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TECHNICAL DATA

E-Tec™ 510
E-Tec™ 515

Water Soluble (Emulsifiable) Rust Preventatives

E-Tec 510 and **E-Tec 515** are rust preventative oil concentrates formulated with emulsifiers enabling them to be diluted with water to form a 5% to 20% oil-in-water emulsion. The characteristics of the deposited corrosion inhibiting films can be varied from oily (20% by volume), slightly oily (10% by volume), to “dry to the touch” non-tacky films (5% by volume). Film thickness, dry time, and coverage varies with the concentration in water. The corrosion resistance of the films will also vary with the concentration. Typically, a 5% concentration of **E-Tec 510** will produce approximately 24 hours resistance to 5% salt spray, a 5% solution of **E-Tec 515** produces approximately 50 hours salt spray resistance, and 96 to 150 hours resistance is obtained with 20% solutions. The **E-Tec 515** is formulated to give a higher degree of corrosion resistance than the more economical **E-Tec 510**. At 10%, **E-Tec 515** will pass humidity testing for at least 64 days. 10% **E-Tec 510** will pass humidity testing for at least 35 days.

APPLICATION

The **E-Tec 510** and **515** emulsions are normally used at temperatures of 150° F to 160° F to facilitate drying. Some experimentation should be done with sample parts at various dilutions to determine the type of film (oily to dry) and corrosion resistance produced prior to charging a production tank.

Plain steel tanks and equipment can be used to hold or apply the **E-Tec** solutions. The solution can be heated by gas, steam, or electricity and can be applied by dipping, spraying or brushing.

Wet or dry parts are immersed in the **E-Tec** solutions for one (1) minute. The solutions will tolerate a considerable amount of carry-over rinse water. Wet parts contained in a basket should be agitated to ensure complete removal of water from the surfaces. For applications on plain steel, maximum corrosion resistance is assured if the surfaces are free from corrosive materials, such as chlorinated and sulfonated cutting oils, coolants, lubricants, and drawing compounds.

When used as a sealant for **EPI's Ultra-Blak, E-Phos** and **Insta-Blak** black chemical conversion metal finishes, the parts are immersed for one (1) minute in the **E-Tec** solution while still wet from the final rinse in the process. The **E-Tec** will displace the rinse water from the surface. It is recommended that baskets and rotating barrels used to contain parts for blackening and rinsing not be immersed in the **E-Tec** solutions because they will become coated with the **E-Tec** solution. Any run-off would contaminate the other solutions in the process when the containers are transported back to the beginning of the line.

E-Tec 510/515 can be applied to nickel plated steel substrate parts at 5-8% by volume. **E-Tec 515** provides longer salt spray resistance on nickel plated steel parts than just nickel plated parts.

The **E-Tec** tank should contain an unload chute and catch basket(s) to receive the parts upon unloading of the baskets and barrels.

Tanks should be kept covered when not in use to minimize evaporation of water.

The **E-Tec** solutions are formulated to dry fairly rapidly at ambient temperatures and may be unloaded directly into tote pans or bins and allowed to dry. Heated, forced air drying in ovens or on perforated conveyor belts will accelerate drying. Small parts can be rapidly dried in spin dryers.

SOLUTION MAKE-UP

Emulsions are readily obtainable with water and D.I. water is recommended for charging a new tank. A new bath of **E-Tec 510** or **E-Tec 515** is made up by adding the concentrate (3% to 20% by volume) to cold water in the tank, while stirring. This solution is then heated to 150-160°F for use. If additions need to be made to an existing production tank the **E-Tec** concentrate should be added to cold water separately outside the tank and then added to the tank.

NOTE: If difficulties are encountered in obtaining a good emulsion (milky white solution) due to the hardness of the local water, the addition of 3% by volume Butyl Cellosolv is recommended.

E-Tec finishes may be removed with solvents, chlorinated solvent vapor degreasers or with **EPI's E-Kleen** alkaline soak cleaners.

SOLUTION CONTROL

The concentration of the solutions is maintained by periodic additions of **E-Tec** concentrate and water. The percentage weight solids of the solution can be determined by evaporating the water at 110 ° F from a weighed sample of the solution. The percentage volume solids of the solution can be determined as follows:

1. Measure out 90 ml of the **E-Tec** solution into a stoppered 100 ml graduated cylinder.
2. Add 10 ml of concentrated Hydrochloric Acid.
3. Stopper the cylinder, shake vigorously, vent and allow to stand for 30-60 minutes.
4. The **E-Tec** oil will separate as a dark layer on top.
5. The amount of oil equals (read off the graduated cylinder) times 1.25 is the percentage of **E-Tec**;
Example: 15 ml oil x 1.25 = 18.75% by volume **E-Tec 510/515**
8 ml oil x 1.25 = 10% by volume **E-Tec 510/515**

CAUTION

E-Tec 510 and **E-Tec 515** contain naphthenic oils, emulsifiers and corrosion inhibiting additives. **Mixture is combustible.**

Wear eye protection (glasses, goggles, or face shield) when preparing solutions and working with solutions. Avoid prolonged contact with skin. Wash from skin with soap and water. For eye contact, flush freely with water and get medical attention.

Do not work with the **E-Tec** products without first reading and understanding the **Material Safety Data Sheet** furnished by **EPI**.

PACKAGING

One (1), 5 and 55 gallon non-returnable containers.

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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