



Mi-Clean 14

Mi-Clean 14 is a heavy-duty, alkaline soak cleaner for most metals except aluminum and zinc. It is a free-flowing alkali salt mixture, which is readily soluble in water. The latest ideas in cleaning and the newest developments in basic chemicals have been incorporated into Mi-Clean 14.

In cases where heavier duty cleaning action is required, the solution can be used at boiling. When the Mi-Clean 14 solution is at a boil, there is not only the advantage of higher temperatures, but a mechanical scrubbing action because of the boiling agitation of the solution.

The concentration of the cleaning solution is kept at the required concentration or strength by periodic additions of Mi-Clean 14. Normally, these additions will keep the solution in good operating efficiency until the Mi-Clean 14 solution becomes excessively contaminated and at this point the cleaning solution must be drained off and a new one made up.

Physical Data

| | |
|---------------------|---------------------|
| Appearance and odor | Free flowing powder |
|---------------------|---------------------|

Operating Conditions

Immersion (Rack or Barrel)

| | |
|---------------|------------------------------------|
| Concentration | 4 – 8 oz/Gal |
| Temperature | 150° F – 200° F |
| Time | As needed |
| Equipment | Mild steel tanks and heating coils |
| Ventilation | Suggested |

Consumption of the cleaner is affected by reaction with soils, neutralization of fatty acids, and drag out of the cleaner solution. Additions to maintain desired concentration are recommended.



Titration Method

1. Pipette a 10 mL sample into a 250 mL Erlenmeyer flask and add 100 mL of water.
2. Add 5 to 10 drops Phenolphthalein indicator.
3. Titrate with 0.5 N Hydrochloric Acid until the solution turns from pink to colorless.
4. Record mL used.

Calculation

$$\begin{aligned} \text{Factor (oz/Gal)} & \quad 0.66 \\ \text{Factor (gm/l)} & \quad 5.00 \\ \text{Concentration} & = \text{mL } 0.5 \text{ N HCl} \times \text{Factor} \end{aligned}$$

Test Kit Method

1. Fill test bottle 1/3 full of water. Add ½ mL of Mi-Clean 14 bath solution.
2. Add 4 to 8 drops Phenolphthalein indicator.
3. Add 0.72 N Hydrochloric Acid solution dropwise while mixing until the solution turns from pink to a colorless endpoint. Record number of drops.
4. Record the number of drops used.

Calculation

$$\begin{aligned} \text{Factor (oz/gallon)} & \quad 0.61 \\ \text{Factor (gm/l)} & \quad 4.80 \\ \text{Concentration} & = \# \text{ Drops } 0.72 \text{ N HCl} \times \text{Factor} \end{aligned}$$

Waste Disposal

Discharge rinse waters and spent solutions to a permitted disposal system. In order to be completely informed on the latest regulations for your area, please contact the local authorities.

Caution

Mi-Clean 14 is an alkaline product and should be handled accordingly. Avoid skin and eye contact. Wear protective clothing, goggles and gloves. Flush exposed areas immediately with clean cold water. Contact a doctor promptly in case of injury. Consult SDS for details.



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For more information on this process,
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