



Date: 06.12.2006

Page: 1 of 6

MATERIAL SAFETY DATA SHEET

in accordance with EU Directive 2001/58/EC

Cleaning concentrate for ultrasound bath cleaning of printed circuit boards

EM-303

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

Commercial product name

EM – 303

Use

Removal of resin flux on equipped, incorrectly printed and blank printed circuit boards/hybrids. Removal of soldering masks, unsoldered paste, grease, fingerprints, oils

Distributor

EMAG AG
Gerauer Strasse 34
D-64526 Mörfelden, Germany
Phone: +49-6105-406700 / fax: +49-6105-406750

Internet

www.emag-germany.de

E-mail

service@emag-germany.de

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterisation

CAS no.	EC no.	Chemical name	Weight %	Symbol	Hazard identification
22042-96-2-63-0	244-751-4	Phosphoric acid Na salt	< 2.0	-	-
497-19-8	207-838-8	Sodium carbonate	< 5.0	Xi	R-36
1310-73-2	215-185-5	Sodium hydroxide	< 1.0	C	R-35
6834-92-0	229-912-9	Sodium metal silicate	< 3.0	C	R-34 – 37
1336-21-6	215-647-6	Ammonia solution 25%	< 2.5	C, N	R-34 – 50
7732-18-5	231-791-2	Water	Rest	-	-

3. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form: liquid

Colour: clear, yellow

Odour: ammonia

pH

12.5 (conc.)
10.7 (1% in water)

Boiling point/boiling range

approx. +100°C

Flash point

-

Explosive properties

-

Oxidising properties

-

Vapour pressure

-

Relative density

1.08 g/cm³



Date: 06.12.2006

Page: 2 of 6

MATERIAL SAFETY DATA SHEET

in accordance with EU Directive 2001/58/EC

Cleaning concentrate for ultrasound bath cleaning of printed circuit boards

EM-303

Solubility in water	mixable
Viscosity	-
Melting point/melting range	< -6°C

4. STABILITY AND REACTIVITY

Conditions to avoid	-
Materials to avoid	Strong acids
Hazardous decomposition products	None, if handled and stored properly
Special notes	Do not mix with other substances

5. TOXICOLOGICAL INFORMATION

Ingestion (mg/kg body weight)	-
Skin contact (mg/kg body weight)	Irritating to eyes, skin and mucous membranes
Inhalation (mg/l/4h)	Irritating to mucous membranes
Sensibilisation	No sensibilising effect known

6. ECOLOGICAL INFORMATION

Disposal considerations

- Methods	Neutralisation
- Analytical methods	-
- Disposal classification	> 90% according to German Washing and Cleansing Agents Act WRMG
- Evaluation text	Biodegradable
- Other information	Water hazard class: 1 (according to German Administrative Regulation on the Classification of Substances VwVwS of the 17.05.99., Annex 4, paragraph 3)



Date: 06.12.2006
Page: 3 of 6

MATERIAL SAFETY DATA SHEET

in accordance with EU Directive 2001/58/EC

Cleaning concentrate for ultrasound bath cleaning of printed circuit boards
EM-303

7. TRANSFORMATION INFORMATION

Land transportation	Not a hazardous material with respect to transportation regulations.
Transportation on inland waterways	-
Transportation by sea	Not a hazardous material with respect to transportation regulations.
Air transportation	Not a hazardous material with respect to transportation regulations.

8. REGULATORY INFORMATION

Identification letter / hazard indication according to 67/548/EEC and 1999/45/EC	Xi – Irritating
R-phrases	R36/38 – Irritating to eyes and skin
S-phrases	S2 – Keep out of the reach of children S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice S37/39 – Wear suitable gloves and eye/face protection
Identification letter / hazard indication according to national regulations	Water hazard class: 1 (according to VwVwS of the 17.05.99., Annex 4, paragraph 3)
Other information	-

9. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits	Values only relevant for the handling of the concentrate. The 10% solution does not need to be monitored. Ammonia: MAK (TRGS 900): 35mg/m ³ / 50ml/m ³ / MAK (DFG): 14mg/m ³ / 20ml/m ³ . Basis: compilation of valid lists (MAK, TRGS 900)
General protective measures	Take standard protective measures for the safe handling of chemicals. Keep away from food, beverages and feed. Wash hands before taking a break and at the end of the shift.
Respiratory protection	Not required - no aerosol production in application area.
Hand protection	Protective gloves (made from natural rubber, nitrile rubber, butyl rubber or PVC; material thickness: 0.2 mm)
Eye protection	Protective goggles
Body protection	-



Date: 06.12.2006
Page: 4 of 6

MATERIAL SAFETY DATA SHEET

in accordance with EU Directive 2001/58/EC
Cleaning concentrate for ultrasound bath cleaning of printed circuit boards
EM-303

10. HANDLING AND STORAGE

Handling

Safe handling measures Wear protective goggles and rubber gloves. Ensure adequate ventilation.

Fire and explosion protection measures No need for special measures

Storage

Information on storage conditions Store in closed containers.

Storage class Storage class 12 (non-flammable liquids)

11. FIRST AID MEASURES

General measures Remove contaminated or soaked clothing. If you feel unwell, seek medical advice.

After inhalation After inhalation of considerable volume of gases, breathe fresh air.

After skin contact Wash with plenty of water and soap. If strong irritation persists, consult doctor.

After eye contact Immediately rinse for minimum 15 minutes with plenty of water, keeping the eyelid open and consult doctor.

After ingestion Drink plenty of water. Prevent vomiting. Consult doctor.

12. FIRE FIGHTING MEASURES

Extinguishing media All conventional extinguishing agents

Unsuitable extinguishing media -

Protective clothing -

Specific fire hazards -

Additional instructions Product is not flammable. Extinguish fire in the vicinity of the material with suitable extinguishing agents.



Date: 06.12.2006
Page: 5 of 6

MATERIAL SAFETY DATA SHEET

in accordance with EU Directive 2001/58/EC
Cleaning concentrate for ultrasound bath cleaning of printed circuit boards
EM-303

13. ACCIDENTAL RELEASE MEASURES

Precautionary measures for personal protection	Not required - no aerosol production in application area.
Precautionary measures for environment	Do not allow undiluted and unneutralised product to enter sewage system. Keep away from surface and ground water.
Cleaning procedures Additional instructions	Take up mechanically, dispose of as described in section 14. Immediately take off contaminated/soaked clothing and footwear.

14. PROCEDURES FOR DISPOSAL



The information in this section applies exclusively to the pure, uncontaminated product

Methods of disposal

- | | |
|---------------------------------|--|
| - Unused product | Dispose of according to the applicable statutory regulations. |
| - Residual quantities | Dilute neutralised used product with 4 times the same volume of water and disposed of through the sewage system. |
| - Contaminated packaging | The ingredients are biodegradable. |

15. OTHER INFORMATION

Sections amended in this version of the document	-
Wording of R-phrases of ingredients specified in section 2	R-34 – Causes burns R-35 – Causes severe burns R-36 – Irritating to eyes R-37 – Irritating to eyes R-50 – Very toxic to aquatic organisms
Wording of S-phrases of ingredients - specified in section 2	
Additional instructions	Use product only according to the use instructions.



Date: 06.12.2006

Page: 6 of 6

MATERIAL SAFETY DATA SHEET

in accordance with EU Directive 2001/58/EC

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EM-303

16. POTENTIAL HAZARDS

Hazards in the event of improper use Irritating to eyes and skin

Other hazards -

Specific hazards -

The information contained in this Material Safety Data Sheet has been compiled to the best of our current knowledge. It does not constitute a guarantee for product properties and shall not be interpreted as the basis of a legal contract.