

320 5022

FINE ETCH CRYSTALS

Part Number: 600-014
5 litre mix.

Description

Fine etch crystals for producing a clean, non staining, solution for etching copper printed circuit boards.

Preparation

BEFORE HANDLING WEAR PROTECTIVE CLOTHING AND READ THE HEALTH AND SAFETY INFORMATION ON THE REAR OF THIS SHEET.

The powder will make 5 litres of etching solution. Add 4.5 litres of hot, 45°C – 50°C water to a suitable container. Slowly stir in the crystals until dissolved. add the remaining hot water to make up the 5 litres of etching solution. Finally transfer the liquid to a suitable etching tank such as Mega's PA series tanks.

Usage

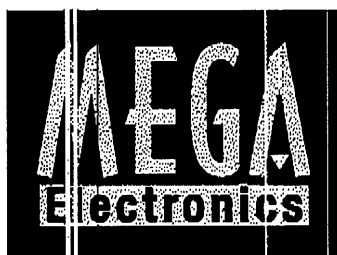
For safe and efficient etching, always use at approximately 45°C in a Mega temperature controlled Bubble Etch Tank. Normally copper PCB laminate will etch in 5 – 10 minutes. Depending on usage the etching solution will last between 3 and 8 weeks in a tank. When the etching time becomes particularly long either replace the liquid or alternatively the solution life can be slightly extended by adding some more crystals.

Health and Safety

Always wear protective clothing. 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 VENTILATION IS REQUIRED** using this etchant in Mega's PCB processing tanks. Copies of the report are available on request.

Associated Products

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



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THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BELIEVED TO BE ACCURATE - HOWEVER NO GUARANTEE OR WARRANTY EXPRESSED OR IMPLIED IS GIVEN

SECTION 1 PRODUCT IDENTIFICATION AND MANUFACTURE

NAME: ENO 3207 FINE ETCH CRYSTALS

PART NO: 600-014 - 5 LITRES
600-033 - 2 LITRES

MANUFACTURER'S/SUPPLIER'S NAME, REGISTERED ADDRESS AND

EMERGENCY TEL NO:

MEGA ELECTRONICS LTD.,

THE GRIP INDUSTRIAL ESTATE,

LINTON, CAMBRIDGE

ENGLAND CB1 6NR

TELEPHONE: +0044 01223 893800

ORGANISATIONS NAME & ADDRESS AT WHICH MANUFACTURED

KEPES: GMBH

TEL: 0049 6445 5810

NORD: TRASSE 24

D-368 SCHÖFFENGROUND

LAUF (REF.

GERMANY

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT %BY WT CAS & SEC Nos: HAZARD R PHRASE NOS:

COMPONENT	%BY WT	CAS & SEC Nos	HAZARD	R PHRASE NOS
d-SOLIM	775-27-1	Xn	Combustible	
PERIODIC SULPHATE	231-892-1	O	Irritating to eyes, respiratory system & skin	
HEXAHYDRATE				

SECTION 3 HAZARDS IDENTIFICATION

HAZARDOUS IF SWALLOWED, IRRITATING TO EYES AND SKIN.
DANGER OF DECOMPOSITION IN EXTREME HEAT.

SECTION 4 FIRST AID MEASURES

INHALATION:

MOVE TO FRESH AIR AND KEEP AT REST. IF SYMPTOMS OF COUGHING AND IRRITATED MUCOUS MEMBRANE PERSIST SEEK MEDICAL ATTENTION.

SKIN CONTACT:

REMOVE CONTAMINATED CLOTHING. WASH AFFECTED AREA WITH SOAP AND WATER. IF IRRITATION OCCURS AND PERSISTS, SEEK MEDICAL ATTENTION.

EYE CONTACT:

FLUSH WITH WATER FOR 15 MINUTES. SEEK MEDICAL ATTENTION

INGESTION:

RINSE MOUTH OUT WITH WATER. DO NOT INDUCE VOMITING. SEEK MEDICAL ATTENTION.

MEDICAL NOTES: IF USED SOLUTION CONTAINING COPPER HAS BEEN INGESTED, CHECK KIDNEY FUNCTION.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

WATER, FOAM, POWDER

COMBUSTION PRODUCTS

N/A

FIRE EXPLOSION SCENARIOS

PRODUCT IS AN OXIDISING AGENT

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS

SELF CONTAINED BREATHING APPARATUS SHOULD BE WORN.

SECTION 6 ACCIDENTAL RELEASE MEASURES

PERSONAL PROTECTION

REF: 1 TO SECTION 8; PERSONAL PROTECTION

ENVIRONMENTAL PRECAUTIONS

AVOID ENTRY INTO DRAINS & WATERWAYS.

WORKPLACE PRECAUTIONS

N/A

METHODS FOR CLEARING UP: SWEEP AND GATHER PRODUCT;

AVOID GENERATION OF DUST.

SECTION 7 HANDLING AND STORAGE

HANDLING PRECAUTIONS

STORE IN COOL DRY PLACE, AVOID DAMP AND EXTREME HEAT.
AVOID DUST CREATION WHEN MIXING.

STORAGE INCLUDING ANY SPECIAL REQUIREMENTS

(TEMPERATURE, VENTILATION, ETC)

AVOID COMBUSTIBLES. KEEP AWAY FROM ALKALINE

SECTION 8 EXPOSURE CONTROL/PERSONAL PROTECTION

ENGINEERING CONTROLS/ VENTILATION

ENSURE ADEQUATE VENTILATION WHEN MIXING.

RESPIRATORY PROTECTION

WEAR MASK WHEN MIXING.

EYE PROTECTION

RECOMMENDED PROTECTIVE GOGGLES

HAND PROTECTION

RECOMMENDED IMPERVIOUS GLOVES e.g. NITRILE.

SKIN PROTECTION

WEAR SUITABLE PROTECTIVE CLOTHING

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: POWDER COLOUR: WHITE

ODOUR: WEAK OF OXYGENE/ OZONE ACIDITY/ALKALINITY pH: 2.0
(Molar aqueous solution)

BOILING POINT 1m1-PC:

MELTING POINT °C: 180°C

FLASH POINT °C (Open/Closed Cup): N.A.

AUTOIGNITION TEMP °C: N.A.

THERMAL DECOMPOSITION TEMP °C:

OXIDISING PROPERTIES:

EXPLOSIVE PROPERTIES: NON FLAMMABLE

EXPLOSIVE LIMITS AT 21°C (% VOL IN AIR)

LOWER:

UPPER:

RELATIVE DENSITY: 2.59g /ccm AT 20°C

SOLID CONTENT %:

SOLUBILITY IN WATER: 55kg / L IN WATER AT 20°C

pH VALUE: 4.3 AT 20°C MIXED 250g / 1 WATER

VOLATILE CONTENT

VAPOUR PRESSURE mmHg at 20°C

E:6inat/verric chloride etchant(pellets) doc

RELATIVE VAPOUR DENSITY (air = 1):

(of principle component and name):

EVAPORATION RATE

(n-butyl acetate = 1):

CONDUCTIVITY:

SECTION 10 STABILITY AND REACTIVITY PROPERTIES

CONDITIONS TO AVOID: AVOID EXTREME HEAT AND DAMPNESS

MATERIALS TO AVOID:

HAZARDOUS DECOMPOSITION PRODUCTS:

INCLUDE SULPHUR DIOXIDE AND TRIOXIDE

SECTION 11 TOXICOLOGICAL INFORMATION

EFFECT OF EYE CONTACT:

IRRITATION.

EFFECT OF SKIN CONTACT:

SLIGHT IRRITATION WHEN IN REPEATED CONTACT WITH SKIN,
REPEATED CONTACT CAN CAUSE DEGREASING AND LEAD TO DERMATITIS

EFFECT OF INHALATION:

HIGH CONCENTRATIONS MAY LEAD TO LOSS OF CONSCIOUSNESS

EFFECT OF INGESTION: HARMFUL - SEEK IMMEDIATE MEDICAL ATTENTION

SECTION 12 ECOLOGICAL INFORMATION

Possible environmental effects and behaviour/ODP/aquatic toxicity.

EC50 357 mg / l

LC50 323 mg / l

SECTION 13 DISPOSAL CONSIDERATIONS

Safe disposal of product, its residues and packaging materials:

In accordance with local regulations via licensed contractor.

See also Sections 7 & 8 for handling precautions and personal protection where applicable.

SECTION 14 TRANSPORT INFORMATION

UN Nr: 1501

PACKING GROUP III

HAZARD CATEGORY: 5.1

SECTION 15 REGULATORY INFORMATION

HAZARD SYMBOL: Xn - HARMFUL

O - OXIDISING

CONTAINS: SODIUMPERISULPHATE

RISK PHRASE NOS & WORDS:

8 Contact with combustible materials may cause fire.

22 Harmful if swallowed.

36/37/38 Irritating to eyes respiratory system and skin.

SAFETY PHRASE NOS & WORDS:

S17 Keep away from combustible material.

S26 In case of contact with eyes / rinse immediately with plenty of water and seek medical advice

S24 Avoid contact with skin.

OTHER INFORMATION

EEC Guideline 82/501/EEC refers

Publication refs: Compiled in accordance with CHIP Regulation 1983, HSC approved Code of Practice, Document L37