A NEW FORCE IN CHEMICAL MANUFACTURING

Unit 2, 14-16 Lee Holm Road
St Marys NSW 2760
Australia

Ph: 1300 738 250 (Australia)
Ph: +61 2 9833 9766 (International)
Fax: 02 9623 3670

sales@chemtools.com.au
www.chemtools.com.au

TECHNICAL DATA SHEET

AUGUST 2014

PRODUCT NAME

8414 Cyanoacrylate Adhesive

PACKAGING OPTIONS

Part Number	Available Size
8414-20	20g
8414-50	50g
8414-500	500g

Refer to MSDS for product safety guidelines

8414 Modified Ethyl Cyanoacrylate Adhesive

Chemtools® 8414 is medium viscosity cyanoacrylate adhesive, with enhanced performance on vinyl and other plastics.

APPLICATIONS:

- Specially formulated to bond various plastics such as ABS, polycarbonate, styrene, polypropylene, PVC and polyesters, PET, etc.
- Bonding vinyl plastics to themselves or to metals.
- Optical goods, Medical devices, Telephone and Camera manufacturing, Toys, Gift items, O-Rings, etc.

BONDS:

Acrylic	Polycarbonate	Polyimide	PVC
PEEK	PETG	Polysulfone	PET
Latex	ABS	Rubber	Metals

BONDING TIMES:

Under normal conditions, the surface moisture initiates the curing process. Functional strength develops in a short time but curing continues for at least 24 hours before full chemical/solvent resistance is developed. The rate of cure will depend on substrate used.

Stainless Steel	15 - 30 seconds	ABS	2 - 10 seconds
Polycarbonate	15 - 50 seconds	PVC	2 - 10 seconds
Neoprene	> 5 seconds	Phenolics	5 - 15 seconds
Aluminium	2 - 10 seconds	Nitrile Rubber	5 - 7 seconds

LIQUID PROPERTIES:

Composition	Ethyl Cyanoacrylate
Appearance	Colourless liquid
Viscosity @ 25°C (Brookfield LVF, Spindle 1 - 60 rpm)	70 - 100 cps

CURED ADHESIVE PROPERTIES:

Gap Filling	0.2 mm
Tensile Shear Strength	15 - 18 N/mm^2
Service Temperature Range	-60 to +80°C
Full Cure	24 hours
Melting Point Temperature	160 to 170°C

MECHANICAL PROPERTIES:

Shear Strength (ASTM D1002/DIN 53283)

ABS	8 - 14 N/mm^2
Neoprene Rubber	10 - 15 N/mm^2
PVC	6 - 9 N/mm^2
Acrylic	10 - 15 N/mm^2
Polycarbonate	5 - 20 N/mm^2

PHYSICAL PROPERTIES:

Coefficient of Thermal Conductivity, ASTM C177, $W.m^{-1}.K^{-1}$	0.10
Coefficient of Thermal Expansion, ASTM D696, K^{-1}	90 x 10^{-6}
Glass Transition Temperature, ASTM E228	125°C
Dielectric Strength, ASTM D149, V/mil	625

CHEMICAL RESISTANCE PROPERTIES:

		% Initial Strength Retained	
Chemical	**Temperature**	***500 hours***	***1000 hours***
Isopropanol	22°C	85	85
Petrol	22°C	80	75
Motor Oil	40°C	90	90
Mineral Spirit	22°C	90	90

APPLICATION INSTRUCTIONS:

- All surfaces must be clean, dry, dust and grease free. Best result will be achieved with surfaces that have been lightly abraded immediately prior to bonding.
- If using accelerator apply to one component surface only. Apply thin film of adhesive to the other surface and bring the pieces together immediately. Hold for few seconds without disturbing the joints.
- Thin bond lines favour high cure speed. Increasing the bond gap will slow down the rate of cure.

STORAGE:

Anaerobic adhesives shall be ideally stored in a cool, dry place in unopened containers at a room temperature between 7°C to 28°C. Please do not return any unused material to its original container.

PRECAUTIONS:

This product is capable of producing adverse health effects ranging from minor skin irritation to serious systemic effects. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheets (MSDS) for this and all other products being used are understood by all persons who will work with the material.

WARRANTY:

All products purchased from or supplied by Chemtools® are subject to terms and conditions set out in the contract. Chemtools® warrants only that its products meet the specifications designated as such herein, or in other publications. All other information supplied by Chemtools® is considered accurate, but is furnished upon the express condition. The customer shall make its own assessment to determine the products suitability for a particular purpose. Chemtools® makes no other warranty, either expressed or implied, including those regarding such other information, the data upon which the same is based, or the results to be obtained from the use thereof; that any product shall be merchantable or fit for any particular purpose; or that the use of such other information or products will not infringe any patent.