

TECHNICAL DATASHEET

*DemeFlux***6681 5070**

***"RMA/ No clean" - flux on colophonium basis,
slightly activated, halogenfree, doseable***

DemeFlux 68105070 is activated regarding RMA (ANSI/J-STD-004: Flux type RO LO) and does not contain any types of halogens (halogenfree). It is suited as well for SM- as for hybrid application. An other application is soldering sheres at production of BGA components. Because of good temperature resistance it is also suited for high melting solder applications. Outstanding properties of the flux

are good wetting behaviour and excellent cleaning performance in current materials (e.g. terpenes...). The small flux residues can remain on solder joints because of passing SIR tests according to IPC-TM-650 and corrosion tests according ANSI/J-STD 004. The flux is suited for printing or dispenser applications because of deaerated and vacuum-packed cartridges and therefore free of air bubbles.

1. Flux properties**1.1 Flux type (ANSI/J-STD 004)***RMA, no clean Type RO LO***1.2 Flux appearance***creamy, yellowish, thixotrop***1.3 Flux smell***neutral***1.4 pH- value***4,7 - 4,9***1.5 Viscosity (Brookfield-Helipath, IPC-TM 650)***250 Pa*s +/- 50 Pa*s***1.6 Fineness of grain (Grindometer)***< 30 µm***1.7 Copper mirror (IPC-TM-650)***no breakthrough***1.8 Qualitative Halide (IPC-TM-650)***pass***1.9 Quantitative Halide (IPC-TM-650)***0.0 %***1.10 Corrosion Test (IPC-TM-650)***no evidence***1.11 SIR test (IPC-TM-650)***pass***1.12 Electromigration resistance test (TR-NWT-000078)***pass*

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2. Storage

12 months at room temperature

3. Containers

*Sealed polyethylene-containers at 0.5 kg, 1 kg or 2 kg
Sealed polyethylene syringes at 5 g, 10 g and 30 g
Special containers on request*

4. Application:

- The flux paste exhibits no separation.*
- Viscosity is optimized for dispensing systems, minimum diameter 0,25 mm.*
- No predrying is necessary. If the flux is used for repairing, predrying at 150°C is recommended to prevent an explosive evaporating of solvents during the following solder step.*
- Storage of printed boards up to 72 hours at room temperature and humidity up to 75 % does not influence the solder quality.*
- Cleaning of flux residues is possible with CFC substitution products, e.g. terpenes as well as isopropyl alcohol assisted by ultrasonics.*
- Please observe the working instructions of the cleaning solvents in use.*

68105070/ December 2003/ Heilmann
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SAFETY DATA SHEET (91/155/EWG)**Flux 6681 5070**material No.
specification
VA-Nr**135920**Version
Revision date
Print Date**2.6 / GB**
27.03.2004
21.04.04**umicore****1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING****Product information**

Trade name : Flux 6681 5070

Company : Umicore AG & Co. KG
OS - RC
Produktsicherheit
Postfach 1351
Rodenbacher Chaussee 4
D-63403 Hanau-Wolfgang

Telephone : +49 (0)6181 59-6951
Telefax : +49 (0)6181 59-3636
Emergency telephone number : +49 (0)69 305-6420

Use of the Substance / Preparation : For industrial use

2. COMPOSITION/INFORMATION ON INGREDIENTS**Information on ingredients / Hazardous components**

- **Amines, coco alkyl, ethoxylated** >= 5% - <= 10%
CAS-No. 61791-14-8
C, N
R22, R34, R50, R53
- **Malonic acid** >= 3% - <= 7%
CAS-No. 141-82-2
Xn
R22, R36
EC-No. 205-503-0
- **2-ethylhexane-1,3-diol** >= 15% - <= 40%
CAS-No. 94-96-2
Xi; R41
EC-No. 202-377-9
- **Rosin** >= 40% - <= 70%
CAS-No. 8050-09-7
Xi; R43
EC-No. 232-475-7
- **Polyethylene glycol butyl ether**
CAS-No. 9004-77-7
Xi
R36
- **Castor oil**
CAS-No. 8001-79-4
EC-No. 232-293-8

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See chapter 16 for text of risk phrases

3. HAZARDS IDENTIFICATION

Irritating to skin.
Risk of serious damage to eyes.
May cause sensitization by skin contact.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST AID MEASURES**General advice**

Move out of dangerous area.

Inhalation

Take affected persons out into the fresh air.

Skin contact

After contact with skin, wash immediately with plenty of soap and water.
Take off all contaminated clothing immediately.

Eye contact

With eye held open, thoroughly rinse immediately with plenty of water for at least 10 minutes.
Consult an ophthalmologist.

Ingestion

Have patient drink plenty of water in small sips.
Do not induce vomiting.
Aspiration hazard!
In case of discomfort: Supply with medical care.

5. FIRE-FIGHTING MEASURES**Specific hazards during fire fighting**

Formation of flammable or explosive vapour/air mixtures possible.
In the event of fire and/or explosion do not breathe fumes.
Danger of explosion with fire.

Further information

Water used to extinguish fire should not enter drainage systems, soil, or stretches of water. Ensure there are sufficient retaining facilities for water used to extinguish fire. Contaminated fire-extinguishing water must be disposed of in accordance with the regulations issued by the appropriate local authorities.

Retention of fire-extinguishing water in Germany: see FireExtinguishing Water Retention Directive "LoeRueRL".

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions**

Do not breathe vapours/dust.
Avoid contact with skin and eyes.

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Keep people away from and upwind of spill/leak.
Wear personal protective equipment; see section 8.

Environmental precautions

Prevent penetration into soil, stretches of water and drainage systems.

Methods for cleaning up

Absorb with liquid-binding material, e. g.: sand diatomaceous earth inert absorbent.

Additional advice

Remove all sources of ignition.

7. HANDLING AND STORAGE**Handling****Safe handling advice**

The product should only be handled by trained personnel.
Ensure suitable suction/aeration at the work place and with operational machinery.
Keep out of the reach of children.
Do not breathe vapours/dust.
Avoid contact with skin and eyes.

Storage**Requirements for storage areas and containers**

Fumes may be released in closed storage rooms or during processing.
Keep container dry and tightly sealed - even empties.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Components with workplace control parameters****Other information**

When processing the product, the air in the workplace should be regularly monitored and employees exposed to the product should be given a regular medical check-up.

Personal protective equipment**Respiratory protection**

If workplace exposure limit is exceeded apply Respirator with brown A-type filter.

Hand protection

Wear protective gloves made of the following materials: solvent-resistant material.

Eye protection

safety goggles with side-shields.

Skin and body protection

Use suitable skin protective agents before handling product. Cleanse and apply cream to skin after work. Preventive skin protection recommended.
Wear suitable protective clothing.

Hygiene measures

Wash face and/or hands before break and end of work.

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21.04.04**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

Form	pasty
Colour	colourless
Odour	solvent
physical state	liquid

Safety data

Boiling point/range	243 °C	
Flash point	125 °C	
	Method:	DIN 51758
Ignition temperature	215 °C	
	Method:	DIN 51 794
Lower explosion limit	0.7 %(V)	
Upper explosion limit	5.3 %(V)	
Density	0.900 g/cm3	

10. STABILITY AND REACTIVITY

Conditions to avoid	When heated above flashpoint and/or with spraying or atomization, a flammable mixture may form with air.
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11. TOXICOLOGICAL INFORMATION*No results of animal experiments with the product available.***12. ECOLOGICAL INFORMATION****Elimination information (persistence and degradability)****Behaviour in environmental compartments****Ecotoxicity effects***No results of animal experiments with the product available.***13. DISPOSAL CONSIDERATIONS****Product**

Dispose of as waste requiring special control in accordance with the legal regulations issued by the appropriate local and national authorities.

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If recycling is not practicable, dispose of in compliance with local regulations.

No waste key number as per the European Waste Types List can be assigned to this product, since such classification is based on the (as yet undetermined) use to which the product is put by the consumer.

The waste key number must be determined as per the European Waste Types List (decision on EU Waste Types List 2000/532/EC) in cooperation with the disposal firm / producing firm / official authority.

14. TRANSPORT INFORMATION**Land transport ADR/RID/GGVSE (Germany)**

Class	8
ADR/RID-Labels	8
UN-No	2735
Packaging group	II
orange warning plate	80 / 2735
Description of the goods (Technical name)	
POLYAMINES, LIQUID, CORROSIVE, N.O.S.	
(coconut fatty acid, ethoxylated,)	

Sea transport IMDG-Code/GGVSee

Class	8
UN-No	2735
Packaging group	II
EmS	F-A, S-B
Proper technical name (Proper shipping name)	
POLYAMINES, LIQUID, CORROSIVE, N.O.S.	
(coconut fatty acid, ethoxylated,)	

Air transport ICAO-TI/IATA-DGR

Class	8
UN-No	2735
Packaging group	II
Proper technical name (Proper shipping name)	
Polyamines, liquid, corrosive, n.o.s.	
(coconut fatty acid, ethoxylated,)	

Loading instructions/Remarks

IATA_C	ERG-Code 8L
IATA_P	ERG-Code 8L
IMDG	Keep away from acids.

Transport/further information

Keep separate from foodstuffs, luxury foods, feedstuffs

15. REGULATORY INFORMATION**Labelling according to EEC Directive****hazard-defining component(s)**

- Amines, coco alkyl, ethoxylated

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- 2-ethylhexane-1,3-diol
- Rosin

Symbol(s)	Xi	Irritant
	N	Dangerous for the environment
R-pharse(s)	R38	Irritating to skin.
	R41	Risk of serious damage to eyes.
	R43	May cause sensitization by skin contact.
	R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-pharse(s)	S 2	Keep out of the reach of children.
	S23	Do not breathe gas/fumes/vapour/spray.
	S24/25	Avoid contact with skin and eyes.
	S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
	S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
	S61	Avoid release to the environment. Refer to special instructions/safety data sheets.

National legislation**16. OTHER INFORMATION****Risk phrase (R phrase) texts**

- **Amines,coco alkyl,ethoxylated**

R22	Harmful if swallowed.
R34	Causes burns.
R50	Very toxic to aquatic organisms.
R53	May cause long-term adverse effects in the aquatic environment.

- **Malonic acid**

R22	Harmful if swallowed.
R36	Irritating to eyes.

- **2-ethylhexane-1,3-diol**

R41	Risk of serious damage to eyes.
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- **Rosin**

R43	May cause sensitization by skin contact.
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- **Polyethylene glycol butyl ether**

R36	Irritating to eyes.
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Further information

Changes since the last version will be highlighted in the margin. This version replaces all previous versions.

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.