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GREENFLOC® 310

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

Identification of the product

Product name: **Greenfloc 310** anionic flocculant

Manufacturer/supplier identification

HYDRA 2002 Research, Development and Consulting Ltd.
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2. Introduction of the product

Greenfloc 310 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 biotecnology either alone as flocculant or together with Al- or Fe-salts as coagulant aid.

Composition/information on ingredients

Starch derivative:
OH^--groups of the native starch – $(C_6H_{10}O_5)_n$ – are partly substituted by $[PO_4]^{3-}$-groups (DS≈0,02) and $C_3H_5O(COO)_3^{3-}$groups (DS≈0,05).

Physical and chemical properties

Form:		powder
Colour:		pale yellow
Odour:		odourless
pH value:		pH=7 in 100 g/L H_2O slurry
Melting point:		not available
Boiling point:		not available
Ignition temperature:		~ 400 ^oC
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:		insoluble in cold water, after swelling partially soluble in hot water.
Thermal decomposition:		~ 200 ^oC

3. Authorization

4. Application

Application area

Greenfloc 310 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/m^3 water.
In food industry and in other technologies the dosage is depending on many parameters, the recommended dosage is ranging between 0,1-50 g/m^3.

Dissolution of the flocculant

1 part of the flocculant is mixed with 10 part of cold water. 0.3 part of 40% NaOH is added. The mixture is stirred continuously ½ hours, while it becomes clear and more viscous. Finally the mixture is diluted step by step 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^{o}C-+25^{o}C can be stored for 2 years.

Solution: The 0.1 w/w% 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

The product is under authorization process. On the basis of the raw materials and the technology to our best knowledge the material is practically non toxic.

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.