



NFRI™ -2

Rust Inhibitor Fluid Technical Information Sheet

Description & Application:

NFRI-2 is the trade name for a water based, cost effective multimetal corrosion inhibitor that does not contain any secondary amines.

NFRI-2 is ideal as a light duty temporary corrosion inhibitor and as an additive within a wide range of formulations including:

- Water based pressure testing systems;
- Truck / Car cleaning solutions i.e. in Traffic Film Removers;
- Protection in industrial rotary washing machines;
- Protection of metal parts after various processing techniques;
- Corrosion protection in synthetic cutting fluids;
- Leak detection fluids;
- Aqueous based quenching fluids;
- HFC fluids;
- Various other aqueous washing systems.

Primary features attributable to NFRI-2 are:

- Remains a mobile liquid, even at low temperatures;
- Contains no secondary amines;
- Prevents the staining of aluminium and is safe for use on a wide range of metals and plastics;
- Prevents corrosion of ferrous parts during intermediate manufacturing stages and storage;
- Does not dry to form sticky or gummy residues;
- Nitrite & boron free;
- Excellent hard water compatibility;
- Low foaming tendency;
- Contains no solvents;
- All components are approved for incidental food contact.

Applications

NFRI-2 can be used as part of any manufacturing process where rust and corrosion may become detrimental.

The product is highly dilutable and provides temporary protection when used during pressure testing of valves, pipe work and vessels.



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It can also be used within preparations or as a rinse after machining components that may not immediately pass on to another process

Compatibility

NFRI-2 is effective in the prevention of corrosion of the following metals:

- Copper alloys
- Cadmium
- Brass
- Cast Iron
- Steel
- Aluminium Alloys
- Zinc
- Solders

NFRI-2 may be safely used in the presence of a wide range of plastics and elastomers at room temperature; however specific materials should be tested prior to exposure.

Health and Safety

NFRI-2 is classed as Non-Hazardous, however splashes, mist or aerosols may cause irritation of eyes, nose, skin and the respiratory tract.

It is non-flammable and is neither a known or suspected carcinogen.

See Material Safety Data Sheet for details.

Typical Properties

Appearance	Colourless to straw coloured liquid
Density @ 15 °C	1.12
Solubility	Emulsifies in water, Soluble in most organic compounds
pH	7.7 to 8.1 units (5% solution)
Flash Point, (Closed Cup, °C)	Not applicable
Break Point, IP287	100:1
Staining Test, Aluminium, (0.20% NFRI-2 in water @ 90°C for 29 mins.)	No stain or blemish

Storage life in original, unopened containers, at between 5 °C and 35 °C (41° to 95 °F), is not less than 2 years.

Process application

NFRI-2 should be diluted before use.

The recommended dilution rate is between 0.25% and 1.0% in clean tap water. The optimum dilution should be established by the user by trials, for his particular application.

The concentration will be dependant upon the severity of the environment and the desired protection timescale.

Fluid process controls are not normally required.

Application:

Apply the diluted fluid using either spray or dip equipment

Dip tanks should be topped up as necessary to compensate for fluid losses.

The fluid may be used within commercially available spray equipment.

NFRI-2 should be suitable for use with any of the plastics or elastomeric/rubber seals normally encountered within these spray equipments.

Removal of film coating:

Where required, the film may be removed using suitable solvents, e.g. white spirit, kerosene, petroleum spirit, chlorinated solvents, Leksol, Toxfree, etc.

Removal may be by hand cleaning, vapour degreasing or ultrasonic immersion cleaning.

Alkaline cleaning may also be successfully employed.

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Packaging Details:

NFRI-2 is available in:

- 210 L drums;
- 25 L containers