

5709  
chemical additives



## Introduction

Altecnic chemical additives are suited for new and existing installations, at low and high temperatures, radiators and radiant panels.

**C3 Cleaner** - it removes sludge, limescale and detritus from existing heating systems and is used in new installations for commissioning according to the required standards.

**C1 Inhibitor** - offers long-term protection for high and low temperature heating systems against corrosion and incrustations.

It keeps the system efficient, making frequent bleeding of radiators unnecessary and prevents cold spots forming, as well as ensuring that pumps and boilers run quietly.

Reduces maintenance costs and improves energy efficiency.

**C7 Biocide** - is a highly effective biocide used to prevent and control the microbial growth of a wide spectrum of bacteria and other micro-organisms found in heating waters.

**C4 Leak Sealer** - is a liquid sealant that seals micro-cracks and joints that are not perfectly sealed, and is highly effective against inaccessible capillary leaks.

## Product Range

Code	Description	Quantity per Container
570911	C3 Cleaner	500 ml
570912	C1 Inhibitor	500 ml
570913	C7 Biocide	500 ml
570914	C4 Leak detector	500 ml

## Characteristics

### C3 Cleaner

Fluid:	liquid
Colour:	pale brown
Odour:	mild
pH:	7 to 8
Relative density:	1.15
Solubility in water:	soluble in hot and cold water
Dosage:	500 ml to 150 litres

### C1 Inhibitor

Fluid:	liquid
Colour:	straw yellow
Odour:	mild - aromatic
pH:	8.2
Relative density:	1.1
Solubility in water:	soluble in hot and cold water
Dosage:	500 ml to 150 litres

## Characteristics Continued

### C7 Biocide

Fluid:	liquid
Colour:	pale yellow
Odour:	mild
pH:	3 to 5
Relative density:	1.015
Solubility in water:	soluble in hot and cold water
Dosage:	500 ml to 150 litres

### C4 Leak Detector

Fluid:	emulsion
Colour:	dark off white
Odour:	mild
pH:	7 to 8
Relative density:	1.0
Solubility in water:	soluble in hot and cold water
Dosage:	500 ml to 150 litres

## Compatibility

Chemical additives are developed for the cleaning and protection of new and existing heating systems working at both high and low temperatures.

All the products are compatible with iron, steel, stainless steel, brass, copper and aluminium; they are not aggressive for plastics or rubbers, including plastic seals and piping.

Suited for all components commonly used in heating installations.

Can also be used with all types of propylene glycol.

## Disposal

The container is re-cyclable.

Dispose of the contents according to national regulations.

## Safety information

**Keep out of the reach of children.**

For more details on safety, handling and storage please contact Altecnic.

## C3 Cleaner



In existing installations it removes sludge, limescale, debris and incrustations.

In new installations it is used for commissioning according to the required standards.

Formulated for high and low temperature systems, radiators and radiant panels.

Suitable for use with system pumps and circulators and with specific washing machines.

Its formula disperses the impurities in the system to create a suspension, which can be captured in the filter or dirt separator and removed.

Installation with DIRTMAG® dirt separators is advisable in order to capture and remove the impurities.

Suited for use with the system protection product **C1 Inhibitor**.

### Properties

Its neutral, non-aggressive formula contains no toxic substances; it can therefore be handled easily as it is classified as "non-hazardous".

The product has been designed specifically as non-foam forming during use. It is a buffered solution that does not harm any of the materials or components in the system.

### Dosage

500 ml of product is sufficient for treating 150 litres of system water. No problems have been recorded in the event of over-dosage. The water temperature affects the duration of treatment.

Circulate for:

- min. 1 hour with high water temperature ( $T > 50^{\circ}\text{C}$ )
- min. 4 hours with low water temperature ( $30^{\circ}\text{C} < T < 40^{\circ}\text{C}$ )
- up to 1 week with cold water

## C1 Inhibitor



Protects new and existing installations from corrosion and incrustations.

Formulated for high and low temperature systems, radiators and radiant panels.

In radiant panel systems, it is advisable to use it in combination with a biocide.

Clean the system with **C3 Cleaner** before using this product.

Compliant with VDI 2035 (German) guidelines for chemical inhibitors.

### Properties

Its neutral, non-aggressive formula contains no toxic substances; it can therefore be handled easily as it is classified as "non-hazardous".

DOES NOT contain phosphates (which could block the wet bearings in pumps and circulators), borate (carcinogenic), nitrate and EDTA (environmental pollutants).

### Dosage

500 ml of product is sufficient for treating 150 litres of water in the system (around 15 radiators or 120 m<sup>2</sup> of radiant panels).

Use a double dose for systems filled with sweetened water.

No problems have been recorded in the event of over-dosage.

It is preferable to over-dose rather than under-dose. If under-dosed the treatment is not effective.

## C7 Biocide



This is a highly effective biocide, formulated specifically to control microbial growth in a broad spectrum of bacteria and micro-organisms, found particularly in low temperature water heating systems.

It can be used to prevent bacterial growth or for system washing and sanitising.

Installation with DIRTMAG® dirt separators is advisable in order to capture and remove the impurities.

### Properties

Its formula contains BRONOPOL, an organic compound used for protection against microbes.

It is compatible with all materials commonly used in heating systems.

The product has a low risk in normal conditions of use, however as it is an irritant for the skin and eyes, it should be handled with care using gloves and goggles. Does not contain any substances classified as PBT (Persistent, Bioaccumulative and Toxic).

### Dosage

500 ml of product is sufficient for treating 150 litres of system water. No problems have been recorded in the event of over-dosage. It is preferable to over-dose rather than under-dose. If under-dosed the treatment is not effective.

For protection, leave the product in the system together with **C1 Inhibitor**.

For washing and sanitising, circulate together with **C3 Cleaner**. Repeat the application once a year.

## C4 Leak Sealer



This is a liquid sealant that seals micro-cracks and joints that are not perfectly sealed, and is highly effective against inaccessible capillary leaks.

It acts by forming an elastic protective film within around 24 hours after entering the system.

It can be used as a preventive measure or as an emergency measure in the event of minor leaks.

### Properties

Its formula has been designed specifically to prevent its sealing power from blocking pumps, valves or air vents.

It is compatible with all materials commonly used in heating systems. It can be used in combination with all other Altecnic chemical additives.

### Dosage

500 ml of product is sufficient for treating 150 litres of water in the system (around 15 radiators or 120 m<sup>2</sup> of radiant panels).

No problems have been recorded in the event of over-dosage.

It is preferable to over-dose rather than under-dose. If under-dosed the treatment is not effective.

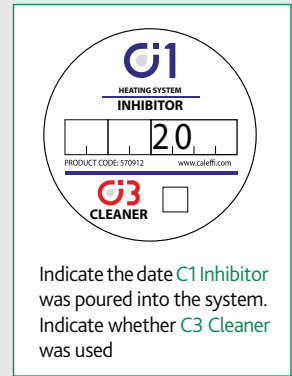
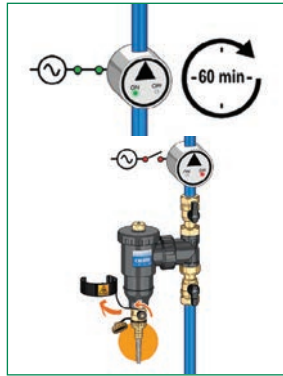
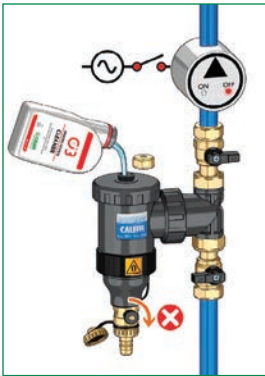
Shake before use; use the whole contents. Use preferably in combination with **C1 Inhibitor**.

Chemical additives (C3 Cleaner - C1 Inhibitor - C7 Biocide - C4 Leak Sealer) are classified as category 3 as per BS EN 1717.

Install a protective device to prevent backflow.

## New and Existing Installations

- 1 Close the shut-off ball valves and drain the water out of the dirt separator. Pour **C3 Cleaner** into the system via a DIRTMAG® 5453 dirt separator.
- 2 Circulate the water according to the times indicated in the paragraph "dosage". For very dirty systems, extend the cleaning time to up to 1 week.
- 3 Drain the impurities through the dirt separator until the water runs clean. Drain and dispose of the waste according to the regulations in force.



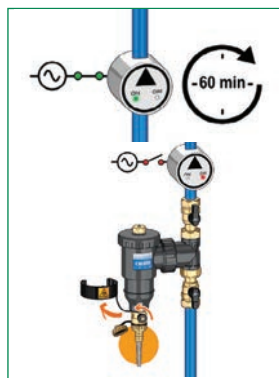
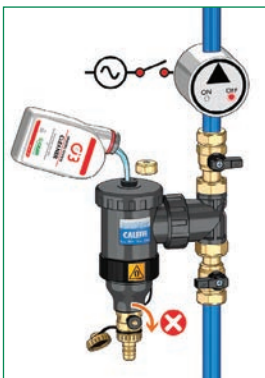
- 4 Pour **C1 Inhibitor** into the system using the same method described for **C3 Cleaner**.
- 5 Fill out the label on the bottle cap and stick it on the boiler.

*C1 Inhibitor can also be used without C3 Cleaner, although this is always recommended for both new and existing installations.*

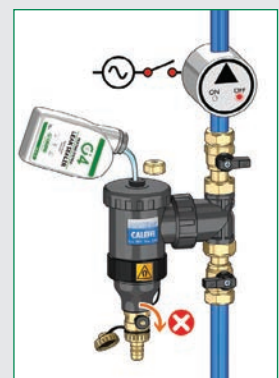
## Low Temperature Systems

Follow steps 1-2-3 indicated for new and existing installations.

- 4 Pour **C1 Inhibitor** into the system using the same method described for **C3 Cleaner**.



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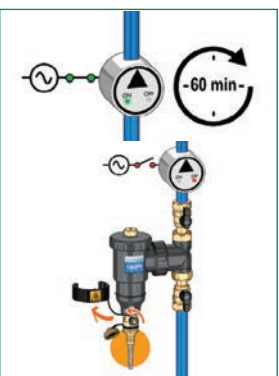
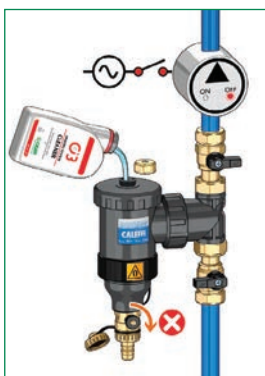


- 5 Open the shut-off valves and circulate the water to mix the product poured in. Close the shut-off valves and drain out the contents of the dirt separator.
- 6 Pour **C7 Biocide** into the system using the same method described for **C3 Cleaner**.

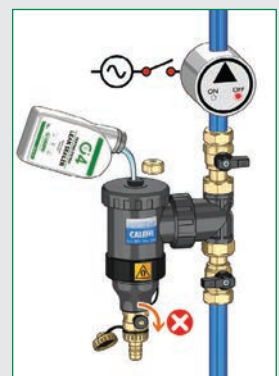
## Systems with Minor leaks and Micro Cracks

Follow steps 1-2-3 indicated for new and existing installations.

- 4 Pour **C1 Inhibitor** into the system using the same method described for **C3 Cleaner**.



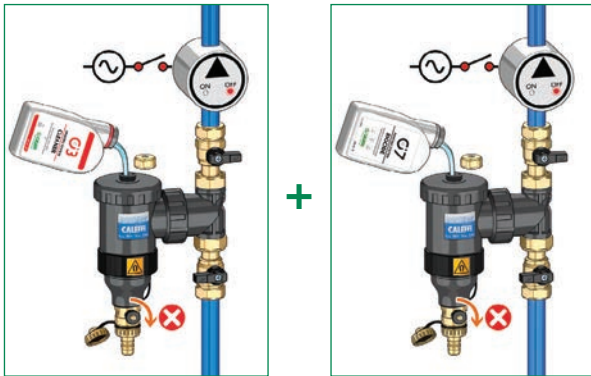
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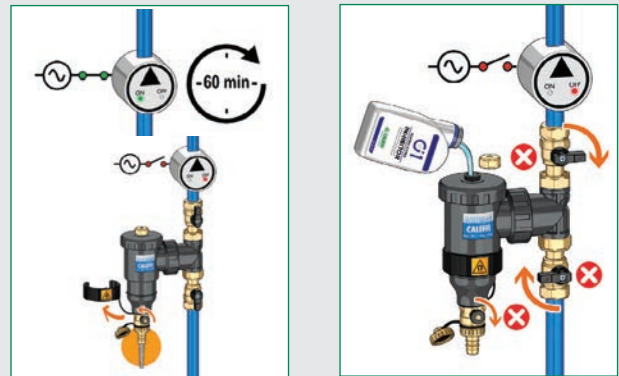
- 5 Open the shut-off valves and circulate the water to mix the product poured in. Close the shut-off valves and drain out the contents of the dirt separator.
- 6 Pour **C4 Leak Sealer** into the system using the same method described for **C3 Cleaner**.

## Existing Installations with Bacterial and Microbiological Growth

- 1 Close the shut-off ball valves and drain the water out of the dirt separator. Pour **C3 Cleaner** into the system via a DIRTMAG® 5453 dirt separator.
- 2 Open the shut-off valves and circulate the water to mix the product poured in. Close the shut-off valves and drain out the contents of the dirt separator.
- 3 Pour **C7 Biocide** into the system using the same method described for **C3 Cleaner**. In this way the product fights existing bacterial and microbiological growth.



- 4 Circulate the water according to the times indicated in the paragraph "dosage". For very dirty systems, extend the cleaning time to up to 1 week.
- 5 Drain the impurities through the dirt separator until the water runs clean.  
*Drain and dispose of the waste according to the regulations in force.*
- 6 Pour **C1 Inhibitor** into the system using the same method described for **C3 Cleaner**.
- 7 Fill out the label on the bottle cap and stick it on the boiler.



## Treatment Summary

		System cleaning	Washing and sanitising	Protection against corrosion and incrustation	Protection against bacterial growth	Protection against leaks
	C3 Cleaner	●				
	C1 Inhibitor			●		
	C7 Biocide		●		●	
	C4 Leak Sealer					●
		<i>Cleaning and washing treatments: pour into the system and leave to circulate for the required time. Then drain the system to eliminate the impurities collected in the dirt separator.</i>		<i>Protective treatments: use in the system once a year</i>		<i>Treatments "as needed" for minor leaks. Leave in the system.</i>

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