

HG

**CHEMICAL INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

HG/T 5050-2016

Alginic acid fertilizers

海藻酸类肥料

(English Translation)

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1 Scope

This standard specifies the terms and definitions, product types, technical requirements, test methods, inspection rules, marks, packaging, transport and storage of the alginic acid fertilizer.

This standard is applicable to the alginic acid fertilizers including coated urea containing certain amount of alginic acid, bulk blending fertilizer containing alginic acid coated urea, alginic acid compound fertilizer water-soluble fertilizer containing alginic acid which are prepared by adding alginic acid synergistic liquid extracted with seaweed as the main raw material during production process.

2 Normative References

The following files are indispensable to the application of this file. For reference documents with specified dates, only the version of the specified date applies to this document. For reference documents with no specified date, their latest versions (including all revisions) apply to this document.

GB/T 2440 Urea

GB/T 2441.1 Determination of urea-Part 1: Total nitrogen content

GB/T 2441.7 Determination of urea-Part 7: Particle size-Sieve method

GB/T 6682 Water for Analytical Laboratory Use- Specifications and test methods

GB/T 8170 Rules of rounding off for numerical values & expression and judgment of limiting values

GB/T 15063 Compound Fertilizer (Complex Fertilizer)

GB 18382 Fertilizer Marking-Presentation and declaration

GB/T 21633 Bulk Blending Fertilizer

HG/T 2843 Chemical Fertilizer Products-Standard volumetric, standard, reagent and

indicator solutions for chemical analysis

HG/T 4365 Water Soluble Fertilizer

NY/T 1116 Fertilizers-Determination of nitrate nitrogen, ammonium nitrogen and amide nitrogen content

NY/T 1977 Water-soluble fertilizers-Determination of total nitrogen, phosphorus and potassium content

3 Terms and Definitions

The following are the terms defined in this document

3.1 alginic acid

a polysaccharide that is formed by a linear polymerization of monouronic acid, which is a block copolymer formed by 1,4 glycosidic bonds using monomers of beta-1,4-D-mannuronic acid and

alpha-1,4-L-guluronic acid

3.2 alginic acid synergist

a fertilizer synergist containing a certain amount of alginic acid and prepared after extraction with seaweed as a main raw material

3.2.1 alginic powder

a powdered fertilizer synergist containing a certain amount of alginic acid and prepared after extraction with seaweed as a main raw material

3.2.2 alginic liquid

a liquid fertilizer synergist containing a certain amount of alginic acid and prepared after extraction with seaweed as a main raw material

3.3 alginic acid fertilizer

a fertilizer containing a certain amount of alginic acid and prepared by adding an alginic acid synergist in a fertilization process

3.4 alginic acid coated urea

a coated urea containing a certain amount of alginic acid was produced by using a low-temperature dehydration process and an alginic acid synergist as the main coating material.

Compared with conventional urea, the alginic acid coated urea has a certain slow-release effect and can reduce a volatilization loss of nitrogen

3.5

bulk blending fertilizer containing alginic acid coated urea a bulk blending fertilizer containing a certain amount of alginic acid by using alginic acid coated urea as a part of a nitrogen source and produced by drying blending with other conventional nitrogen, phosphorus, and potassium granular fertilizers

3.6 alginic acid compound fertilizer

an adding-type or coating-type compound fertilizer containing a certain amount of alginic acid produced by adding an alginic acid synergist in a compound fertilizer production process.

Compared with conventional compound fertilizers, the alginic acid compound fertilizer has an effect on reducing an ammonia volatilization loss

3.7 water-soluble fertilizer containing alginic acid

a water-soluble fertilizer containing a certain amount of alginic acid prepared by adding an alginic acid synergist in a fertilization process

3.8 ammonia volatilization inhibition rate

a functional index that characterizes alginic acid-containing fertilizers to reduce an ammonia volatilization loss. Under the action of urease and magnesium oxide, ammonia released from a decomposition of urea is absorbed by a boric acid solution. A ratio of a difference value between volumes of an alginic acid fertilizer and urea consuming sulfuric acid standard volumetric solution to the latter is expressed as a percentage

4 Product Types

Including alginic acid coated urea, bulk blending fertilizer containing alginic acid coated urea, alginic acid compound fertilizer and water-soluble fertilizer containing alginic acid.

5.1 Appearance

- - When the state quality supervision agency puts forward a request for type inspection.

7.2 Batching

Products are inspected in batches. An output of one shift or one day is considered to be one batch. The maximum batch of alginic acid coated urea does not exceed 1,500 t, the maximum batch of a bulk blending fertilizer containing alginic acid coated urea and an

alginic acid compound fertilizer is 1,000 t and the maximum batch of a water-soluble fertilizer containing alginic acid is 100 t. A user regards the products attached with a quality certificate or the received products as one batch.

7.3.1 Alginic acid coated urea

in accordance with the sampling plan of GB/T 2440;

7.3.2 Bulk blending fertilizer containing alginic acid coated urea

in accordance with the sampling plan of GB/T 21633;

7.3.3 Alginic acid compound fertilizer

in accordance with the sampling plan of GB/T 15063;

7.3.4 Water-soluble fertilizer containing alginic acid

in accordance with the sampling plan of HG/T4365.

7.4.1 Alginic acid coated urea

in accordance with the article of the sample splitting and sample preparation of GB/T 2440;

7.4.2 Bulk blending fertilizer containing alginic acid coated urea

in accordance with the article of the sample splitting and sample preparation of GB/T 21633;

7.4.3 Alginic acid compound fertilizer

in accordance with the article of the sample splitting and sample preparation of GB/T 15063;

7.4.4 Water-soluble fertilizer containing alginic acid

in accordance with the article of the sample splitting and sample preparation of HG/T 4365.

7.5.1

Whether the items of the product are qualified is determined by "rounding value comparison method" of GB/T 8170.

7.5.2

When all the type inspection items meet the requirements of this standard, the batch of products is deemed to be qualified.