

Product Data Sheet: ELKDG4818170114A

Water-Borne *DuraGlisten*[®] 4818 Corrosion Inhibitor

- Extremely effective for durable anti-tarnishing of copper and copper alloys

Characteristics:

1. Excellent, durable tarnish resistance for copper and copper alloys.
2. Improves the productivity of processing copper work pieces.
3. Containing no toxic heavy metal salts, conforming to the RoHS regulations.
4. Containing no volatile organic solvents, conforming to the VOC regulations.
5. Easy and safe to use, dilutable with water for ready applications.

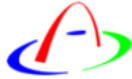
Description:

***DuraGlisten*[®] 4818** is a binder-free corrosion inhibitor dispersed in water, and, when applied in diluted forms, imparts excellent anti-tarnishing capability to copper and copper alloys, with minimal tinting changes to their appearances.

***DuraGlisten*[®] 4818** can be characterized with the following remarkable properties.

1. ***DuraGlisten*[®] 4818** contains special organic materials of medium molecular weights, which wet readily and adhere strongly to the surfaces of clean copper and copper alloys. After drying, a film of less than one micron thickness is formed tenaciously on the metals. This extremely thin film plays the key role of protecting copper from corrosion, due to its outstanding molecular structure. Furthermore, unlike conventional polymer-type lacquers which form films of usually more than 10 microns thickness, the ***DuraGlisten*[®] 4818** film is hardly detrimental to the electric conductivity of coppers, let alone paint marks and shade difference of the surfaces treated, or sticking-together of work pieces by polymers during processing.
2. ***DuraGlisten*[®] 4818** contains no chrome or any other toxic heavy metal salts, which conforms to even the most stringent regulations, such as RoHS.
3. ***DuraGlisten*[®] 4818** contains no organic solvents, which conforms to any VOC regulations.
4. ***DuraGlisten*[®] 4818**, when applied onto metal surfaces, can self-dry easily, or be dried in accelerated condition, to result in excellent corrosion resistance.

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As a result, when **DuraGlisten® 4818** is wanted, we recommend the following proceedings for initial tests.

1. Diluting for ready use – 20 ~ 200 times dilution of **DuraGlisten® 4818** with distilled or deionized water.
2. Applying onto the clean surfaces of copper and copper alloys by dipping for 10~20 seconds.
3. Removing excess solutions on surfaces by centrifuging or dripping.
4. Drying at ambient or accelerated, say, 60~70 °C temperature.
5. Testing the anti-tarnishing performance, e.g., salt spray test*.

* In our lab, the twenty times diluted **DuraGlisten® 4818** has resulted in 72 hours salt spray test when applied onto copper and bronze panels.

When the test result is measured and compared to the target, one can run easily the ladder-test to determine the optimal dilution ratio of **DuraGlisten® 4818** for the individual specific purpose.

In practical applications of **DuraGlisten® 4818**, following advices are also presented.

1. Cleaning of metal surfaces

The surfaces of copper and copper alloys must be degreased and rinsed thoroughly with water, and cleaned off any contaminants, to ensure the best adhesion of **DuraGlisten® 4818** to the substrates.

2. Wetting

To ensure the complete coverage of **DuraGlisten® 4818**, it is suggested to keep the clean metal substrates in direct contact with the optimally diluted **DuraGlisten® 4818** for at least 30 seconds.

Specifications:

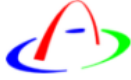
Appearance:	Amber white solution
Chemical Type:	Organic dispersion
Solvent:	Water only

Suggestions of Use:

1. Cleaning of metal surfaces

The surfaces of copper and copper alloys must be degreased and rinsed thoroughly with water, and cleaned off any contaminants, to ensure the best

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adhesion of **DuraGlisten® 4818** to the substrates.

2. Attention:

Despite **DuraGlisten® 4818** contains no volatile solvents, general precautionary safety measures, such as goggles, gloves and well-ventilated areas, are still advised when handling the solutions. Avoid any contact of **DuraGlisten® 4818** solutions with skin and eyes. Once contacted by accident, thorough rinse with water immediately is suggested.

Surggestions of Storage:

*Unused, sealed **DuraGlisten® 4818** in original container is guaranteed with pot life of six months as minimal, if it is stored in a cool, well-ventilated area and avoid any direct exposure to sunlight.*

*For those open, untempered **DuraGlisten® 4818** in original containers, we suggest them sealed immediately after use, and use up within three months.*

*For those **DuraGlisten® 4818** used on-line and idle from further use, we suggest them sealed immediately in separate containers, and try to use them up within seven days.*

Packages:

DuraGlisten® 4818 is supplied in two forms of packages, namely, 20 kilograms in plastic pails and 200 kilograms in plastic drums, respectively.