



MagCare 60B

High- and low temperature corrosion inhibitor

Product Data Sheet

MagCare 60B [Concentrate with 60% MgO content] is an oil compatible magnesium additive for use as a corrosion inhibitor in both crude oil and residual fuels and can be used when diluted and made an appropriate formulation. It combats corrosion in hot parts of the system caused by low melting deposits containing vanadium and sodium as well as corrosion in the cooler parts of the plant caused by condensation of sulphuric acid. In the first instance it forms magnesium compounds which have a higher melting point and therefore do not adhere to the plant walls, in the second instance the basic magnesium compounds neutralize the acidic mineral acids.

MagCare 60B is the product of a nanotechnology development. Ultrafine particles are suspended in an organic medium; it is extremely stable and shows no sign of sedimentation even after several years standing.

Application

MagCare 60B is recommended for the reduction of hot and cold corrosion and modification of the slagging tendency of heavy or residual grade fuel oils. **MagCare 60B** is recommended as an additive for use in open flame Boilers in Industrial and commercial plants. **MagCare 60B** significantly increases the melting point of corrosive vanadate and nitrate containing residues in the combustion chamber by forming powdery, non-tenacious ash deposits, which can be more easily removed by soot blowing. Without the magnesium other vanadate salts are formed (e.g. sodium) which have low melting point and adhere to the boiler surface, Vanadates are well known oxidation catalyst and once these materials are stuck onto hot surfaces, they dissolve the protective oxide layer and accelerate the oxidation of the metal at the location. The only way to remove this hard slag is manually involving shutting down of the plant.

In the cold sections of the plant (the flue system) the condensation of sulphuric acid has to be avoided by maintaining a temperature above the dew point. The higher the concentration of SO_2/SO_3 in the gaseous stream the higher the dew point temperature necessitating maintain hotter conditions throughout the plant (and hence excessive thermal losses). With **MagCare 60B** the sulphurous/ sulphuric acids are neutralized and thus the dew point of the gas stream lowered. The consequences are that the plant can be operated at lower temperatures with no risk of corrosion and considerable energy savings.

At a stroke **MagCare 60B** will suppress hot corrosion in the boiler and reduce down time and damage to the walls of the plant and avoid corrosion of the cooler flue system enabling a reduction in heat losses.

MagCare 60B when diluted is a ready to use oil soluble liquid and it is easily metered directly into the fuel handling system. The dosage rate is dependent on content of vanadium, sodium and sulphur.

Features and Benefits

- Highly reactive sub-micron magnesium oil soluble fuel additive
- Inhibits high temperature corrosion of Furnace, Super Heater and ReHeater Tubes
- Modifies Boiler Plant/Process Heater Fly Ash
- Lowers Acid Dew Point of Exhaust Gases
- Reduces Boiler Plant Cold-End corrosion
- Prevents formation of low melting deposits of vanadium and sodium
- Neutralises acid forming SO_2 and SO_3
- Maintains boiler efficiency and promotes operational economy through improvement in cleanliness, reduced down time and reduced thermal losses
- Extends boiler operation periods, and boiler availability
- Promotes the formation of powdery friable fireside ash

Product Applications

Oil Fired Boilers
Heavy Fuel Diesel Engines
Refinery Process Heaters
Fuel Additive (fireside)

PROPERTIES

Mg in wt%: 36

Appearance: Reddish Brown Liquid

Viscosity @ 30°C: <170 cP

Specific Gravity @ 30°C Approx. 1.55

Particle Size: d90 below 5 micron

Material Compatibility

Suitable:

Metals: 316 Stainless Steel, , Mild Steel C1018, Aluminum 7075-T6, 304 Stainless Steel

Plastics: Polyethylene, Nylon 11, HYTREL® 6356, PEEK™ Elastomers: Nitrile Buna N, PTFE, VITON® 75, VITON® 58 Shore 90

Not suitable:

Plastics: Polypropylene
Elastomers: HNBr, EPDM

PACKAGING

200 L Epoxy Coated Metal Drums
1000 L IBC

HANDLING

MagCare 60B should be handled in the same way as diesel oil.

Please refer to the product label and the Material Safety Data Sheet (MSDS) for more detailed information.

Shelf Life: 1 Year from the date of Manufacture.

The information given in this document is based on the present state of our knowledge, but any conclusions and recommendations are made without liability on our part. Buyers and users should make their own assessment of our products under their own conditions and for their own requirements.



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