

Polychioroprene	SPRAYABLE, HEAT RESISTANT CONTACT ADHESIVE	A.3416					
20 <u>+</u> 2%	DESCRIPTION Apollo A3416 is a sprayable, high heat resistant contact adhesive exhibiting fast solvent flash off and a long open tack time.						
100 – 200 cP at 20°C	It demonstrates excellent adhesion to a wide range of substrates such as wood, decorative laminates, polyurethane foam, elastomers, plastics and metals. In particular, the excellent hot bond strength of Apollo A3416 makes it suitable for the postforming of decorative laminates onto chipboard and MDF cores, using a wide range of static and continuous post-forming equipment e.g. Evans Rotork, Brandt Static, Bonding Systems.						
Neutral or tinted							
,	APPLICATION						
2 – 8 mins	Surfaces to be bonded should be clean, dry and free from loose particles dust and grease. Apollo A3416 may be sprayed hot or cold. Hot spraying gives better atomization, better coverage and faster solvent evaporation. In conditions of high humidity, hot spraying will prevent a 'bloom' forming on the adhesive surface which would lead to poor bonds being made. Apollo A3416 may be sprayed through most equipment, but for best results a Devilbiss JGV-562 gun fitted with FX fluid tip and needle, and a 777 air-cap is recommended. Atomising pressures of 70-90 psi and fluid pressures of 10-15 psi are required. Apply an even coat of adhesive to both surfaces to be bonded. Allow a minimum of 2 minutes before mating surfaces.						
8 – 10m²/ltr							
Solvent 1							
-18°C							
6 months @ 4 - 25°C		* V					







Ensure intimate contact and coalescence of the adhesive films by passing the laminate through nip rollers or by platen pressing, using as much pressure as possible without crushing the components. Sustained pressure is not necessary. The high initial strength of the adhesive allows panels to be handled immediately.

SPECIAL COMMENTS

- 1. A.3416 is normally tinted red for easy observation of coverage but can be supplied in neutral or tinted in other colours on request.
- 2. Bonds are resistant to moisture, dilute acids and alkalis, and many oils (non aromatic types).
- 3. Store at temperatures above 4°C (40°F). Prolonged storage at lower temperatures may cause the formation of a 'gel' which will then necessitate re-processing.
- 4. A.3416 should only be sprayed on to polystyrene foam when adequate air is available (volumes of 23 c.f.m. and pressures of at least 70 p.s.i.) or when hot sprayed through recommended equipment.
- 5. In conditions of high humidity a 'bloom' may form on the surface which reduces tack and coalescence. Bonds should not be made when this occurs.

Ref : A.3416 Date : 07/07/2004

The above figures do not constitute a specification. They represent typical values obtained for this product.

Before using this product please ensure that you have been supplied with and have read carefully the following information:

- 1. The hazard labels (complying with CHIP 3 Regs 2002 and CDG/CPL Regs).
- 2. Apollo Material Safety Data Sheet A.3416

SAFETY DATA SHEET

A3416

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Issued: 20/09/05

Revision No: 5

Sent to: ALANSONS INDUSTRIAL SUPPLIES

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product name: A3416

713110

Use / description of product: Adhesive

Company name:

Apollo Chemicals Limited

Sandy Way

Amington Industrial Estate

Tamworth
Staffordshire
B77 4DS

United Kingdom

Tel: +44 (0) 1827 54 281
Fax: +44 (0) 1827 53 030

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2. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous ingredients: ACETONE 10-30%

EINECS: 200-662-2 CAS: 67-64-1 [F] R11; [Xi] R36; [Xi] R66; [-] R67

TOLUENE 1-10%

EINECS: 203-625-9 CAS: 108-88-3

[F] R11; [Xi] R38; [Xn] R48/20; [Xn] R63; [Xn] R65; [-] R67

METHYL ETHYL KETONE 10-30%

• MIXED ALIPHATIC HYDROCARBONS 30-50%

[F] R11; [Xi] R38; [N] R51/53; [-] R67

3. HAZARDS IDENTIFICATION

Main hazards:

Highly flammable. Irritating to skin. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Possible risk of harm to the unborn child. Vapours may cause drowsiness and dizziness.

Other hazards: In use, may form flammable / explosive vapour-air mixture.

4. FIRST AID MEASURES (SYMPTOMS)

Skin contact: There may be irritation and redness at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: Nausea and stomach pain may occur. There may be vomiting.

Inhalation: Exposure may cause coughing or wheezing. Narcotic effect.

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4. FIRST AID MEASURES (ACTION)

Skin contact: Remove all contaminated clothes and footwear immediately unless stuck to skin. Wash the

affected area thoroughly with soap and water and rinse thoroughly. Seek medical help if

symptoms persist

Eye contact: Bathe the eye with running water for 15 minutes. Transfer to hospital for specialist examination.

Ingestion: Do not induce vomiting. If conscious, give half a litre of water to drink immediately. Transfer to

hospital as soon as possible.

Inhalation: Remove casualty from exposure ensuring one's own safety whilst doing so. Obtain medical help

if there is difficulty breathing Consult a doctor if symptoms persist.

5. FIRE-FIGHTING MEASURES

Extinguishing media: Carbon dioxide. Alcohol or polymer foam. Dry chemical powder.

Exposure hazards: Highly flammable. In combustion emits toxic fumes.

Protection of fire-fighters: Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin

and eyes.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Eliminate all sources of ignition. Mark out the contaminated area with signs and prevent access

to unauthorised personnel. Turn leaking containers leak-side up to prevent the escape of liquid.

Environmental precautions: Do not discharge into drains or rivers. Contain the spillage using bunding.

Clean-up procedures: Absorb into dry earth or sand.

7. HANDLING AND STORAGE

Handling requirements: Ensure there is sufficient ventilation of the area. Smoking is forbidden. Avoid direct contact with

the substance. Use non-sparking tools.

Storage conditions: Store in cool, well ventilated area. Keep away from sources of ignition. Keep container tightly

closed

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Workplace exposure limits

WEL (8 hr exposure limit): 191mg/m3

WEL (15 min exposure limit): 574mg/m3

Hazardous ingredients: ACETONE

WEL (8 hr exposure limit): 1210 mg/m3 WEL (15 min exposure limit): 3620 mg/m3

TOLUENE

WEL (8 hr exposure limit): 191 mg/m3 WEL (15 min exposure limit): 574 mg/m3

MIXED ALIPHATIC HYDROCARBONS

WEL (8 hr exposure limit): 1000mg/m3 WEL (15 min exposure limit): 1000MG/M3

Engineering measures: Ensure there is sufficient ventilation of the area. Ensure lighting and electrical equipment are not

a source of ignition.

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Respiratory protection: In case of insufficient ventilation wear suitable respiratory equipment. If exposure levels are

likely to be exceeded, use a full face mask fitted with an organic AXP3 filter for short term low level exposures. For long term or high level exposures, or when spraying, compressed airline

breathing apparatus should be used.

Hand protection: Avoid skin contact. For repeated exposure use Viton or 4H chemical gloves.

Eye protection: Safety goggles.

Skin protection: Wear protective work clothing sufficient to avoid skin contact. Wash hands regularily, before

breaks and at the end of the working day.

9. PHYSICAL AND CHEMICAL PROPERTIES

State: Liquid

Colour: Gold-brown

Odour: Characteristic odour

Evaporation rate: Fast

Oxidising: Non-oxidising (by EC criteria)

Solubility in water: Insoluble

Viscosity: Non-viscous

Boiling point/rangeoC: 56

Flammability limits %: lower: 0.6

upper: 13

Flash point C: -35

Autoflammability°C: 200

Relative density: 0.79

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to avoid: Sources of ignition.

Materials to avoid: Oxidising agents.

Haz. decomp. products: In combustion emits toxic fumes.

11. TOXICOLOGICAL INFORMATION

Hazardous ingredients: ACETONE

IVN RAT LD50 5500 mg/kg ORL MUS LD50 3 gm/kg ORL RAT LD50 5800 mg/kg

TOLUENE

IVN RAT LD50 1960 mg/kg ORL MUS LD50 2 gm/kg ORL RAT LD50 6900 mg/kg

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METHYL ETHYL KETONE

IPR RAT LD50 607 mg/kg

ORL MUS LD50 4050 mg/kg

ORL RAT LD50 2737 mg/kg

MIXED ALIPHATIC HYDROCARBONS

ORL RAT LD50 >5000 mg/kg

Chronic toxicity: Danger of serious damage to health by prolonged exposure through inhalation.

12. ECOLOGICAL INFORMATION

Mobility: Volatile.

Persistence and degradability: Biodegradable in part only.

Bioaccumulative potential: No data available.

13. DISPOSAL CONSIDERATIONS

Disposal operations: Arrange for disposal by a licenced waste disposal company

Disposal of packaging: Arrange for disposal by a licenced waste disposal company

NB: The user's attention is drawn to the possible existence of regional or national regulations

regarding disposal.

14. TRANSPORT INFORMATION

ADR / RID

UN no: 1133

0111101 1101

Packing group: II

Shipping name: ADHESIVES

Labelling: 3

ADR Class: 3

Classification code: Fl

Hazard ID no: 33



IMDG / IMO

UN no: 1133

Class: 3

Packing group: Il

EmS: F-E,S-D

Marine pollutant:

Labelling: 3

IATA/ICAO

UN no: 1133

Class: 3

Packing group: Il

Packing instructions: 305(P&CA); 307(CAO)

Labelling: 3

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15. REGULATORY INFORMATION

Hazard symbols: Highly flammable.

Harmful.

Dangerous for the environment.







Risk phrases: R11: Highly flammable.

R38: Irritating to skin.

R48/20: Harmful: danger of serious damage to health by prolonged exposure through inhalation.

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R63: Possible risk of harm to the unborn child.

R67: Vapours may cause drowsiness and dizziness.

Safety phrases: \$16: Keep away from sources of ignition - No smoking.

S23: Do not breathe vapour.

S38: In case of insufficient ventilation, wear suitable respiratory equipment.

S33: Take precautionary measures against static discharges.

\$36/37: Wear suitable protective clothing and gloves.

S61: Avoid release to the environment. Refer to special instructions / safety data sheets.
S62: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Precautionary phrases: Restricted to professional users.

ote: The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

16. OTHER INFORMATION

Risk phrases used in s.2: R11: Highly flammable.

R36: Irritating to eyes.

R66: Repeated exposure may cause skin dryness or cracking.

R67: Vapours may cause drowsiness and dizziness.

R38: Irritating to skin.

R48/20: Harmful: danger of serious damage to health by prolonged exposure through

inhalation.

R63: Possible risk of harm to the unborn child.

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R65: Harmful: may cause lung damage if swallowed.

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic

environment.

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

[final page]

reermiear characteristies

compae

	T G	rede	Standard	Fire retardent M1	Postforming	Standard
	Class	ification	. cas	CCF	CGS	
	4.4.	255 M mm	4-6-8-10-125	4 - 6 - 8 - 10 - 12.5	4-6-8-10-125	4-6-8-10-12
The second		BERLENCS T	Section and the			
EGINETY NEW DI 438-2-4	Thickness between in min	ere ere	an and a state of the state of t		The state of the s	and the same
	4 mm		±7%	±7%	±7 %	27%
	6 to 12.5 mm		±5%	±5%	±5%	-5%
	Longitivalità telerence				***	
	an length and width in mm		-0/+10	-0/+10	-0/+10	-0/+10
	SENSIONES MILITAL		<u> </u>	≤1.5	\$1.5	≤ 1.5
	straightness mm/m		≤1.5	\$1.5	≤ 1.5	\$1.5
EM 498 9 E	Buriane delects			34.0	3 44	
EN 438-2-5	spots in min/m²		<u> </u>	≤1	\$1	51
	inser in mor/m²		<u>≤10</u>	≤10	≤10	<u>≤10</u>
CO. 400 C 2	Abracies resistance (m of re-	- Indianal		2 10	210	310
ER 438-2-4	without structure		≥ 350	≥ 350	≥350	≥ 350
	with structure	 -+	150	150	£ 33V	₹ 330
	OBBIGSCORE T		50	50	50 ~	
EN 450-2-7	Resistance to beiling water		J9			
ER 486-2-/	Mars and A second second		2%	2 %	2 %	2.6 %
	thickness		2 %	2%	2%	2 %
			Class 4	Class 4	Class 4	Class 2
	appearance			V1659 4	U633 4	U455 3
EN 430-2-0	Separticial hast resistance 180 °S		Class 4	Clast 4	Class 4	
EF (38-2-9	Harminal Stability					
	tergitudinal is %		< 0.25	< 0.25	< 0.25	< 0.25
	transverse in K		< 0.55	< 0.55	< 0.55	< 0.65
ÐI 438-2-12	Impact resistance (large bail) in N			'		
	diameter of imprint (in mm)		< 10	< 10	<18	< 10
	height of fall (in m)	T	≤€ mm: 1.40 € to 12.5 mm: 1,80	≲6 mm: 1.40 8 to 12.5 mm: 1.90	≤6 mm: 1.40 8 to 12.5 mm: 1.60	≤6 mm: 1. 8 to 12.5 mm; 1
EN 436-2-13	Resistance to cracking		Class 4	Class 4	Class 4	
EN 434-2-14	Resistance to scratching in N		Non pearlescent ≥ 2	Non poorlescent ≥ 2	Non pearlescent ≥ 2	≥2
	Redstance to stairs		Peerléscent + ≥ 1.75	Pearlescent + ≥ 1.75	Pearlissent + ≥ 1.75	
EN 430-2-15	groups 1 and 2		Class 5	Class 5	Class	Clarxs 5
			Ciass 4	Class 4	Cless 5	Class 4
	groups 3 and 4 Colour factories under artificial		> £	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Closs 4	23
EN 430-2-10			Class 3	Class 3	≥ 6 Class 3	Class 3
EN 431-2-10	Resistance to algoratic horas	—}-	Class 4	Class 4	Class 4	Class 4
EN 434-2-27	Redstance to humidity		Class 4	Class 4	Closs 4	Cluss 4
2N 44-2-2/	Postlyming radius in me		No No	No.	minimum radius 15 mm	No
	Latina small cones at min			< 6 mm M1 (Class 1)	This of Salama mending	
	Pire rating		Class 2	≥ 6 ram M1 (Class 0)	M3	#4
	South		1.4	1.4	1.4	1.3 (depending on species)
	Thornal conductibility A. in Neel/m.h. "C		8.1 to 0.5	0.1 to 0.5	0.1 to 0.5	0.1 to 0.5
SØ 178	Modulus of stanticity in Mpa		≥ 10 000	≥ 9 000	≥ 9 000	≥ 10 000
SO 178	Bonding strangth to Mpa		≥100	580	≥ 80	≥ 100
90 R527	Toroite strength in Mps		≥ 70	260	≥ 60	≥ 70
	Chierine content in %		0	0	200	0
****	Agrama empire galangul an gocat.	-	100 to 200	100 to 200	100 to 200	100 to 200
	Hygienic surface		autherized	euthorised	authorised	authorised
				##/1997 1999	OR CHANGE STATES	(no certificate)

Placings Compact 801 fire retardent grade: contact Polymy.



HEALTH & SAFETY INFORMATION POLYREY DECORATIVE LAMINATES

This information outlines the precautions which should be taken in the handling, processing, and fabrication of decorative laminates. It has been prepared in accordance with the format developed by the British Plastics Federation to comply with Section 6 of the Health & Safety at Work Act, and with reference to Guidance Note G.S.8. -'Articles and Substances for use at Work'.

1. Products

The materials referred to are automine surfaced high pressure decorative terminates. They are supplied in sheet form in a veriety of sizes, thicknesses, and surface finishes. Laminates besically consist of paper and thermo-hardening synthetic resins, treversible channels bonds of paper during the custing process which occurs under conditions of high pressure and temperature. The resins used are the reaction products of phonol and formuldehyde, uren and formaldehyde, and melamine and formuldehyde, and are controlled to impart the required characteristics of wear, stein, impact, and fire resistance, and mechanical strength and formability in the finished feminets.

Decerative luminates are essentially for surfacing and may be bonded to atmost any substrate, the most common being chipbeard, plywood, hardboard, aluminium, and mineral based.

Polyrey laminates do not contain asbestos.

2. Haudling and Storage

Laminates are chemically stable at normal temperatures and are no hazard ender normal storage conditions. They are usually delivered bended on pullets which are suitable for transporting the load to and from stores by tork lift truck. Normal precautions should be taken to availd injuries in transport and handling from unstable stacks and loads, incorrect Wiling methods, and driving practices. The weight of a pollet depends on the size, number of sheets, and grade, but a useful guide in the calculation of a lead is helf a lb. per sq. ft. for a 1.3 mm laminate.

All terminates have a hard surface, (some may be smooth), and precautions (e.g. strapping) should be taken to avoid accidental slippage of stacked material in storage or transport.

Precautions should be taken to avoid cut injuries caused by sharp and burved edges. Broken leminates are perticularly dengerous in this respect, and the danger can be fessened by taping the break. Gloves should always be worn when handling laminates. Displaced sheets in a stack are also hazardous, perticularly at face level, and they should be picked up as they are very slippery when tace down on a concrete floor.

3. Fire Proceedions

Laminstes are difficult to ignite and are not hazardous as a potential source of ignition, but in a conflagration, they will contribute to the fire. The hazard relating to antoler obscuration and needlus gases from a fire derives mainly from the items in the room which will ignite first and burn vigorously. Items which are difficult to ignite and which have a tow surface spread of flarms will contribute much less to the smotes obscuration and needlus gas hazard. All organic products, whether synthetically produced - like plastics, or naturally occurring - such as wood or wool, will produce gases of verying composition, depending on the conditions under which burning takes place. The texts gas most commonly found in fire gases from organic materials is carbon monotoid. The presence of elements other than carbon, hydrogen and oxygen in plastics can result in the production of other toxic gases. In the case of high pressure decorative laminates, if any other gases are released, the amounts will be extremely small, and the effects of carbon monotoide and oxygen depletion will far outweigh the dangers from such trace quantities.

Normal fire fighting procedures should be followed, including the wearing of breathing apparatus. Water and dry powder extinguistiants are particularly suitable but CO_2 and Halon can also be used, the choice depending on the circumstances.

Finely divided dust arising from the fabrication of laminates (i.e. sanding or sawing) are a potential source of explosion and combustion, and the propagation of fame in dust clouds and accumulations is very rapid.

Care must be taken in the design and servicing of pneumetic handling and extraction systems to avoid explosive conditions. Explosion relief and isolation should be provided and potential ignition sources eliminated.

in all cases, expert advice should be obtained. A very useful reference on this subject is booklet No.22 in the Health & Safety at Work series - "Dust Explosions in Factories" obtainable from HM Stationary Office

4. Machining and Fabrication

Machining of leminates by sawing or grinding may generate dust and noise. Local exhaust ventilation should be provided at points where excessive dust occurs and the comments made in paragraph 3 noted in the design of such systems. The properties of substrates to which the laminate may be bonded must also be taken into consideration when assessing mechaning leazands. The working of aluminism/aminate composite board requires particular care, as any fine dust generated is highly explosive and requires special precautions. It should not be fed into central dust collecting systems with other materials.

Care should be taken to protect the eyes from splinters and dust and cuts, and the "Protection of Eyes Regulations" must be met.

Excessive noise is likely to occur during grinding and saving and suitable precautions (i.e. screens and ear protection) should be taken. Reference should be made to the publication "Code of Practice for reducing the exposure of Employed Persons to Noise", which is avaitable from HM Stationary Office.

5. Health & Environmental Aspects

Decorative taminates are fully cured and chemically inert. They are not classified as tests or harmful. If finely ground during fabrication, the accidental inhalption of small quantities of dust need not be cause for concern, but in all cases where the machining generates large scale airbome dust particles, dust masks and local exhaust ventilation should be provided to ensure dust is directed away from the breathing zone of the operator.

Most powders can cause irritation with persistent direct contact with the skin. The sensitivity of individuals veries considerably, but a few may develop non-injective industrial dermatilis. Problems of this nature can invariably be avoided by simple basic precautions, such as the use of dust masks, gloves, overalls, and care with personal hygiene. Properly dispensed pre-work harrier crearus, scaps, washing facilities, and afterwork conditioning crearus will prove effective. In the exceptional case of a person with an altergic sensitivity to the dust, the only remedy is to avoid all contact at any level of exposure. Professional medical advice should be obtained in such cases.

There is no measurable furne or reactive constituent in the larminate.

5. Product Information

Technical literature is available describing the properties and characteristics of each grade of terminate and the applications and recommended fabrication methods. Users should be familiar with the contents of this literature. If there is any doubt, further information and advice should be requested.

7. Waste Disposal

Much of the content and recommendations in sections 3 to 6 apply equally to waste disposal.

In general, waste may be disposed of by controlled incineration or burial, but the requirements of the 'Control of Pollution Act' should be

The material is not classified as a "notifiable" waste

