

GREENPHOS L

1. Identification of the substance/preparation and of the company

Identification of the product

Product name: **Greenphos L** scale inhibitor

Manufacturer/supplier identification

HYDRA 2002 Research, Development and Consulting Ltd.

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2. Introduction of the product

Greenphos L scale inhibitor is an environment-friendly, highly ionic, water-soluble starch-phosphate, that prevents the formation and growth of micro crystals in thermal waters or saturated and oversaturated aqueous solutions, as well as impedes the deposition of colloid size solid particles in feed-lines and other technological equipment.

Composition/information on ingredients

Starch derivative (phosphates):

OH⁻-groups of the native starch – (C₆H₁₀O₅)_n – are partly substituted by [PO₄]³⁻-groups (DS≈0,14).

Physical and chemical properties

Form:	powder
Colour:	caramel brown
Odour:	odourless
pH value:	pH=6.8 in 100 g/L H ₂ O
Melting point:	not available
Boiling point:	not available
Ignition temperature:	~ 400 °C
Flash point:	not available
Explosion limits	lower: not available upper: not available
Density:	not available
Bulk density:	500-700 kg/m ³
Solubility in water:	swells depending on temperature, soluble in warm water.
Thermal decomposition:	~ 200 °C

3. Authorization

Approved for the use in thermal water treatment technologies according to the resolution OTH5456-3/2007 of the National Medical Officer.

4. Application

Application area

Greenphos L impedes the formation, growth and deposition of salt crystals and therefore prevents corrosion in feed-lines and applications handling waters of high salt content. It is non-toxic and biodegradable, which makes it suitable for applications where other scale inhibitors cannot be used due to their harmful effects on health (i.e. thermal waters).

Dosage

As a scale inhibitor dispersant
recommended dosage is 2-50 g/m³ water

Application

Prepare a 10 m/m% concentration solution of scale inhibitor as follows. 1 part scale inhibitor is solved in 9 parts 40 °C warm water using agitation. The solution is diluted with cold water to 0,1-1 m/m% concentration. This solution is added to the water to be treated.

5. Handling and storage

Powder: Keep tightly closed and dry. No further requirements. At 5 °C-+25 °C can be stored for 2 years.

Solution: The diluted solution of the product (less than 1 m/m% concentration) should not be stored for more than a day. In case of longer storage its efficiency decreases, and it can be biologically degraded.

6. Hazards identification

In case of inappropriate treating some risks may occur.

7. First aid measures

After inhalation: fresh air.

After skin contact: wash off water.

After eye contact: rinse out with water.

8. Accidental release measures

Person-related precautionary measures: Avoid generation of dusts; do not inhale dusts.

Procedures for cleaning/absorption: Clean up affected area. Avoid generation of dusts. Wet floor may be slippery when material is present.

9. Disposal considerations

Product:

Chemicals must be disposed of in compliance with the respective national regulations.

Packaging:

Packaging must be disposed of in compliance with the respective national regulations.