

MATERIAL SAFETY DATA SHEET



THINNER 3N FOR ETCH / SOLDER RESIST INK 41-ZE579

MEGA ELECTRONICS

REVISION No 3
ISSUE DATE: 11.01.05

1. **MANUFACTURER**
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2. **KNOWN INGREDIENTS:**
2-Butoxy ethanol
3. **HAZARDS**
Harmful by inhalation, in contact with skin and if swallowed.
Irritating to respiratory system.
4. **FIRST AID MEASURES**
Inhalation
Symptoms: Strong irritation to the respiratory system
Treatment: Remove the patient to fresh air. If unconscious rest in recovery position. In case of asphyxia initiate artificial respiration and get medical attention immediately.
Eye Contact
Symptoms: Irritation
Treatment: Rinse with plenty of water for 15 minutes minimum, consult a doctor.
Skin Contact
Symptoms: Strong irritation
Treatment: Wipe with absorbent paper or towels. Wash with plenty of soap and water. Do not use solvents. In case of dermatitis get medical attention.
Ingestion
Symptoms: Strong irritation to the mucous membranes, vomiting, diarrhoea, coma.
Treatment: Drink plenty of water. In case of spontaneous vomiting be sure that vomit can flow freely to avoid suffocation.. Do not induce vomiting. Give nil by mouth if unconscious or convulsing. Get medical attention immediately.
5. **FIRE FIGHTING MEASURES**
 - a) **Suitable Fire Extinguishers:** CO₂; Dry Chemical; Alcohol Foam; Sand; Earth; Water Mist
 - b) **Extinguishers Not to be Used:** None to our knowledge
 - c) **Exposure hazards/combustion products in a fire:** Keep containers cool by spraying with water.

6. **ACCIDENTAL RELEASE MEASURES**

- a) **Safety Precautions:** Do not breathe vapour. Avoid ignition sources. Avoid contact with skin, eyes and clothing.
- b) **Environmental Precautions:** Prevent contamination of soil, drains and surface waters.
- c) **Spillage Clean Up Procedure:** Take up with absorbent, inert material and place in suitable And closable container for disposal.

7. **HANDLING & STORAGE**

- a) **Handling:** Harmful. Ensure good ventilation and good exhaust. Do not eat, drink or smoke at the workplace. Handle with care.
- b) **Storage:** Keep away from food and drink. Store in the original container securely closed and at room temperature.
NO SMOKING. Naked flames or other ignition sources must not be present.
Shelf life of these products is 12 months in sealed containers.

8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

a) **Engineering Measures**

Ensure adequate ventilation. Use exposure limits:

Ingredient name	CASno.	LT EXP (8hrs)
2-Butoxy ethanol	111-76-2	25pmm (MEL)

b) **Personal Protective Equipment**

Hand Protection: Gloves of PVC or Choroprenelatex. 0.7mm thick.

Eye Protection: Suitable goggles or face protection.

Skin Protection: Wear overalls and closed footwear.

9. **PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE:	Clear, colourless liquid
ODOUR:	Mild
FLASH POINT:	67°C
BOILING POINT:	168-172°C
EXPLOSIVE LIMITS:	Lower 1.10 Upper 10.60 Autoignition temp: 230°C
VAPOUR PRESSURE:	0.89 mbar @ 20°C
SPECIFIC DENSITY:	0.9 @ 20°C
SOLUBILITY IN WATER: (% by weight)	5

10. **STABILITY AND REACTIVITY**

- a) **Conditions to avoid:** Avoid heat and sources of ignition.
- b) **Material to avoid:** Strong oxidising agents.
- c) **Hazardous Decomposition Products:** Combustion may release CO, CO₂.

11. **TOXOLOGICAL INFORMATION**

Vapour irritating to eyes and respiratory tract, may cause narcosis and systemic effects. Liquid is an eye irritant. It may cause dermatitis. It may be absorbed through the intact skin, causing systemic effects: also if it is ingested.
LD50:Rat, oral = 560 mg/kg Rabbit, oral + 320 mg/kg, dermal = 1800 mg/kg.

12. **ECOLOGICAL INFORMATION**

Mobility: water soluble and involatile and will readily partition to the aqueous phase. Biodegradable.
Bioaccumulation potential: should not bioaccumulate.

13. **DISPOSAL**

Spillages should be covered with an absorbent material such as sand or vermiculite. The absorbent material must be disposed of according to local authority instructions. Keep away from drains.

14. **TRANSPORT INFORMATION**

RID/ADR: N/A
IMDG Code: N/A
Flash point: 67°C
UN No: N/A

15. **REGULATIONS**

Symbols:	Xn Harmful – contains 2-Butoxy ethanol
Risk Phrases:	R20/21/22 Harmful by inhalation, in contact with skin and if swallowed
	R37 Irritating to respiratory system
Safety Phrases:	S24/25 Avoid contact with skin and eyes

UK. Regulatory References: CHIP REGULATIONS 1994

16. **OTHER INFORMATION**

None.

LEGAL DISCLAIMER

The above information is based on our present state of knowledge at the time of publication. It is given in good faith, no warranty is implied with respect to the qualification of the product. The user must satisfy himself that the product is entirely suitable for his purpose