

# ZINCATE ALUMINIUM ACTIVATOR MANUAL

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## Important information

Verzinkshop **Aluminium Activator** applies a thin zinc layer to aluminium with which you can work directly to your next galvanic step. A clean, oxide-free substrate is crucial; Aluminium quickly forms a passive oxide layer that blocks adhesion. Therefore, work smoothly, do not touch cleaned areas with bare hands and rinse carefully.

**Important:** the activator is alkaline. After activation, first rinse water generously and then **briefly neutralize with diluted citric acid** to loosen residues in pores; then rinse again and **move on to the next step (e.g. alkaline copper)** without a drying pause to ensure adhesion.

In the case of porous or cast aluminium, extra attention is paid to mechanical pre-treatment to limit inclusion.

## Required equipment

Tanks and suspension devices from

- acid-resistant PVC, PE or PP. Also suitable: steel tanks with rubber or plastic (pp/pvc) inner lining. (No aluminum or bare steel as a contact material)
- Heating is usually not necessary: works at ambient temperature.
- Use demi/DI water for rinsing.

## Preparation

The aluminium must be clean, degreased and free of oxides. In the case of old aluminium, first clean mechanically or chemically until a uniform, fresh layer is visible, then rinse well. After an acidic pre-treatment, always neutralize briefly and rinse again. Do not let it dry between steps; continue working immediately.

## Step-by-step plan

### Prepare

- Aluminum ready, clean and grease-free.
- Do not touch with bare hands after cleaning.

### Rinse

- Rinse cold with clean demi/DI water.
- Do not allow to dry between steps.

### Activate

- Immerse in the ready-to-use solution.
- Process time: 15–40 seconds; guide value ~20 seconds.
- Move lightly or gently swirl for an even film.

### Neutralize

- Short in dilute citric acid  $\pm 0.5\text{--}2\%$  (citric acid)
- Then rinse immediately cold.

### Rinsing

- Rinse thoroughly cold with clean water.
- Drain the workpiece briefly over the bath.

### Next step

- **Do not allow to dry** to prevent oxidation. After the above process, we went straight to the electroplating bath.

## **Working conditions**

Working temperature 18–32 °C

Optimal working temperature around 24 °C.

Process time 15–40 seconds with a practical target time of around 20 seconds.

## **Maintenance, storage and refreshment**

Keep rinsing baths clean and prevent dragging in. Cover the working solution when stationary. Store in a sealable, chemical-resistant container; cool, dry and ventilated. Label content and date. Replace when color, time or uniformity visibly fade away despite clean preparation and correct working conditions.

## Technical characteristics

System	Zincate Aluminum Activator
Metal	Aluminium
Operating Range Temperature	18–32 °C (guideline value ~24 °C)
Litigation time	15–40 s (guideline value ~20 s)
Rinse	Cold water before and after
Neutralize	Citric acid
Equipment	acid-resistant PVC, PE or PP. Also suitable: steel tanks with rubber or plastic (pp/pvc) inner lining.

## Problems and solutions

Problem	Probable cause	Solution
Blowing/releasing after next steps	Activator residues in pores; Immediate acid bath used	After activation, <b>water</b> → <b>citric acid</b> → <b>water briefly</b> ; then <b>first build up alkaline copper</b> ; avoid acid immediately until there is sufficient intermediate layer.
Poor adhesion/spots	Oxide/passive layer not completely gone; Waited too long	Improve pre-processing (mechanical + smooth activation); do not allow to dry; Continue working immediately after rinsing/neutralizing.
Irregular appearance	Porosity/trapped pollution; insufficient exercise	Mechanically refine workpiece; move slightly during activation; Rinse and neutralize carefully.
Dark spots after plating	Encapsulation activator in casting pores	More intensively neutralize with dilute citric acid; Minimize pores (abrasion/polishing) before activation.

## Warning!

Avoid contact with eyes, skin and clothing. Wear eye protection (goggles, goggles, or face shield), protective rubber gloves, and aprons when preparing solutions and while working with the solutions. Do not mix the product with cyanide or alkaline materials, or other chemical substances. The product is toxic when used internally.

- Do not work with Galvanizing products without first reading and understanding the safety information.
- The safety data sheet can be found on the product page or can be requested from verzinkshop.nl by e-mail: [info@verzinkshop.nl](mailto:info@verzinkshop.nl)
  - Do you have any questions? Contact us via:
    - Mail: [info@verzinkshop.nl](mailto:info@verzinkshop.nl)
    - Whatsapp or call: +31 6 28090022
    - [Www.verzinkshop.nl](http://Www.verzinkshop.nl)

## Safety

- Always wear a dust mask, respirator, gloves, and apron when necessary.
  - Always treat any chemical as if it could kill you.
- Always label buckets and storage containers with a permanent marker so that you and others know what's inside.
- Never pour water into acid; it can heat up and explode. Always pour acid into water.
- Never leave electroplating baths or other systems that use power unattended. These products may cause a short circuit and cause a fire.
- Never come into direct contact with chemicals. They can cause serious burns or other damage and are very dangerous substances if not treated with respect.
- Never think you can get away without taking safety precautions! That is not possible!
  - Never leave the lids off the tanks when not in use.
  - Always work safely and ensure good protection and ventilation.
- The safety data sheet can be found on the product page or can be requested from verzinkshop.nl by e-mail: [info@verzinkshop.nl](mailto:info@verzinkshop.nl)

## Disclaimer

Did you find an error or something unclear in the manual? Please let us know via

[info@verzinkshop.nl](mailto:info@verzinkshop.nl)

We put together our manuals with care; However, no rights can be derived from the content. Processes and results depend on circumstances beyond our control. Therefore, always test first on test/waste material and work according to the SDS/SDS and with appropriate PPE.

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