

E-Mist NF



Fluoride-Free Bio-degradable Mist Suppressant for Hex Chrome

E-Mist NF is a special blend of surfactants which do not contain PFOA, PFOS or PFOS related components. **E-Mist NF** uses halogen-free chemistry. **E-Mist NF** is utilized in hexavalent chrome plating solutions to reduce their surface tension. **E-Mist NF** develops a dense foam layer of 2-3 inches (5-7.5 cm) which significantly reduces fuming and misting. A one-inch (2.5 cm) foam blanket keeps the surface tension at about 35 dynes/cm.

E-Mist NF is a clear amber-colored free flowing liquid product. Conversion from older versions is easy—there is no transition process, simply stop using the older version of mist suppressant and start adding **E-Mist NF**.

USE RECOMMENDATIONS

E-Mist NF is used for lowering the surface tension of chrome plating baths. Normally it is added at the rate of 1 gallon per 100 gallons (1 liter per 100 liters) of the solution. This is equivalent to 1.0% by volume and the resulting surface tension will be approximately 35 dynes/cm. In some cases, up to an additional 1% by volume of **E-Mist NF** may be required to obtain the desired surface tension.

SOLUTION MAINTENANCE

E-Mist NF is consumed by drag-out, high temperature, electrolysis and degradation by chromic acid. Use a Tensiometer or a Stalagmometer to measure the surface tension and add **E-Mist NF** as necessary to maintain the desired surface tension. An amp-hour feeder is highly recommended for consistent surface tension numbers. At 150°F (65°C), **E-Mist NF** will break down. In a decorative chrome plating solution, the **E-Mist NF** is replenished at a rate of approximately 1 gallon per 14,000 to 18,000 amp hours (1 liter per 3700 to 4700 amp hours). In a hard chrome application, the consumption can be up to double this amount due to oxidation at higher bath temperatures.

In the **E-Mist NF** process there is some decomposition by oxidation which creates two issues:

- 1) increase in trivalent chrome which has little effect on the plating performance in decorative applications. Trivalent chrome can be more of an issue in hard chrome plating solutions.
- 2) formation of very small amounts of sludge that precipitates to the bottom where it does not cause a significant problem.

E-Mist NF is not recommended for use in anodizing electrolytes. In an aluminium anodizing bath based upon chromic acid there could be some oiling out.

We do not recommend using **E-Mist NF** in chromic acid based etching solutions for plating on plastic because the high temperature greatly speeds up the oxidation which has a negative effect on the surface tension.

Chrome tanks should be pumped out and given anode area maintenance 1-2 times a year. Porous pots can be utilized to control the trivalent chrome levels, which should be monitored on a regular basis. Mechanical agitation is preferred as **E-Mist NF** is distributed homogenously and requires a uniform temperature which mechanical agitation can more easily provide. Any air agitation results in undesired foaming.

IMPORTANT NOTICE! For Industrial Use Only

The following is made in lieu of all warranties, expressed or implied, including the implied warranties of merchantability and fitness for purpose: seller's and manufacturer's only obligation shall be to replace such quantity of the product as proved to be defective. Before using, user shall determine the suitability of the product for its intended use, and user assumes all risk and liability whatsoever in connection therewith. **Neither seller nor manufacturer shall be liable either in tort or in contract for any loss or damage, direct, incidental or consequential, arising out of the use or the inability to use the product.**

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