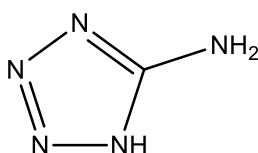


# Technical Data Sheet

## ATRA

5-Aminotetrazole

### Description



Chemical Name 5-Aminotetrazole  
CAS # 4418-61-5

Formula  $\text{CH}_3\text{N}_5$   
Mol. wt. 85.068

### Specifications

Item	Specification
Appearance	White powder
Assay (% , Titration)	$\geq 99.0$
Melting Point ( $^{\circ}\text{C}$ )	204 ~ 210
Moisture Content 9%)	$\leq 0.20$

### Applications

In the Cu metallization process, it is important to prevent corrosion and recession of metal lines resulting from chemical reactions during the chemical mechanical polishing (CMP) process. 5-aminotetrazole (ATRA) is investigated as a corrosion inhibitor for Cu CMP. In the wet etch test, it was found that the etch rate of ATRA decreased with concentration. The potentiodynamic polarization test and chronoamperometry test results revealed that ATRA could inhibit the Cu surface against corrosion more effectively than benzotriazole (BTA) below 0.01 M. Fourier transform infrared and ultraviolet-visible analysis clearly demonstrated that ATRA dissociated more easily in all pH ranges and could be polymerized faster and more effectively than BTA. Therefore, both corrosion and recession could be considerably reduced after CMP by using slurry containing ATRA. Furthermore, from the results of defect review after CMP, it was found that defects such as slurry residue, pit corrosion, and particles were effectively prevented due to small molecular size and high solubility of ATRA.

### Delivery & Storage

Package 25kg HDPE Drums with two Inner poly lines  
Storage Store in cool place. Keep container tightly closed in a dry and well-ventilated place.