

Metall Spray 395L

Heavy duty alkaline spray cleaner

Product Description

Metall Spray 395L is a liquid alkaline cleaner used for removing lubricants and mineral oils from all ferrous metals. It may also be used for aluminium and galvanised steel, but only when etching, or removal of passivation is required.

Metall Spray 395L was formulated to be low foaming for use in spray cleaning processes and may also be used by immersion.

Metall Spray 395L was formulated to exhibit quick breaking of oil emulsions formed during the washing and rinsing operations. This property of Metall-Spray 395L allows the oil and water phases to be separated from the waste stream for appropriate treatment and/or disposal.

Applications

Metall Spray 395L finds application in the manufacturing and metal forming industries for removal of oily soils used during manufacturing processes and prior to conversion coating and final finishing such as painting and powder coating.

Metall Spray 395L is suitable for alkaline etch-cleaning prior to Chrome-Phosphating of aluminium in 4 stage spray process lines.

Features and Benefits

- Safe to use on all ferrous metal surfaces, in spray cleaning and immersion applications.
- Effectively sequestered to provide optimum performance in hard water areas.
- Completely and freely soluble in water.
- Liquid formulation for simple tank dosing and maintenance.
- Tank concentration can be automatically monitored and maintained by simple conductivity controlled dosing equipment.

Physical and Chemical Properties

Form	:	Water thin liquid
Colour	:	Clear
Specific Gravity	:	1.3
pH (undiluted)	:	14
pH (1% soln.)	:	13 approx
Odour	:	Slight, soapy.

Directions for Use

Metall Spray 395L is normally used in spray cleaning operations.

Concentration	:	1 - 4%
Temperature	:	Ambient to 80°C
Time	:	10 - 120 seconds
Pump Pressure	:	140 - 320 kPa (20 - 45 psi)

Solution Control

Take a 10ml sample of bath. Add 2 drops phenolphthalein indicator. Titrate with 0.1N acid until pink colour disappears.

No. of mls x 0.166 = % Metall Spray 395L by volume.

NOTE

This method is accurate for new solutions but for used solutions containing high levels of dissolved soils, it will over-estimate the effective concentration of Metall Spray 395L. In the case of old solutions, proceed as follows, using a pH meter instead of phenolphthaleine indicator:

Take a 10ml sample of bath. Place in a beaker or flask, put in the pH probe and add enough water to cover to probe tip. The pH will be approx 11.5 Titrate with 0.1N acid, observing the pH until it reaches pH 10.0 Then calculate as before:

No. of mls x 0.166 = % Metall-Spray 395L by volume.

When Metall Spray 395L is used as an etch-cleaner for aluminium, a special procedure is required for solution control. Refer to the special procedure if required (available separately)

Bath Exhaustion

It is possible to estimate the degree of exhaustion of an old solution of Metall Spray 395L by means of "Free Alkali" (FALK) and Total Alkali' (TALK) titrations.

Perform the following titrations on the bath solution:

Take a 10ml sample of bath. Add 5 drops phenolphthalein indicator.
Titrate with 0.1N acid until pink colour disappears.
No. of mls = FAK (Free alkalinity)

Take a 10ml sample of bath. Add 5drops bromophenol blue indicator.
Titrate with 0.1N acid until the blue colour turns yellow.
No. of mls = TAL (Total alkalinity)

In a new bath, the ratio TALK/FALK = 1.0

When the ratio TALK/FALK = more than 2.0 in an old bath, caused by the build-up of by-products in the solution, this is an indication that the bath has reached the point of exhaustion and should be replaced.

Effect on Materials of Construction

Metall Spray 395L is safe for use on stainless steel and all ferrous metals. Metall Spray 395L is NOT safe to use on aluminium except when specifically required for etching.

Mild steel is suitable for tank construction, heating coils and pump bodies.

Metall-Spray 395L Solution Control

(Special procedure for aluminium etch-cleaning)

1. Take a 10 ml sample of the bath and add :
 - Approx. 50 ml water,
 - Approx. 5ml sodium gluconate solution (10%)
 - Approx. 5 ml barium chloride solution (10%)
 - 5 drops phenolphthaleine indicator

2. Titrate with 1.0 N acid until the pink colour disappears (T1)
3. Add approx 25 ml potassium fluoride solution (20%)
(pink colour reappears)
4. Titrate again with 1.0 N acid until colourless (T2)

Calculate:

Metall Spray 395L %v/v (effective) =

$$1.66 \times (T1 - T2/3)$$

Packaging

Available in 25, 200 and 1000 litre containers.

Safety, Transport and Storage Information

Please refer to the Material Safety Data Sheet.

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