TITLE:

A new education for lifestyles and consumption patterns suitable for combating the climate crisis and promoting the ecological transition.

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Legislative Decree 18/23

What Changes with Legislative Decree 18/2023?Legislative Decree 18/2023 introduces a risk-based approach to water safety. This approach aims to protect water resources not only from hazardous events of any nature, including climate change, but also to focus time and resources on the most significant risks.

Objectives

- Effectively prevent emergency situations of drinking water nature caused by parameters not normally monitored, considering any plausible hazardous event at the sources, in the intakes, and along the supply chain, taking into account the scenarios of ongoing environmental and climatic changes;
- Redefine the protection zones of water intake areas;
- Increase the capacity to identify contamination events in advance with the help of online monitoring systems and early-warning systems;
- Increase information and data sharing with all stakeholders and between institutions that operate monitoring and protection of the territory and health in different areas of competence;
- Enable more aware and active participation by consumers, improving the flow of information both in ordinary situations and in critical situations.

The implementing decree of the directive on the quality of water intended for human consumption sets the beginning of 2029 as the deadline for completing the Water Safety Plans of the drinking water systems under the responsibility of each operator.

Key Steps for Developing a Water Safety Plan (PSA) for a Drinking Water Supply System

- **Detailed Description**: Provide a precise description of the supply system from the point of intake, through treatment, to storage and distribution.
- **Identification of Hazards and Hazardous Events**: Identify potential hazards and hazardous events that could affect water safety.
- **Risk Assessment**: Conduct risk assessments for chemical, physical, bacteriological hazards, and those resulting from climate change, water losses, system vulnerabilities, and other factors that may affect supply continuity.
- **Control Measures**: Define and implement control measures to prevent and mitigate system risks and additional measures for risks from supply areas.
- **Monitoring and Control Programs**: Develop and implement an appropriate "Operational Monitoring Program" and a "Control Program."
- **Disinfection Balance**: Ensure an adequate balance between disinfection and disinfection by-products.
- **Material Compliance Verification**: Establish a system for verifying the compliance of materials in contact with water.
- **Team Definition**: An essential step in drafting the plan is defining the PSA Team, composed mainly of specialized internal staff from the management company, who bring knowledge across the necessary areas (Team leader, Quality management system, Investment/purchasing area, Press and external relations service, Laboratory analysis, Distributed water quality control service, IT service, Plant area).
- **External Participation**: External figures participate in the Team, providing knowledge on specific topics and the territory, including key stakeholders (Local Health Authorities, Environmental Protection Agencies, Regional Departments, Area Managers, Municipalities).

Water is life, but if it is not adapted for human consumption and if it is poorly stored, it becomes a significant problem for human health. Water for human use must be purified to acquire the chemical, physical, microbiological, and organoleptic characteristics necessary to be safe, high-quality, and pleasant to drink.

Tap water, therefore, is not inferior to bottled water. It represents a direct source of quality drinking water for the whole family, which is safe and, importantly, much more economical and healthier than bottled water when considering the "savings" in terms of environmental pollution from plastic and exhaust gases from transportation. For those who can't do without bottled water but still want to reduce plastic consumption, there are valid alternatives, such as returnable bottles and water houses.

So, if you want to hydrate with one of the most precious nutrients for humans, just turn on the tap at home, fill a glass, and drink. But how should potable water collected in a bottle or carafe be stored to keep it safe? Let's find out together!

Why Should Potable Water Be Stored Safely?

Water is essential for our lives, but it provides a good breeding ground for algae, bacteria, mold, and other microorganisms harmful to humans. If you observe water left in a glass under the sun for days, you will see how it changes color, loses clarity, starts to smell, and may even develop green algae or mold.

Water is a chemical compound sensitive to the physical and chemical conditions of the environment, temperature, and especially odors. It is also a solvent that can absorb some compounds from its container, altering its taste.

The container in which potable water is stored should not be underestimated. For instance, potable water stored in a plastic bottle or food-grade plastic water bottle left in a car for two or three days will taste different, often reminiscent of the container's odor.

Drinking this water is not advisable. If it's winter and it's an emergency, it might be okay, but in summer, if the car has been left in the sun, it’s better never to drink the water left in such conditions. This is one of the few cases where it is recommended to spend a euro at the bar for a bottle of mineral water!

Guidelines for Storing Potable WaterLet's see how to safely store potable water. First and foremost, it is essential to choose the right container, and specifically, glass is the best choice because it is practically inert when in contact with water. Today, you can rely on high-quality glass containers, from practical bottles to carafes in various shapes and designs.

Guidelines for Storing Potable Water

Glass doesn't clean itself, and the hygiene of the container intended for potable water is one of the critical factors in ensuring proper storage. This applies to both glass and food-grade plastic containers.

Containers should always be washed before being filled and between each use. This habit helps prevent the formation of bacterial loads, mold, and lime scale.

It is essential to remember never to reuse plastic mineral water bottles, as they are certified safe for single use only. Once the water is consumed, these bottles should be disposed of in the plastic recycling bin, as they are not suitable for washing or reuse safely, especially not at the domestic level.

Understanding the importance of the container, here are the instructions for correctly storing bottled water:

1. Run the tap water for a few seconds and when it becomes nice and fresh, collect it in a glass bottle or carafe.
2. Let it sit for a few minutes to allow any chlorine to evaporate if necessary.
3. Close the bottle with its cap to reduce contact with the environment and potential microorganisms. If using a carafe, food wrap can be used. Store it in a dry, cool, clean, and odor-free place, away from sunlight and heat sources. The refrigerator is ideal, especially in summer, but for those who don't like cold water, a corner of the kitchen away from the stove and window will suffice.
4. Collected potable water should be consumed within a maximum of 24 hours. After 24 hours, it is advisable to use the remaining water to water plants and then clean the container before collecting fresh water again.

How to Store Water Collected in Filtering Carafes and Bottled Mineral WaterThe guidelines previously mentioned also apply to potable water collected in filtering carafes, which should ideally be stored in the fridge and washed every 24 hours. Refilling the water multiple times a day is not ideal, but storing it in the fridge helps mitigate potential taste alterations and contamination from external agents. It is important to remember to wash the carafe daily.In any case, the manufacturer should provide specific instructions for proper use and maintenance.

Guidelines for Proper Use of Bottled Mineral Water

Manufacturers should provide instructions for the proper use of their products. When it comes to bottled mineral water, it may seem straightforward, but it's not always the case.

The storage methods for bottled mineral water must be indicated on the label by law, with the statement: "To ensure product integrity, we recommend storing it in a dry, clean, odor-free place, away from sunlight and heat sources, and do not freeze." Practically, storing bottled mineral water in a pantry or basement is a healthy habit.

Additionally, by law, bottled water must also display the recommended consumption date with the label "Best before...". However, it is not specified how long it should be consumed after opening. It is generally known "unofficially" that it should be consumed within 3 days of opening if stored properly, in a suitable place as per storage instructions, and always remembering to close it with the cap.

Knowing how to store potable water once collected in a bottle or carafe is important to ensure the safety of the whole family. Remember that drinking water is essential for life if stored correctly, a habit that also applies to bottled mineral water once opened.

Tap Water or Bottled Water: Which to Choose?

Water is the ideal ally for health, essential for the body's well-being. It can be purchased at the supermarket or chosen from your home supply. However, consumers are often unsure which option to choose: a confusion fueled over the years by advertising messages and scientific publications defending one option or the other.

So, is it better to drink tap water or bottled water? To understand this, it is necessary to determine whether one of the two options is actually healthier than the other and whether it offers more benefits, including economic convenience.

The Difference Between Tap Water and Bottled Water

What is the difference between bottled water and tap water? The most important difference is the source. Bottled water, specifically mineral water, originates exclusively from wells connected to deep aquifers, protected by significant layers of natural filtration.

On the other hand, tap water comes from the same underground aquifers as mineral water in only 84% of cases. The remaining percentage is sourced from more superficial bodies of water, such as lakes or rivers.

As a result, bottled water, which undergoes only periodic checks, is bottled directly at the source as it is and intended for consumption. This is a fundamental requirement for it to be classified as mineral water. Additionally, bottled water labels provide detailed information about its chemical composition, source, and other useful information for making an informed choice.

Tap water, after being subjected to more frequent and rigorous checks, undergoes appropriate treatments as mandated by regulations before it is distributed through the public water system.

In this case, since there is no label, you can find out the chemical composition of tap water by looking at the information periodically provided by your water utility. You can also consult online resources made available by the utility, as well as by regional and municipal authorities.

Is Tap Water or Bottled Water Better?

Given the distinct supply chains of drinking water and mineral water, many wonder whether it's better to drink tap water or bottled water, and which might offer greater benefits to the body. Some consumers tend to believe that bottled water, often offered by well-known brands in the food and beverage industry, may provide greater assurances compared to water from the municipal supply. However, the truth is that tap water, also known as "mayor's water," is in terms of quality on par with bottled water.

To substantiate this, one can look at the regulations governing drinking water intended for human consumption in Italy and across Europe. Currently in Italy, the legislative reference regarding the quality of water for human consumption is Legislative Decree No. 18 of February 23, 2023, which officially repealed the previous Legislative Decree No. 31/2001. This legislation, enacted in implementation of EU Directive 2020/2184, came into force on March 21, 2023, introducing several innovations compared to the previous provisions.

Furthermore, with the Ministry of Health Decree of June 14, 2017, issued in conjunction with the Ministry of the Environment to implement EU Directive 2015/1787 on the minimum requirements for drinking water monitoring programs, there is an obligation for all water utility operators to adhere to the Water Safety Plan (WSP).

The WSP is a risk assessment and management system from the World Health Organization (WHO), which specifies stringent control requirements throughout the water supply chain. It defines the frequency, methods, and sampling points for monitoring chemical and microbiological parameters that accredited laboratories must measure to ensure no risk to human health.

In light of all these aspects and the perennial debate over whether bottled or tap water is better, it can be concluded that both solutions are valid. Nonetheless, tap water that reaches homes can be considered even safer due to stricter controls compared to those applied to mineral waters. Moreover, tap water not only exhibits excellent sensory characteristics but is also much more economical than packaged water, especially when considering the cost per liter and comparing it to bottled water prices.

This comparison is particularly significant in today's climate of constant price increases driven by energy costs.

Drought: Here are 8 Steps to Reduce Waste by Half

The guidelines from the Italian Society of Environmental Medicine: up to 30 liters for brushing teeth, 50 liters for showering, and over 100 liters for washing a car.

During these days of drought, marked by high temperatures across the country, a study published by the Italian Society of Environmental Medicine (SIMA) highlights a troubling habit among Italians (and others): water wastage. This comes at a time when several cities, starting with Verona, are imposing restrictions on the use of drinking water through ordinances, and some regions are requesting a state of emergency.

Up to 30 liters for brushing teeth, 50 liters for showering

To address the water emergency, as highlighted by the survey, it is necessary to start with the daily habits of citizens. "Italy," stresses Alessandro Miani, president of SIMA, "is a country with abundant water resources but also ranks among the highest in the world for water waste: daily per capita consumption is approximately 245 liters. Just consider that the bathroom faucet has an average flow rate of over 10 liters of water per minute: if left running while brushing our teeth, more than 30 liters of drinking water will be wasted. A dripping faucet alone represents a waste of 4,000 liters of water per year," continues Miani. "Taking a shower consumes about 50 liters of water; opting for a bath uses three times as much (about 150 liters); washing a car typically requires 100 liters of water on average."

Here are 8 steps to cut water waste by half. However, by adopting a few simple measures at home, water waste can be reduced by up to 50%, with positive effects on consumption and water bills. The Italian Society of Environmental Medicine suggests 8 moves to achieve this goal.

Here they are:

1) Prefer taking showers over baths, shorten the duration of washing, and turn off the faucet while soaping up.
2) Use faucets equipped with aerators.
3) Use high-efficiency appliances (washing machines, dishwashers, etc.) and operate them only when fully loaded.
4) Avoid letting water run while brushing teeth, washing face, or shaving.
5) Opt for toilets with dual flush buttons (large and small) and ensure the toilet tank doesn't continuously leak into the bowl (you can check this by adding a few drops of food coloring into the tank).
6) Monitor your water bill: a sudden increase in consumption may indicate a leak. Check the water meter with all water appliances turned off and inspect the plumbing system for leaks.
7) Avoid watering balcony plants, lawns, and gardens during the hottest hours or when it rains, and be mindful not to overwater. Use drip irrigation systems and collect rainwater in barrels for lawn and plant irrigation.
8) Do not dispose of waste (such as kitchen oils, as one liter of used cooking oil can pollute 1 million liters of groundwater, as well as expired medicines and cosmetic products) down sink drains or toilets.

These measures can significantly reduce water waste and have positive impacts on both water usage and expenses.

All this information is valuable for educating young people and the entire citizenry.