

BRINGING ADVANCED CHEMISTRY TO THE CUTTING EDGE OF WAFER DICING

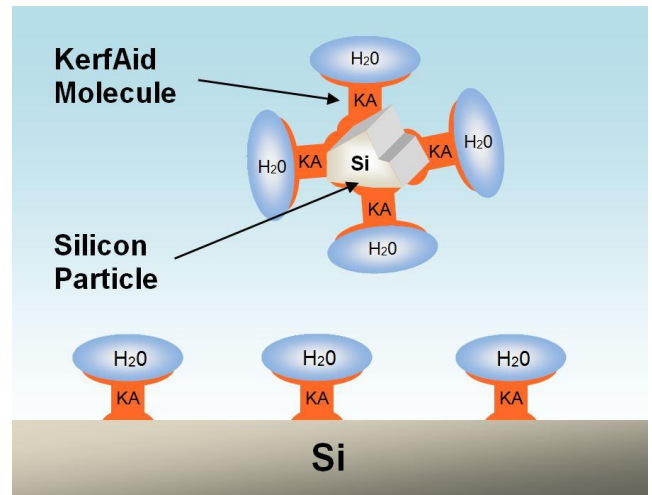
KA-286 KerfAid Dicing Surfactant

PROVIDING THE BEST COST OF OWNERSHIP FOR SAW DICING OPERATIONS

Advanced Chemistry

KA-286 Dicing Surfactant combines well established core technologies of cleaning and lubrication with advanced chemistry to provide the ultimate solution to the problems with saw dicing of modern semiconductors. This approach takes advantage of the KerfAid base formulation while specifically targeting such issues as resistivity, surface tension, viscosity, and pH control. KA-286 dicing fluid is so concentrated that it can be used at a dilution ratio of 5,000:1, making it the most cost effective dicing solution available.

Ratio	Resistivity (MΩ-cm)
5000:1	0.200
2000:1	0.100
1500:1	0.100
1000:1	0.050
500:1	0.033
200:1	0.020
100:1	0.014



Resistivity Control

in wafer dicing has been recognized as a major factor in promoting clean wafers and an ESD safe environment. KA-286 replaces the older, more expensive process of bubbling CO₂ through the dicing water. De-ionized water has a resistance that is typically 18 MΩ. Dicing water should be below 1 MΩ. KA-286 is used to adjust the resistivity of the water to below 0.1 MΩ, as shown in the table to the left.

KerfAid Provides a Solution to:

- Bond Pad Staining
- Particulates/Contamination
- Process Expense
- Process Time
- Chipping/Cracking
- Galvanic Corrosion



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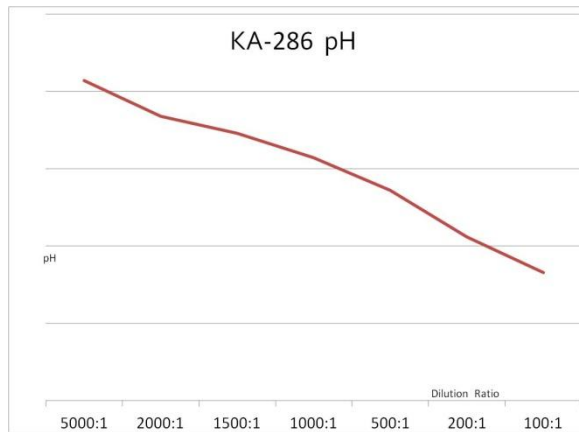
Galvanic Corrosion is the transfer of material between dissimilar metals through an electrolyte. This is the same process that is used to generate electricity in some batteries. In semiconductor manufacturing, galvanic corrosion of bond pads during the dicing process leads to failure at wire bonds while galvanic corrosion in copper bumped wafers leads to failures at the flip chip interconnect.



With KA-286

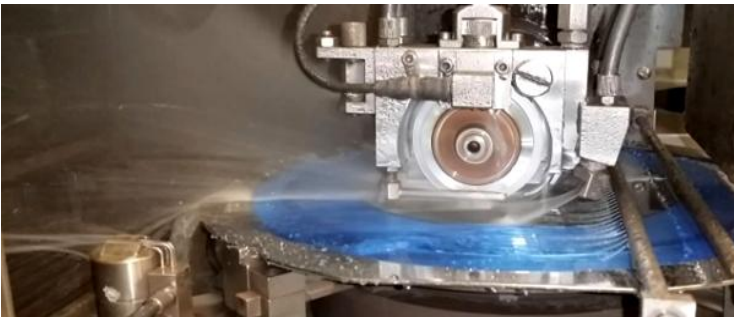
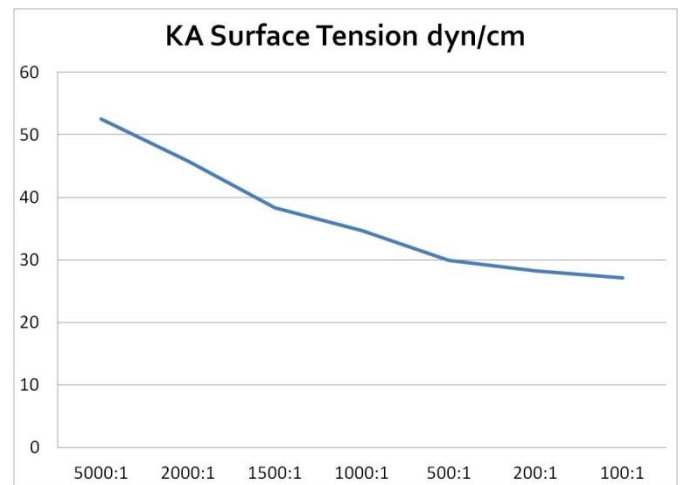


No KA-286



Active pH provides the end user with the capacity to adjust the pH of the dicing water. Reducing the pH of DI water is the ideal condition for wafer dicing of wafers that have extend wafer dicing process times. This is typical for high die count wafers that have many streets to be cut. See chart on the left.

Surface Tension in de-ionized water reduces the wetting of the surface being cut by the dicing blade. This inhibits the efficiency of the wafer dicing process. KA-286 has been specifically designed to reduce surface tension. See chart on the right.



Materials suited for processing with KA-286 dicing fluid includes: silicon, germanium, glass, ceramics and diamond. KA-286 can also be used to process compound semiconductor materials including: silicon carbide, gallium arsenide, indium phosphide, gallium nitride, aluminum antimonide, etc.

KerfAid 286 Specifications

Solubility in Water:	100%
Color:	Pink
Physical State:	Liquid
Shelf Life:	2 years
Container Sizes:	1 - 5 - 55 gallons, 1 metric ton
Specific Gravity:	1.100 - 0.900
Storage:	Cool dark location
Contains no animal by-products	



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