# “Mold Water”
# <Ion Water>
# Q&A

**Vietnam Support Desk**

**Contact : info@tmdv-palette.com**

## 1. What is “Mold Water”?

“Mold Water” is a device developed through research to physically activate water using the action of special high-performance permanent magnets, thereby providing various beneficial effects.

The products have obtained multiple certifications and registrations:

* ISO 9001:2000　Certification No. QCB03-2508
* Japan Water Works Association Certification Registration No. Z-122
* Patent No. 3701077
* Utility Model Registration No. 3033968

## 2. What does “Mold Water” mean?

“Mold” refers to plastic molding or forming.

Therefore, “Mold Water” means water used for molding.

In molding machines, cooling water circulates through the mold.

If rust or scale adheres to the piping in this system, machine trouble, increased defective products, and longer molding cycles can occur, negatively impacting production.

“Mold Water” was developed to remove and prevent deposits inside piping to solve these issues. A wide lineup is available, and the appropriate type is selected according to the application.

As it is used for machinery and factory systems, the product concept is compact size, strong effect, and low cost, minimizing any discomfort or burden on piping.

## 3. What is the main principle of “Mold Water”?

When a fluid (water or other ionized liquid) passes through the magnetic field between the N and S poles, an electric field is generated. This electric field, together with the strong magnetic field, produces many effects.

These effects are maximized under the following theoretical and practical conditions:

* Higher flow speed
* The distance between the N and S poles is as small as possible

* The centers of the N and S poles are aligned
* Magnetic leakage to the outside is minimized while internal magnetic strength is maximized

"Mold Water" incorporates many technologies to satisfy these conditions.

## 4. What are the main effects of "Mold Water"?

1. Prevention of red rust and formation of anti-corrosion protective films
2. Prevention and removal of scale and slime adhering to piping and equipment
3. Reduction of water molecule clusters
4. Reduction of fuel molecule clusters
5. Sterilization effect

《Main resulting benefits include》

**Prevention of red rust and conversion to black rust**

* Improves red-colored water problems
* Red rust converts to black rust, forming a passive film that prevents corrosion
* It can be a cost-effective alternative to pipe replacement or lining methods

**Prevention and removal of scale and slime**

* Removes and prevents adhesion of calcium carbonate and silica deposits inside pipes, hot-water systems, boilers, etc.
* Removes and prevents adhesion of slime (viscous organic substances mixed with sand, rust, etc.)
* Improves heat transfer efficiency and reduces fuel consumption
* Supplies cleaner water by eliminating deposits where bacteria tend to inhabit

**Reduction of water molecule clusters**

* Improves rooting and growth of plants
* Reduces disease and improves product quality in livestock and poultry farming
* Rice cooking and boiling becomes fluffier and tastier
* Keeps vegetables and fruits fresh

* Improves cleaning power and reduces detergent usage
* Reduces chlorine odor and makes water smoother and better tasting
* Provides moisture and smoothness to skin
* Magnetically activated water heats 4–5% faster
* Produces water with vitality similar to fresh spring water passing through the Earth's natural magnetic field

**Fuel efficiency and exhaust gas reduction**

* Finer fuel molecular clusters improve combustion efficiency
* Reduces fuel consumption
* Reduces exhaust emissions, contributing to environmental protection

**Sterilization effect**

* Supplies cleaner, disinfected water
* Speeds healing of minor cuts
* Extends shelf life and quality of foods
* Reduces scale and slime in baths, kitchens, beauty salons, and dental clinics
* Extends the life of water purifier filters

## 5. Why does it prevent red-rust corrosion?

Red rust gradually transforms into black rust, forming a black rust film.
This passive film prevents further internal corrosion and protects the inside of the piping.

## 6. Why is scale removed?

Scale that adheres inside pipes is mainly calcium carbonate. In water, it exists as dissolved calcium ions (+) and carbonate ions (−). When they react on pipe walls, calcium carbonate crystallizes and adheres.
Inside "Mold Water", the electric field causes:
* Calcium ions (+) to move toward the negative electrode

* Carbonate ions (–) to move toward the positive electrode
They collide in the water, forming calcium carbonate particles suspended in water, preventing adhesion and allowing them to be flushed away by the flow.

## 7. Why are water molecule clusters reduced?

Water molecules ($H_2O$) form clusters through hydrogen bonding. Heating increases molecular motion and breaks these bonds ; cooling increases bonding and cluster formation.
Passing through "Mold Water", strong magnetic and electric fields break hydrogen bonds, resulting in smaller clusters.
This brings multiple benefits:
* Higher permeability
* Lower surface tension
* Easier volatilization of dissolved volatile substances (e.g.,trihalomethanes)

## 8. Why are fuel molecular clusters reduced?

Similar to water, fuel molecules are bound by weak electrical (Van der Waals) forces. These bonds are broken, resulting in finer molecular clusters, improving combustion efficiency, reducing fuel consumption, and creating cleaner exhaust gas.

## 9. Why does it have a sterilization effect?

Part of the water is electrolyzed in the electric field generated by the strong magnetic field, producing nascent oxygen (active oxygen).
This oxidizes and kills some bacteria and other substances. Since nascent oxygen disappears in about one-millionth of a second, it is harmless to the human body.

## 10. What is "activated water"?

Water freshly sprung from the earth is said to taste good and resist decay due to the influence of the Earth's magnetic field. Its ice crystals form clean hexagonal shapes.

Tap water generally does not form such crystals due to impurities, but passing through a magnetic field allows beautiful crystals to form again.
Returning tap water to this fresh-spring-like state is what we call "activation of water."

## 11. Are there any negative effects when installed on tap water?

The certification of the Japan Water Works Association guarantees that it can be installed on any water supply without issues for human health or equipment.
However, due to possible meter error from magnetic influence, it must be installed at least 50 cm away from the water meter.

## 12. Is maintenance required after installation?

No maintenance such as filter replacement is required because it has a stainless-steel pipe structure.
When buried underground, wrap 2–3 layers of anti-corrosion tape for protection.

## 13. What about durability and duration of effects?

* Permanent magnets ensure almost no magnetic degradation
* Stainless steel exterior allows 20–30 years of use (general assumption)

Effect duration:

* 24–30 hours in time
* Up to approx. 1,000 m in distance (depending on conditions)

## 14. Is it okay if removed deposits come out of faucets?

Unlike chemical treatment, deposits are removed gradually and discharged in small amounts with water, so there is no problem.
They are generally harmless to the human body and do not exceed water quality standards.

## 15. Will removed deposits affect equipment?

Magnetic shielding ensures little influence beyond 7–10 cm.
In closed circulation systems, large peeled deposits may clog strainers.
Iron particles may temporarily adhere to magnets but are carried away by water flow.

## 16. How long does it take to see effects?

It depends on piping condition, water quality, and usage volume.
There is no instant effect like chemicals. The more water flows through the system, the faster effects appear. Little-used or stagnant water systems may see little to no effect.

## 17. Can impurities in water be removed?

"Mold Water" has no filtration function, so substances in water are not physically removed.
However, treated water promotes volatilization of chlorine, trihalomethanes, etc., after discharge from the faucet due to cluster reduction.