

406357 New 1215

# TechniEtch TBR19

**TechniEtch TBR19** is an advanced fluoride free aqueous solution, designed to selectively dissolve titanium and titanium alloy (TiN, TiW) based barriers for far back end of the line interconnect applications. The solution is compatible with most UBM, and copper pillar integration materials such as Cu, Al, Ni, Sn & alloys, glass, organic substrate, etc.

## FEATURES AND BENEFITS

1. High selectivity
2. Significant reduction of undercut compared to conventional SC1 and HF.
3. Long bath life
4. Tunable etch rate

## PHYSICAL AND CHEMICAL PROPERTIES (Mixed bath)

Appearance:	Uncolored to light yellow liquid
Odor:	No odor
pH:	7.3 – 7.8 @25°C
Density:	1.15
T°C boiling:	100°C
T°C flash point	N/A
Viscosity (20°C):	1 cP
Water Solubility:	Fully miscible
Chemical Property:	Highly oxidative

## TechniEtch TBR19

### EQUIPMENT AND SUBSTRATE COMPATIBILITY

#### Equipment:

TechniEtch TBR19 Concentrate is compatible with most plastics: Polypropylene, PVC, HDPE, PFA, PTFE Kalrez, PEEK, PE.

For the mixed bath it is recommended to use exclusively fully fluorinated polymers (PTFE, PFA) for all wetted parts and perfluoro-elastomers like CHEMRAZ,<sup>®</sup> KALREZ<sup>®</sup>, SIMRIZ<sup>®</sup> or PFA encapsulated VITON<sup>®</sup> for wetted O-rings.

#### Metal Substrates:

Compatible with Cu, Al, Ni, Sn and Sn alloys. Not compatible with SnPb.

### SOLUTION MAKEUP

Chemicals Required	1 liter
TechniEtch TBR 19 Concentrate	62 mls
Hydrogen Peroxide SLSI Grade (30 – 31%)	938 mls

### MAKEUP PROCESS

#### Volume ≤ 1 gallon (mixed in the hydrogen peroxide bottle)

1. Recommended blending temperature is 10 – 30°C
2. Remove 6% (w/w) of hydrogen peroxide from the bottle
3. Add slowly 6% (w/w) of TechniEtch TBR19 Concentrate to the bottle
4. Mix the blend for 5 minutes
5. Close the bottle with degassing red cap only

#### Volume >1 gallon or any volume mixed in a separate tank

1. Recommended blending temperature is 10 – 30°C
2. Blend components in a vessel equipped with agitation and an adequate pressure release device similar to what would be used in standard peroxide blends.
3. Add appropriate amount of hydrogen peroxide to the vessel
4. Switch on the mixer and/or recirculation
5. Slowly (0.5 liters/min) add the appropriate amount of TechniEtch TBR19 Concentrate
6. The blending should be stopped immediately if bubbling or a temperature change is observed
7. Verify the pH
8. Once the pH has been verified to be in specification and there is no bubbling in the solution the mixture is ready for use.

## TechniEtch TBR19

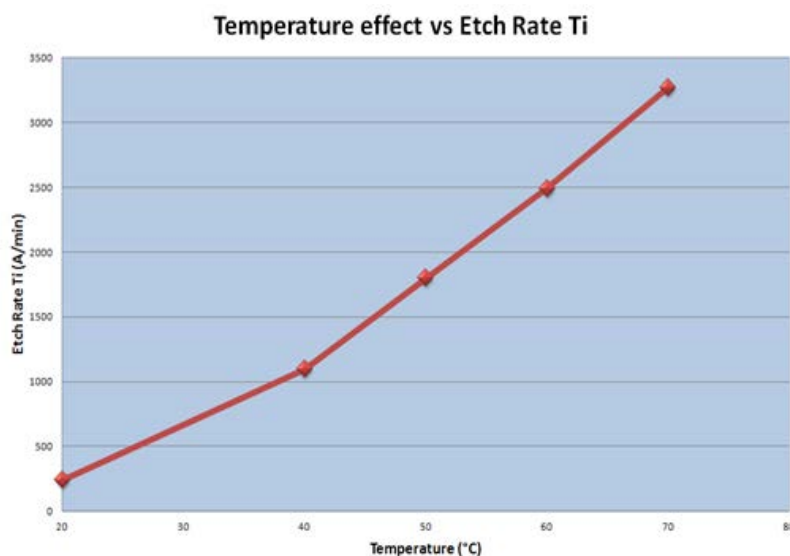
### GENERAL PROCESS INFORMATION

**Operating Temperature:** 25 – 55°C

**Standard Etch Rate at 50°C on full blanket substrates**

Metal	Etch Rate (Å/min)
TiN PVD	1500
Ti PVD	1800
TiW PVD	1000
Cu ECD	<10
Sn ECD	<10
Al PVD	<10
Ni ECD	<10

Etch rate is fully tunable with temperature



**Bath Life:** Average solution bath life is 5 hours at 55°C

**Replenishment:** Feed and bleed can be used depending on process specifications and metal loading of the solutions.

**Tool Type:** Single wafer, batch spray and immersion are all acceptable for use with TechniEtch TBR19

### HANDLING PRECAUTIONS

**BEFORE HANDLING ANY CHEMICAL PRODUCTS, IT IS IMPORTANT TO READ THE APPROPRIATE SAFETY DATA SHEET.**

When handling chemicals, always wear the prescribed protective clothing as detailed in the appropriate Safety Data Sheet.

In case of skin contact, flush affected area with copious amounts of cold, clean water for at least 10 minutes. In case of serious exposure, particularly for eyes, obtain medical attention.

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## TechniEtch TBR19

### STORAGE

Store TechniEtch TBR 19 Concentrate upright in the original container away from direct sunlight and in a dry area at 0 – 25°C. Keep containers closed when not in use. Store away from ignition sources and incompatible materials.

Shelf Life: 6 months

### WASTE TREATMENT

It is the user's responsibility to verify that treatment procedures comply with federal, state, and local regulations. Working solutions should be diluted, neutralized and disposed of in accordance with local and federal regulations. Consult your local agencies for recommendations for your area. Consult your Technic Inc representative for further information.

### ORDERING INFORMATION

Contact your local Technic company to order products and/or Safety Data Sheets:

Product Code	Product Name	Liquid	Application
406357	TechniEtch TBR19 Concentrate	X	For Makeup and Replenishment

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