

GREENFLOC[®] 213A

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

Identification of the product

Product name: **Greenfloc 213A** anionic flocculant

Manufacturer/supplier identification

HYDRA 2002 Research, Development and Consulting Ltd.

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2. Introduction of the product

Greenfloc 213A is an environmentally friendly, starch based, anionic flocculant. Because of its non toxic character its application is very advantageous in drinking water treatment, in the food industry or in the biotechnology either alone as flocculant or together with Al- or Fe-salts as coagulant aid.

Composition/information on ingredients

Starch derivative, starch phosphate

CAS-No.: 11120-02-8

OH⁻-groups of the native starch – (C₆H₁₀O₅)_n – are partly substituted by [PO₄]³⁻-groups (DS≈0,03).

Physical and chemical properties

Form: powder

Colour: pale yellow

Odour: odourless

pH value: pH=7 in 100 g/L H₂O slurry

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/m³

Solubility in water: insoluble in cold water, after swelling partially soluble in hot water.

Thermal decomposition: ~ 200 °C

3. Authorization

Approved flocculant for food industry (No.2415/1991/OÉTI) and for drinking water treatment (OTH-2748/2003).

4. Application

Application area

Greenfloc 213A can be used in the drinking water treatment, sugar industry, food industry, paper making, other chemical technologies, wastewater treatment alone or together with coagulants as coagulant aid. It can be mixed with synthetic anionic flocculants.

Dosage

In drinking water treatment with Al-or Fe-salts the usual dosage is 0,1-0,5 g/m³ water maximal approved dosage is 1 g/m³.

In food industry and in other technologies the dosage is depending on many parameters, the recommended dosage is ranging between 0,1-50 g/m³.

Dissolution of the flocculant

- 1 part of the flocculant is mixed with 9 part of cold water, stirred and heated up to 70 °C, then it is diluted to 0.1 w/w% with cold water. This solution is added to the suspension to be flocculated.
- 1 part of the flocculant is mixed with 5 part of cold water. 0.25 part of 40% NaOH is added. The mixture is stirred continuously ½ hours and diluted to 0.1 w/w% with cold water. This solution is added to the suspension to be flocculated.

5. Handling and storage

Powder: Tightly closed. Dry. No further requirements.
At +5°C-+25°C can be stored for 2 years.

Solution: The solution of the product should not be stored for more than a day. In case of longer storage its efficiency decreases, and it can be fermented, biologically degraded.

6. Hazards identification

According to the results of the study No.2415/1991/OÉTI (National Institute of Food-Hygiene and Nutrition) the material should be enlisted in the practically non toxic category.

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.