

DESCRIPTION

ES-3D is an inhibitor which is used in cooling water (main engine water), closed circuit heating and cooling systems. It's an excellent anti-scab and anti-corrosive. It does not contain chromate and compatible with glycol based antifreezes. It is a perfect protector for metals which contain iron, copper and aluminum. It inhibits the contact of oxygen and the metal by forming a protective film layer on the metal surfaces. It does not have any harmful effect on gasket, gusset and o-rings etc. We recommend it to be used in every closed heating and cooling system.

Chemical Name : Water conditioning (Chemical Mixture)
Document No : SP-KS-012
Trade Name : **ES-3D (COOLING WATER TREATMENT)**
Usage : Scab and corrosion inhibitor for closed systems.

A. ORGANIC PROPERTIES

Appearance
Physical State (20°C) :Liquid
Color :Yellowish transparent liquid
Odor : Odorless

B. PHYSICAL PROPERTIES

pH : 11.0 – 12.0
Molecular weight : -
Explosion Limit : None
Flash point : None
Relative Density : 1.15 – 1.25 g/cm³
Solubility : Completely soluble in water.

APPLICATION, FEATURES & BENEFITS

- ✓ In regular use, it provides significant energy savings by preventing scab and corrosion which may occur within the water station.
- ✓ In regular use, it prevents abrupt stops, blockage and provides both time and money savings without requirement of extra cleaning process during periodical maintenance.
- ✓ In regular use, it minimizes rust residue and removes them.

STORAGE & TRANSPORTATION

Packed in original plastic jerry cans of 25-30-35-70-200 L. Storage period is 3 years.

DIRECTIONS FOR USE/APPLICATIONS & DOSAGE RATES

If there's no cooling water inhibitor in the system the first dosage will be 8 L per ton. Subsequent dose is 5L per ton of feed water. ES-3D must be always present in the system. Nitrite test is the control method.

NOTE: Addition of 1 L ES-3D to 1 ton of water provides approximately 350 ppm Nitrite. For example adding 5 L ES-3D to a system which contains 1 ton of water will provide approximately 1750 ppm Nitrite.

TEST METHOD

pH: 8.5 – 10.0

Total Harness: max. 150 ppm (mg/L)

Chloride: In high speed engines max. 50 ppm.

In low speed engines max. 180 ppm must be present.

Nitrite: Nitrite Ratio in high speed engines must be measured within the range of 2000-3000 ppm,

Nitrite Ratio in low speed engines must be measured within the range of 1000-2000 ppm.

The system must be brought to the required range by partial bluffs for the values determined to be over the ideal parameters. For instance, in a system where 50 ppm chloride is desired, if the chloride ratio is 100 ppm it will be sufficient to bluff 50% from the system and to add water again. While adding water if ES-3D is also dosed to the system an effective protection will be also provided. It should be kept in mind that 1 L ES-3D will add 350 ppm Nitrite to 1 Ton of water.

NOTE: Since purified water is used during the production of ERTEK ES-3D, you'll have significant advantages like no extra chloride and hardness will be added to the system from cooling water treatment chemical (ES-3D) you use.