



Confederate Chemicals Ltd

Mochdre Industrial Estate Newtown Powys SY16 4LE

Emerg. tel: 01686 627158

w: www.confederatechemicals.com w: www.paintstrip.com



HIFOS-MHT – TECHNICAL DATA SHEET

Description

An acidic liquid of Specific Gravity 1.31 used by immersion to deposit a heavyweight iron-manganese phosphate coating on steel components. The fine uniform crystal structure acts as an ideal lubricant carrier for "running in" applications. It may be oiled to provide a corrosion resistant coating.

The Control of Substances Hazardous to Health Regulations 2002 (COSHH)

For a Safety Data Sheet on this product please contact Confederate Chemicals by telephone, or by e-mail at lab@confederatechemicals.co.uk

Instructions for use

Make up the bath as follows for 450 litres of 33 point solution or pro rata. Pointages between 20 and 80 are typical dependent upon the coating weight required and type of work being processed. Typical coating weights range from 100-300mg.dm²

HIFOS-MHT	42 kilos
Water	420 kilos (litres)

Operate between 95 -99°C. Clean the parts in a medium as recommended by Confederate Chemicals Ltd. Immerse parts in the HIFOS-MHT bath until the coating is complete, typically 8 to 30 minutes. Water rinse and dewater (PO77).

Control

The HIFOS-MHT bath is controlled so that the Total to Free Acid Ratio is within the limits 4.5-5.5:1. These are determined as follows.

Total Acid: Take a 10ml sample from the HIFOS-MHT bath. Titrate against 0.1N Sodium Hydroxide to the phenolphthalein end point (colourless to pink). Each ml of Sodium Hydroxide represents 1 point Total Acid.

To increase the pointage by one point, add 0.79kg (0.6 litres) HIFOS-MHT per 450 litres of working solution. Frequent small additions are preferred where possible.

Free Acid: Repeat the titration to the methyl orange end point. Each ml Sodium Hydroxide represents 1 point Free Acid.

Iron Content: Ferrous Iron – Take a 10ml sample of working solution, add 10ml of 50% Sulphuric Acid and titrate against 0.1N Potassium Permanganate until a pink coloration is retained for 15 seconds.

$$\% \text{Fe}^{2+} = \text{mls } 0.1\text{N Potassium Permanganate} \times 0.056$$

Maximum permitted level is 0.3%. When the iron level reaches 0.3%, discard 80% of the tank volume, clean out the tank and make up with HIFOS-MHT.

Equipment

Heavy gauge mild steel is adequate but will have a limited life. 316 stainless steel is preferable. Immersion heaters must be stainless. Regular desludging of equipment and scale removal is essential.



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Storage

Store in closed, vented containers in a cool place.

Disposal

HIFOS-MHT solutions are acidic and contain Nickel. They must therefore only be discharged to a sewer within the consent limits imposed by the customer's water authority.

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