

Fact sheet: Magnacide™ H Herbicide and acrolein

April 2021

To ensure continued access to Sunwater's irrigation channel systems and minimise unplanned interruptions to water supply, Sunwater implements planned channel shutdowns to treat water and remove aquatic weeds using Magnacide™ H Herbicide. This fact sheet provides information relating to the herbicide and active ingredient, acrolein, and its effectiveness in removing blockages in water systems.

Planned channel shutdowns

Planned channel shutdowns occur as part of Sunwater's standard business operations. During a shutdown, customer water supply is interrupted or restricted due to the performance of work planned in advance.

In planning the duration of the shutdown, Sunwater aims to minimise impact on customers while enabling our team to perform maintenance on the scheme.

The most common planned shutdown of Sunwater schemes is for the treatment of submerged aquatic weeds in irrigation channels.

Treating submerged aquatic weeds helps keep water systems clear of obstructions which may otherwise cause water systems to become choked with weed and channels to overflow.

Customers are notified of planned channel shutdowns in line with Sunwater's service targets. Sunwater will complete all planned shutdowns within the period stated to customers unless altered by agreement with the customer group originally consulted with. Sunwater reserves the right to cancel a planned shutdown when an interruption arises that is beyond its control such as adverse weather conditions.

The use of Magnacide™ H Herbicide

Sunwater uses the non-selective biocide Magnacide™ H Herbicide during its planned shutdowns as an effective way of promptly treating aquatic weeds.

Magnacide™ H Herbicide is registered by the Australian Pesticides and Veterinary Medicines Authority and is used widely across Australia since the early 1970s.

Acrolein is the main ingredient in the Magnacide™ H Herbicide which acts as a "chemical mower" by stripping plants at the base but not affecting the root system. The herbicide is flammable and classified as a Schedule 7 substance requiring specialist training for its storage, transport and use.

Magnacide™ H Herbicide and the environment

Magnacide™ H Herbicide and acrolein are toxic to aquatic organisms taking dissolved oxygen from water through gill-based respiratory systems (e.g. fish, crustaceans). Where possible, efforts are made to minimise exposure to fish by partially or completely draining channels immediately prior to a treatment.

Despite the initial toxicity of this product, it remains the preferred method of herbicide-based aquatic weed control due to the following characteristics:

- It rapidly breaks down in water (72 hours) through evaporation and contact with air into by-products which pose no risk to the environment (water and carbon dioxide).
- It has no effect on root systems.
- It binds to soil preventing it from entering groundwater.

Storing, transporting and applying Magnacide™ H Herbicide

Prior to dispensing Magnacide™ H Herbicide, the section of the channel to be treated is isolated to prevent the movement of water beyond the treatment area.

The herbicide is injected below the water surface using specialised application equipment over a four to eight-hour period.

The herbicide can be injected at a rate of 15 parts per million, however, are typically lower than this with the higher rates used only in extreme overgrown weed conditions.

The herbicide has a short in-water lifespan lasting between four to five hours. The treated water is then managed to ensure it is not released either directly or indirectly into the natural aquatic environments during the required withholding period of 72 hours.

As a public safety precaution, the herbicide is injected into the channel with typically a red or bright blue dye which, in addition to notifying customers via post, email or SMS, provides a visual aid to inform customers and the general public that the section of the channel is under treatment and is not to be used.

Alternate options to Magnacide™ H Herbicide

Currently there are no chemical alternatives to the Magnacide™ H Herbicide product in Australia.

The herbicide continues to be the preferred option used industry-wide due to its effectiveness in treating aquatic weeds and its rapid and complete breakdown.

Non-chemical treatment methods used at Sunwater include channel draining and mechanical removal of weeds. These methods require significantly longer timeframes and increased costs compared to Magnacide™ H application, and their use is therefore limited.

Sunwater liaises regularly with the Queensland Department of Agriculture and Fisheries to identify emerging weed control products and technologies, as well as opportunities to trial new alternative herbicide products as they become available.

Questions

If you have further questions regarding planned channel shutdowns and the use of Magnacide™ H Herbicide, please contact Sunwater.



Figure 1: channel post-treatment