Transfer the mixture to a sealable metal container. Dispose of as in the following paragraph.

DISPOSAL

Water Evo-Stik 613 comes within the scope of the Control of Pollution (Special Waste) Regulations, 1980. Emptied containers, and those containing scrap or spilt adhesive, should be re-sealed or re-lidded so that the vapour is confined to the container. They should be stored as for full containers, and they should be transported safely, and in accordance with the requirements of the Regulations, to the site of a properly built incinerator. Containers should first be opened, and then immediately incinerated, paying due regard to the presence of the flammable solvents in the waste.

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY

PRODUCT NAME:	EVO-STIK 613
EMERGENCY TELEPHONES:	+44 [0)1785 255141
SUPPLIER:	Bostik Limited, Common Road, Stafford STI6 3EH
TELEPHONE:	+44 [0]1785 257755

2. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME:	CAS No	CONTENT	HEALTH	RISK
ETHYL ACETATE	141-78-6	10-30%	Xi	36
TOLUENE	108-88-3	30-40%	Xi	
FORMALDEHYDE, reaction products with BUTYL PHENOL	91673-30-2	1-5 %	Xi	43
BUTYL PHENOL 20/21/22,36/37/38	98-54-4	0-1 %	Xn	
Rosin (gum)	8050-09-7	0-1%	Xi	43
MIXED ALIPHATIC HYDROCARBON BLEND		10-30%	Xn	65

3. HAZARDS IDENTIFICATION

Highly flammable. Harmful by inhalation. May cause sensitisation by skin contact Repeated exposure may cause skin dryness or cracking.

4. FIRST AID MEASURES

INHALATION:	Move the exposed person to flesh air at once. Get medical attention.
INGESTION:	DO NOT INDUCE VOMITING. Get medical attention immediately!
SKIN:	Dry skin with paper towel or similar. DO NOT use solvents. Clean skin using resin removing cream or band cleanser. Finally wash with soap and water.
EYES:	inse the eye with water immediately. Get medical attention.

5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Stop flow of material to fire. Use: Sand or earth. Fire can be extinguished using – Powder/Foam DO NOT use water.

HAZARDOUS COMBUSTION PRODUCTS: Fire or high temperatures create: Acrid smoke/fumes of Carbon monoxide (CO). Carbon dioxide (C02)

6. ACCIDENTAL RELEASE MEASURES

SPILL CLEANUP METHODS:

Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Absorb in vermiculite, dry sand or earth and place into containers. Pickup using spark proof tools and place in a sealable metal container pending disposal. Container to be labelled with contents description.

7. HANDLING AND STORAGE

USAGE PRECAUTIONS:

This adhesive must be used in accordance with the requirements of the Highly Flammable Liquids and Liquefied Petroleum Gases Regulations 1972. Eliminate all sources of ignition. Static electricity and formation of sparks must be prevented. Avoid inhalation of vapours. Avoid spilling, skin and eye contact.

STORAGE PRECAUTIONS:

Store in closed containers in a dry, ventilated place in the temperature range 5C to 30C.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

INGREDIENT NAME	CAS No	STD	LT EXP. 8 HRS	ST EXP. 15 MIN
Ethyl Acetate	141-78-6	OES.	400 ppm	No std.
Toluene	108-88-3	OES.	50 ppm(Sk)	150 ppm(Sk)
Mixed Aliphatic Hydrocarbon Blend		OES.	400 ppm	No std.

INGREDIENT COMMENTS:

OES Occupational Exposure Standard. Limits taken from EH40 Occupational Exposure Limits or based upon raw material supplier information

VENTILATION:	Provide adequate general and local exhaust ventilation.
RESPIRATORS:	If ventilation is insufficient, suitable respiratory protection must be provided.
PROTECTIVE GLOVES:	Protective gloves should be used if there is a risk of direct contact or splash.
EYE PROTECTION:	Wear approved, tight fitting safety glasses where splashing is probable.
OTHER PROTECTION:	Wear appropriate clothing to prevent reasonably probable skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Medium viscous. Liquid
COLOUR:	Light (or pale). Tan
ODOUR/TASTE:	Organic solvents.
PHYSICAL DATA COMMENTS:	The information given is intended to indicate typical values and does not constitute a specification
SOLUBILITY DESCRIPTION:	Immiscible with water.
FLASH POINT (~C):	-25
METHOD:	CC (Closed cup).
FLAMMABILITY LIMIT - LOWER(%):	1.5
OTHER PHYSICAL DATA:	
SOLIDS CONTENT	approx 22 %
SPECIFIC GRAVITY	approx. 0.9 g,ml
BOILING POINT -	Initial 67 degrees C

10. STABILITY AND REACTIVITY

STABILITY: Avoid: Temperatures above 30C.

MATERIALS TO AVOID: Strong oxidizing agents. Flammable/comb. material.

HAZARDOUS DECOMP. PRODUCTS:Fire or high temperatures create: Acrid smoke/fumes. Carbon monoxide (CO). Carbon dioxide (C02).

II. TOXICOLOGICAL INFORMATION

INHALATION:	Vapour may affect central nervous system and cause headache, discomfort, vomiting or intoxication. Unconsciousness. May cause irritation to the respiratory system.
INGESTION:	Nausea, vomiting. Pneumonia may be the result if vomited material containing solvents reaches the lungs.
SKIN:	May cause sensitisation by skin contact. Product has a defatting effect on skin.
EYES:	Irritating to eyes.
HEALTH WARNINGS:	Prolonged or repeated inhalation may cause: Liver and/or kidney damage.

12. ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION:

Contamination of both aquatic and terrestrial environments should be avoided. Once the solvent has evaporated there is no residual risk to the environment. The concentration of solvent vapour in the atmosphere must meat limits set in the Environmental Protection Act.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS:

Waste product comes within the scope of The Special Waste Regulations *1996.* Emptied containers and those containing scrap or spilt product should be re-sealed or re-lidded so that any vapour is confined to the container. They should be stored as full containers. Disposal must be in accordance with regulations by an authorised company.

14. TRANSPORT INFORMATION

ROAD TRANSPORT:

UN No. ROAD:	1133
ADR CLASS No.:	Class 3; Flammable liquids
ADR ITEM No.:	5(c)
PROPER SHIPPING NAME I:	ADHESIVES

SEA TRANSPORT:

IMDG CLASS: 3.1

IMDG PACK G: III

15. REGULATORY INFORMATION

LABEL FOR SUPPLY:	HIGHLY FLAMMABLE and HARMFUL
RISK PHRASES:	R-l 1 Highly flammable
	R-20 Harmful by inhalation
	R-43 May cause sensitisation by skin contact
	R-66 Repealed exposure may cause skin dryness or cracking
SAFETY PHRASES:	S-2 Keep out of reach of children
	S-16 Keep away from sources of ignition - No Smoking
	S-24 Avoid contact with skin
	S-51 Use only in well ventilated areas.

S-7/9 Keep container tightly closed and in a well ventilated place.

UK REGULATORY REFERENCES: Chemicals (Hazard Information & Packaging for Supply) Regulations 1994

16. OTHER INFORMATION:

USER NOTES: This product should be used as directed by Evode Ltd. For further information consult the product data sheet or contact Technical Services.

INFORMATION SOURCES: This safety data sheet was compiled using the current safety information supplied by the distributors of the component raw materials.

REVISION COMMENTS: This safety data sheet supersedes all previous issues and users are cautioned to ensure