Aquaease™ E 9091

Aquaease E 9091 is a powdered, alkaline electro-cleaner for brass alloys, copper, zinc die-castings, slush castings, lead alloy castings, and white metals. Developed as an electro-cleaner for non-ferrous metals.

Aquaease E 9091 may also be used for ferrous metals.

Features & Benefits

Non-dusting	Free flowing powder
Effective at low temperatures	Hard water tolerant
Multi-metal safe	Chrome tolerate

Physical Data

Solubility in Water	Appreciable
Appearance and odor	Off-white granular powder
pH @ 4 oz/Gal	12.5 – 13.0

Operating Conditions

Zinc Die Castings

Concentrations	4 – 10 oz/Gal (30 – 75 g/L)
Temperatures	110°F – 125°F (43°C – 51°C)
Time	20 – 45 seconds
Polarity	Anodic
Current density	10 – 30 amps/ft^2 (1 – 3 amps/dm^2)
Equipment	Mild steel tanks, coils, and anodes
Ventilation	Recommended

Note: Operating temperature above 125°F will tend to darken die-casting

Brass, Copper, Lead Alloys & White Metals

Concentrations	4 – 10 oz/Gal (30 – 75 gm/L)
Temperatures	110°F – 160°F (43°C – 71°C)
Time	20 – 90 seconds
Polarity	Anodic or cathodic
Current density	10 – 40 amps/ft^2 (1 – 4 amps/dm^2)
Equipment	Mild steel tanks, coils, and anodes
Ventilation	Recommended

Note: Aquaease E 9091 may be used cathodically on copper and brass alloys. However, a brief anodic clean should follow the cathodic electro-cleaner, if possible.

Lead alloys, pewter, white metals and slush castings should be cathodically electro-cleaned.

Tank Make Up Procedure
Considerable heat is generated when Aquaease E 9091 is dissolved in water. A new solution should be prepared by filling the tank half full of warm water (approx. 100°F, 37°C), and slowly adding Aquaease E 9091 while continuously stirring. After the Aquaease E 9091 has been dissolved, add the remainder of the cold water. Heat or cool to desired operating temperature before use.

Note: When adding Aquaease E 9091 to an operating solution, add slowly to avoid solution eruption.

Maintenance Note for Electro-cleaner
When recharging the tank with a fresh solution, be sure that the cathodes are free of sludge and that the bus bars are bright and clean. Scaled cathodes and dirty bus bars act as insulators, which will consequently reduce the current density.

Titration Method

1. Pipette 10 mL of Aquaease E 9091 solution into 250 mL Erlenmeyer flask.
2. Add 100 mL of water and 4 to 5 drops Phenolphthalein indicator.

3. Titrate with 0.5 N Hydrochloric Acid until the solution turns to a clear end point.
4. Record mL used.

Calculation

Factor (oz/Gal)	*0.56*
Factor (g/L)	*4.20*

Concentration = mL 0.5 N HCl x Factor

Test Kit Method

1. Fill Test Bottle ¼ full of water.
2. Using syringe, add a 1/2 mL sample of Aquaease E 9091.
3. Add 5 to 10 drops of Methyl Orange Indicator.
4. Add Dropwise 0.72 N HCl until color changes from yellow to orange.
5. Record the number of drops used.

Calculation

Factor (oz/Gal)	*0.6*
Factor (g/L)	*4.5*

Concentration = # Drops of 0.72 N HCl x Factor

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

Aquaease E 9091 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.

WARRANTY: THE QUALITY OF THIS PRODUCT IS GUARANTEED ON SHIPMENT FROM OUR PLANT. IF THE USE RECOMMENDATIONS ARE FOLLOWED, DESIRED RESULTS WILL BE OBTAINED. SINCE THE USE OF OUR PRODUCTS IS BEYOND OUR CONTROL, NO GUARANTEE EXPRESSED OR IMPLIED IS MADE AS TO THE EFFECTS OF SUCH USE, OR THE RESULTS TO BE OBTAINED.

Our People. Your Problem Solvers.

For more information on this process,
please call us at 203.756.5521 or email: techservice@hubbardhall.com

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