Immerse Tin Powder

600-020 – 90g for 1 litre and 600-021 – 450g for 5 litres

Description

A powder for making an immerse tin solution for plating a smooth even surface of tin on copper circuits at room temperature. A tin plated circuit protects the circuit from oxidisation and greatly improves solderability.

Mixing

Although used at room temperature, the powder must be dissolved with hot (50ºC) distilled water.

If using the 600-020 90g for 1 litre the 50ºC water can be poured directly into the screw top container which can be shaken to dissolve the powder. Once dissolved the liquid can be poured into a clean tray and allowed to cool before using at room temperature.

If the 600-021 450g for 5 litre mix is being used the 50ºC distilled water should be added to a suitable clean container or directly to a Mega heated process tank. After the water is added the tank should be set to 50ºC (Labstation and Bench Line tinning tanks are preset) and when up to temperature the powder slowly poured in whilst stirring constantly. When dissolved the temperature should be set to room temperature (minimum 20ºC) or in the case of Labstations or Bench Lines, the heater turned off and the liquid allowed to cool before using.

Usage

Firstly it is important that the copper is perfectly clean and free from oxidisation. After the photoresist has been stripped from the circuit and it has been washed and dried it should be scrubbed clean with a PC182 scrubbing block (part no. 900-009). Then bang the board and rub with a hard clean cloth to remove any particles left by the scrubbing block and immediately immerse in the tin.

With fresh solution, after 20 seconds a coating of 0.2 microns will be plated, 0.8-1.0 microns after 5 minutes and 4-5 microns after 3 hours. When the initial area of copper has been plated the tin will begin to plate tin on tin. It is therefore uneconomical to leave a board immersed for too long, overnight for instance.

For optimum results the board should be immersed in cold water as soon as it is removed from the tin. This will stop the tinning process, the board should then be washed in hot water (40ºC+) and rubbed dry with a clean cloth before air drying with a hair dryer or other hot air blower.

Capacity and Shelf Life

1 litre of fresh solution will plate 30-40 complete copper Eurocards with 1-1.5 microns of tin or 10 Eurocards with 5 microns. As an average etched circuit has 30% copper a figure of 100-135 and 35 Eurocards respectively is a more accurate figure. The solution will have up to six months shelf life if used in a Mega process tank.

Health and Safety

Full health and safety details are on the rear of this instruction sheet. A report by an occupational hygienist concluded that, under the test conditions, NO LOCAL EXHAUST VENTILATION IS REQUIRED using this tin in Mega's processing tanks. A copy of the report is available upon request.

Associated Products

A range of associated products for use with this tin are detailed in our free product catalogue. Please telephone us for your copy.

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Supplier
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The Grip Industrial Estate,
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SECTION 1
PRODUCT IDENTIFICATION AND MANUFACTURE

NAME: MEGA: PC168 IMMERSE TIN PART NO: 600-020 & 600-021

MANUFACTURER'S/SUPPLIERS NAME, REGISTERED ADDRESS AND EMERGENCY TEL NO:

MEGA ELECTRONICS LTD
THE GRIP INDUSTRIAL ESTATE
LINTON
CAMBRIDGE CB1 6NR
TEL NO: +44 (0) 1223 893900

ORGANISATIONS NAME & ADDRESS AT WHICH MANUFACTURED:

KEPETS GmbH
NORDSTR 24
D35641 SCHOFFENGRUND
GERMANY
TEL NO: (0049) 6445 5023/4

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	%BY WT	CAS & EEC Nos:	HAZARD	R PHRASE NOS:
THIOUREA	27	62-56-6 200-543-5	Xn	22-40
STANNOUS CHLORIDE	15	7772-99-8 EEC: NCC		

SECTION 3 HAZARDS IDENTIFICATION

HARMFUL. HAZARDOUS TO HEALTH IF SWALLOWED. INORGANIC SUBSTANCE. AVOID ENTRY INTO DRAINAGE SYSTEM.

SECTION 4 FIRST AID MEASURES

INHALATION: REMOVE FROM EXPOSURE TO FRESH AIR.

SKIN CONTACT: WASH IMMEDIATELY WITH PLENTY OF WATER.

EYE CONTACT: IRRIGATE THOROUGHLY WITH WATER. SEEK MEDICAL ADVICE.

INGESTION: WASH OUT MOUTH THOROUGHLY WITH WATER AND GIVE WATER TO DRINK.

MEDICAL NOTES:

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
WATER SPRAY, FOAM, DRY POWDER, CO2.

COMBUSTION PRODUCTS
SO2 RELEASED IN CASE OF FIRE.

FIRE/EXPLOSION SCENARIOS
NONE REQUIRED.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: NONE

SECTION 6 ACCIDENTAL RELEASE MEASURES

PERSONAL PROTECTION
WEAR RESPIRATORY PROTECTION. PREVENT SKIN AND EYE CONTACT.

ENVIRONMENTAL PRECAUTIONS
PREVENT ENTRY INTO DRAINAGE SYSTEM.

WORKPLACE PRECAUTIONS
DO NOT EAT, DRINK OR SMOKE.

METHODS FOR CLEARING UP
DRY: COLLECT AND PUT INTO SUITABLE CONTAINER FOR DISPOSAL. LIQUID: ABSORB IN SAND OR OTHER INERT MATERIAL AND PUT INTO SUITABLE CONTAINER FOR DISPOSAL.

SECTION 7 HANDLING AND STORAGE

HANDLING PRECAUTIONS
HARMFUL IF SWALLOWED. ALWAYS WEAR SUITABLE PROTECTIVE CLOTHING. NO LOCAL EXHAUST VENTILATION IS REQUIRED.

STORAGE INCLUDING ANY SPECIAL REQUIREMENTS (TEMPERATURE, VENTILATION, ETC)
STORE ONLY IN SUITABLE POLYETHYLENE CONTAINERS ENSURING THEY ARE TIGHTLY CLOSED. STORE AT ROOM TEMPERATURE. KEEP FROM FREEZING WHEN MIXED. NO LOCAL EXHAUST VENTILATION REQUIRED.

SECTION 8 EXPOSURE CONTROL/PERSONAL PROTECTION

ENGINEERING CONTROLS/VENTILATION
NO LOCAL EXHAUST VENTILATION REQUIRED IF USED ACCORDING TO INSTRUCTIONS.

RESPIRATORY PROTECTION
PROTECTIVE MASK REQUIRED WHEN MIXING.

EYE PROTECTION
WEAR SAFETY GLASSES.

HAND PROTECTION
WEAR RUBBER GLOVES.

SKIN PROTECTION
ALWAYS OBSERVE ALL USUAL PRECAUTIONS WHEN HANDLING CHEMICALS. DO NOT EAT, DRINK OR SMOKE WHEN HANDLING.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: POWDER (SOLID) **COLOUR**: WHITE TO LIGHT BROWN

ODOUR: WEAK OF HYDROGEN SULPHIDE

ACIDITY/ALKALINITY pH: 1.5 AT 20ºC (90gr/Ltr) (H20)

BOILING POINTºC: **MELTING POINT ºC:**

FLASH POINT ºC (Open/Closed Cup): AUTOIGNITION TEMP ºC:

THERMAL DECOMPOSITION TEMP ºC: **OXIDISING PROPERTIES:**

EXPLOSIVE PROPERTIES:

EXPLOSIVE LIMITS AT at 25ºC (% VOL IN AIR)

LOWER: **UPPER:**

RELATIVE DENSITY: 0.87g/cm³ **SOLID CONTENT %:**

SOLUBILITY IN WATER: At 20ºC 100g/LITRE **SOLUBILITY IN ORGANIC SOLVENTS:**

WATER AT 20ºC 100g/LITRE
WATER AT 60ºC 220gLITRE

VOLATILE CONTENT %:

VAPOUR PRESSURE mmHg at 20ºC (of principle component and name): **RELATIVE VAPOUR DENSITY (air = 1):**

EVAPORATION RATE (n-butyl acetate = 1): **CONDUCTIVITY:**

SECTION 10 STABILITY AND REACTIVITY PROPERTIES

CONDITIONS TO AVOID:

MATERIALS TO AVOID:
ALKALINE SOLUTIONS.

HAZARDOUS DECOMPOSITION PRODUCTS:
IN CASE OF FIRE SO2.

HAZARDOUS POLYMERISATION - MAY/WILL/NOT occur - State condition to avoid
WILL NOT OCCUR.

SECTION 11 TOXICOLOGICAL INFORMATION

EFFECT OF EYE CONTACT:
IRRITATING EFFECT, NO ACUTE TOXICITY.

EFFECT OF SKIN CONTACT:
IRRITATING EFFECT, NO ACUTE TOXICITY.

EFFECT OF INHALATION:
IRRITATING EFFECT, NO ACUTE TOXICITY.

EFFECT OF INGESTION:
HARMFUL EFFECT.

Any known data on sensitisation carcinogenicity, mutagenicity, teratogenicity, or narcosis. THIOUREA IS CURRENTLY ON THE SUSPECTED CARCINOGEN LIST. IRREVERSIBLE EFFECTS ARE POSSIBLE.

SECTION 12 ECOLOGICAL INFORMATION

NO ACUTE TOXICITY BUT AVOID ENTRY INTO DRAINAGE SYSTEM/GROUND. INORGANIC SUBSTANCE.

SECTION 13 DISPOSAL CONSIDERATIONS

SOLUTIONS AND UNUSED POWDERS SHOULD BE DISPOSED OF ACCORDING TO LOCAL GOVERNMENT REGULATIONS VIA AUTHORISED WASTE DISPOSAL AGENCIES. TREAT AS WEAK ACID.

SECTION 14 TRANSPORT INFORMATION

UN-Nr: 2811 IATA CLASS: 6.1 PACKING GROUP: III

SECTION 15 REGULATORY INFORMATION

PRODUCT LABEL DETAILS - PER CHIP REGULATION 9

PRODUCT TRADE NAME/DESIGNATION: IMMERSE TIN POWDER

CONTAINS: THIOUREA.

HAZARD SYMBOL: Xn

RISK PHRASE NOs & WORDS:

R22 HARMFUL IF SWALLOWED. **R40** POSSIBLE RISK OF IRREVERSIBLE EFFECTS.

SAFETY PHRASE NOs & WORDS:

S22 DO NOT BREATHE DUST. **S41** IN CASE OF FIRE AND/OR EXPLOSION DO NOT BREATHE FUMES. **S24/25** AVOID CONTACT WITH SKIN AND EYES. **S36** WEAR SUITABLE PROTECTIVE CLOTHING. **S26** IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY AND SEEK MEDICAL ADVICE. **S28** AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF SOAP AND WATER.

Dated: 7th January, 2002.