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

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**Technical specifications for coagulation and flocculation
process in wastewater treatment
(English Translation)**

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6.1 General requirements

Foreword

To implement the "Environmental Protection Law of the People's Republic of China" and the "Water Pollution Control Law of the People's Republic of China", regulate sewage coagulation and flocculation Handle the construction of the project to make it run continuously and stably, discharge to the standard, prevent water pollution, improve environmental quality, and formulate this standard.

This standard specifies the general requirements for the coagulation and flocculation process used in wastewater treatment projects, process design, equipment selection, testing and Technical requirements for control and operation management.

This standard is the first release.

This standard was formulated by the Science and Technology Standards Department of the Ministry of Environmental Protection.

This standard is mainly drafted by. Jiangsu Academy of Environmental Sciences, Southeast University, Jiangsu Pengyi Environmental Engineering Design Institute, Yangzhou Chenglu Ring Engineering Co., Ltd.

This standard was approved by the Ministry of Environmental Protection on December 17, 2010.

This standard has been implemented since March 1, 2011.

This standard is interpreted by the Ministry of Environmental Protection.

Technical specification for sewage coagulation and flocculation treatment

1 Scope of application

This standard specifies the general requirements for the coagulation and flocculation process used in wastewater treatment projects, process design, equipment selection, testing and Technical requirements for control and operation management.

This standard is applicable to the design, construction, acceptance and operation management of coagulation and flocculation processes in urban sewage or industrial wastewater treatment projects.

It can be used as a technical basis for feasibility study, environmental impact assessment, process design, construction acceptance, and operation management.

2 Normative references

The terms in the following documents become the terms of this standard by reference to this standard. The latest version of the undated reference document Applicable to this standard.

GB 4482 water treatment agent ferric chloride GB/T 22627-2008 Water treatment agent polyaluminium chloride GB/T 17514 water treatment agent polyacrylamide GB 50141 Water supply and drainage structure engineering construction and acceptance specification GB 50334 Urban Wastewater Treatment Plant Engineering Quality Acceptance Specification GB 50204 Concrete Structure Engineering Construction Quality Acceptance Specification GB 50205 Steel Structure Engineering Construction Quality Acceptance Specification Technical Specifications for Operation and Assessment of HJ/T 355 Water Pollution Source Online Monitoring System (Trial) CJJ 60 Urban Wastewater Treatment Plant Operation, Maintenance and Safety Technical Regulations CJ/T 51 Standard for urban sewage quality inspection methods HG 2227 water treatment agent aluminum sulfate

3 Terms and definitions

The following terms and definitions apply to this standard.

Coagulation

Refers to the process of adding coagulant and completing the hydrolysis and polycondensation reaction under certain hydraulic conditions to destabilize and agglomerate the colloidal dispersion system.

Mixed mixing

It refers to the rapid and uniform diffusion of the injected agent into the treated water to create a good hydrolysis reaction condition.

Flocculation

Refers to the colloidal colloids colliding with each other under certain hydraulic conditions, accumulating or adding a small amount of flocculant to assist coagulation to form larger flocculent particles.

the process of.

Coagulant

Refers to the generic name of the drug added to make the colloid lose stability and the destabilizing colloids accumulate.

Coagulant aids

Refers to the supplementary agent added in order to improve the flocculation effect during the precipitation and clarification of water.

Perforated swirling reaction cell perforating rotational flow reactor Refers to the pool in which the water flow forms a swirling flow state between the reaction chambers through the provided channels to complete the flocculation process.

Mechanical reaction tank Refers to a flocculation reaction tank with mechanical agitation.

Folding plate reactor Refers to a reaction tank that uses a flap spoiler unit in the pool to achieve the turbulent state required for flocculation.

Grid (grid) reaction cell grid reactor Refers to a reaction cell in which a grid or grid is placed in a section of water passing along a certain distance along the process to promote a fluid flow state change to complete the flocculation process.

3.10

Pharmacy fixed reserve Refers to the reserve that is not allowed to be used in the warehouse of the drug for consideration of abnormal reasons, referred to as the fixed reserve of the drug.

the amount.

3.11

Pharmacy turnover reserve current reserve Refers to the amount of reserves required to consider the difference between the consumption of medicines and the amount of supply, referred to as the amount of pharmaceutical turnover.

3.12

Coagulating sedimentation Refers to a combination method in which a coagulation reaction is completed by using a chemical agent to agglomerate contaminants in water into flocs and removed by a precipitation method.

4 Contaminants and pollution loads

4.1

The coagulation process can be applied to urban sewage treatment and industrial wastewater treatment of various water quantities.

4.2

Coagulation process There is no limit to the concentration of raw water suspended particles, colloidal particles and related organic, chroma and oil substances.

Efficiency is different.

4.3

Coagulation process has good removal effect on suspended particles, colloidal particles and hydrophobic pollutants; hydrophilic and soluble pollutants There is also a certain flocculation effect. In addition.

- 1) The coagulation process can be used for the adsorption coagulation treatment of insoluble macromolecular organic matter.
- 2) The coagulation process can be used for the destabilization and coagulation treatment of chroma substances, humic acids, fulvic acids, surfactants and the like.
- 3) The coagulation process can be used for emulsion demulsification and coagulation treatment.

5 General requirements

5.1

Coagulation and flocculation treatment The construction scale is determined by the amount of treated water, and the designed water volume is determined by the maximum amount of water in the project.

5.2

The coagulation and flocculation treatment process should be equipped with pretreatment equipment such as regulation and oil separation. The subsequent process should be set up with sedimentation tank or air flotation tank. When mining when using contact filtration, coagulation should be connected directly to the filter.

5.3

The pH value of the completion of the coagulation reaction is quite different depending on the dosage of the drug to be administered, and the optimum pH value should be 7 to 8.5.