AZ303 DEVELOPER

AZ303 Developer is designed to meet the demanding micro lithographic and processing requirements for printed circuit board production. It is an odourless, aqueous alkaline solution for immersion as well as spray developing processes. Precise manufacture and stringent quality control ensure batch to batch reproducibility and product quality.

CAUTION! BOTH SKIN AND EYE PROTECTION SHOULD BE WORN WHEN USING DEVELOPER SOLUTION

DIRECTIONS FOR USE

If using Tray:

Immerse exposed PCB in developer for approximately 2 minutes. The tray should be gently rocked so as to provide constant flow of developer solution over the surface of the board. To obtain best results, use the solution at a temperature of 25°C. Temperatures below this are acceptable but the immersion time will need to be increased. Increasing the developing time by up to 50% should not cause problems. Overdeveloping can generally be identified by the photo resist becoming dull or pinholed. Under developing will give poor etching results and copper patches.

If using PCB Developing Tank:

Follow the instructions supplied with the tank. In general a 4.5 litre mix will saturate after 8 square metres of photo resist has been removed.

STORAGE

If using Tray:

Transfer the solution to an unbreakable well stoppered container. DO NOT store in direct sunlight.

If using PCB Developing Tank:

The solution may remain in the tank, but the tank heater must be switched OFF and the tank lit must remain firmly in position to prevent loss by evaporation.

Safety Data Sheet in accordance with 91/155/EEC			Page 1 of 3
Trade Name	AZ 303 Developer		
Production Number	11 RXNAF25	**Version**	1
Status	24 Aug 95	**Substance Code**	84847

EC Safety Data Sheet

1. Identification of the substance/preparation and company:	
Production Details	AZ 303 Developer
Supplier Details	Kelan Circuits Ltd Wetherby Road Boroughbridge YO51 9UY
Information Provided by	Technical Manager
Emergency Telephone Number	0044 (0)1423 321100

2. Composition/Information on Ingredients:		
Chemical Characterization	Aqueous Alkaline Preparation	
UN Number	1719	
Hazardous Ingredients	Potassium Hydroxide	
	Concentration	<1.5%
	CAS Number	1310-58-3
	Hazard Symbols	Xi
	R Phrases	36/38
	Sodium Hydroxide	
	Concentration	<1.5%
	CAS Number	1310-73-2
	Hazard Symbols	C
	R Phrases	35
	Mono-/Di-decylphenpxybenzenedisulfonate, Sodium Salt	
	Concentration	<1.5%
	Hazard Symbols	Xi
	R Phrases	36/38

3. Hazards Identification	
Causes Severe Burns	

4. First Aid Measures	
General Information	Remove soiled or soaked clothing immediately
After Inhalation	When spray fog inhaled, seek medical aid
After Contact with Skin	In case of contact with skin, wash off immediately with plenty of water. Consult a doctor if skin irritation persists
After Contact with Eyes	Rinse the affected eye with plenty of water, at the same time keep the unaffected eye well protected. Summon a doctor immediately.
After Ingestion	Let plenty of water be drunk in small gulps. Do not induce vomiting.

5. Fire Fighting Measures	
Suitable Extinguishing Media	Compatible with all usual extinguishing media

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6. Accidental Release Measures

Methods of Cleaning up/Taking up	Rinse downf with lots of water. f required add add Citric Acid to neutralise pH value

7. Handling and Storage

Wear suitable protective clothing

8. Exposure Controls/Personal Protection

Personal Protection Equipment	Hygiene Measures	Observe the usual precautions when handling chemicals
	Hand Protection	Protective Gloves - eg when filling/emptying processing equipment
	Eye Protection	Safety Goggles - eg when filling/emptying processing equipment

9. Physical and Chemical Properties

Appearance	Form	Liquid
	Colour	Brownish
	Odour	Odourless
Data Relevant to Safety	Boiling Temperature	Approximately 100°C
	Flash Point	Not applicable
	Vapour Pressure	Approximately 23 mbar at 20°C
	Solubility in Water	Miscible
	pH Value	Approximately 13 at 20°C
	Viscosity	Approximately 1 mpa*s at 20°C

10. Stability and Reactivity

Hazardous Reactions	No hazardous reactions known
Hazardous decomposition Products	No hazardous decomposition products known

11. Toxicological Information

Remarks	Caustic effect on the skin and mucous membranes

12. Ecological Information

Harmful effects to bacteria	According to experience, is not harmful in purification plants after neutralisation in quantities <10 g/l

13. Disposal Considerations

Product	As ready made preparation, may be released into drains after neutralisation as necessary. Flush with plenty of water. If discharge is forbidden by water bye laws, dispose of as waste product.

14. Transport Information

Road Transport	ADR	8/42 B		
	Product Characteristics	1719 - Caustic Alkali Liquid, NOS (Sodium/Potassium Hydroxide Solution		
	Hazard Number	80	Substance Number	1719
	RID	8/42 B		
	Product Characteristics	1719 - Caustic Alkali Liquid, NOS (Sodium/Potassium Hydroxide Solution		
	Hazard Number	80	Substance Number	1719

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Inland Waterways Transport	ADNR	8/42 B		
	Product Characteristics	1719 - Caustic Alkali Liquid, NOS (Sodium/Potassium Hydroxide Solution		
Marine Transport	IMDG/IN	8/1719/II		
	EmS	8-06	MFAG	705
	Correct Technical Name	1719 - Caustic Alkali Liquid, NOS (Sodium/Potassium Hydroxide Solution		
Air Transport	ICAO/IATA-DGR	8/1719/II		
	Correct Technical Name	1719 - Caustic Alkali Liquid, NOS (Sodium/Potassium Hydroxide Solution		
Despatch by Post		NOT PERMITTED		

15. Regulatory Information

Labelling in Accordance with GefStoffV/EC	The product is classified and labelled in accordance with EC directives and the chemicals hazard information and packaging regulations 1993	
Hazard Symbols	C Corrosive	
Hazardous Components to be indicated on label	Contains:	Potassium Hydroxide
		Sodium Hydroxide
R Phrases	36/38	Irritating to eyes and skin
S Phrases	2	Keep out of reach of children
	26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
	37/39	Wear suitable protective clothing, gloves and eye/face protection
Nation Regulations	Water Hazard Class (Germany)	2 (self classification)
Other Regulations	VbF	Is not subjected to the regulations for flammable liquids
	BG Data Sheet M 804	Substances causing irritation/corrosive substances

16. Other Information

This information is based on our present state of knowledge. It should not therefore be construed as a guarantee of specific properties of the products described or their suitability for a particular application

Date of Printing	22 August 1996