Application of Green Chemical Technology in Chemical Engineering and Technology

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Abstract: With the improvement of the current national economic level and people's living standards, the importance of green chemical technology in all aspects of society has gradually increased. With the continuous improvement of green chemical technology, this technology level has been effectively improved. Under the analysis of the main points of green chemical technology in chemical engineering process, this article effectively provides the necessary driving force for the improvement and development of green chemical technology.

On the basis of the current global economic and cultural development, people have gradually realized that the problem of environmental pollution has a serious impact on the social environment and people's lives. China's economic development has certain obstacles. Under this circumstance, various industries are gradually searching for and researching technologies with more significant environmental protection effects, and the chemical industry, which is one of the main sources of pollution, is also seeking the development of green chemical technology.

1. Green Chemical Technology Related Concepts in Chemical Engineering and Technology

1.1. Green Chemical Technology

Green chemical technology is realized on the basis of current chemical process technology. It is mainly based on scientific methods to effectively improve the chemical reaction and clearly achieve the goal of reducing waste emissions in chemical engineering production, thereby enabling the ecological environment system To be balanced, in the traditional chemical industry production process, the application of green chemical technology should also be able to reduce the discharge of toxic waste as the main purpose, and the integration of waste resource recovery technology and recycling technology, the effective countermeasures Control the discharge of waste and pollutants [1]. The overall process should always run through the green development of the five development concepts, so that it can be combined with traditional chemical engineering processes to give full play to the role of green chemical technology.

1.2. Chemical engineering

The so-called chemical engineering is a chemical reaction and physical process law existing in other industrial production. Chemical engineering has refining and metal materials, and biological engineering and biopharmaceuticals in modern chemical engineering. It is the basis for the continuous improvement of the development of chemical engineering. It fully meets the needs of people's lives and makes people get more convenient services [2].

1.3. The significance of green chemical technology

As our society is currently in an important period of rapid economic development and economic transformation, this foundation can effectively bring more development opportunities for the development of various industries. The chemical industry is an important support point for national GDP growth, and has been greatly improved in this process [3]. However, at the time of the current development of the chemical industry, it was clearly put forward that it has an important position in the composition of China's economic system, making people pay more attention to this industry

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than other industries, and there are some negatives in society When it comes to impact, it often makes people give priority to related issues that the chemical industry has. With the outbreak of the problem of utilization of natural resources in the long-term development process, it is clear that the serious problems of environmental pollution problems in the current normal operation of our country. The call is also higher [4]. Seeking more effective chemical technology methods to promote pollution problems in the production process of chemical companies can be reduced to a minimum, which is also an important content that the current chemical industry can develop better. In the research of green chemical technology, the main purpose of the research cannot stop at the technology of finding chemical agents that cause less pollution to the environment or that no harmful substances will appear in the production process. More attention should be paid to the existing green chemical technology Lower-cost and benefit-friendly technologies that can be widely applied to civilian green development. In the process of applying green technology and putting it into production, it is also necessary to ensure that no toxic and harmful gases and industrial wastes appear in the substances produced by it. And it is necessary to make the best use of resources in the process of applying the green process as much as possible. In chemical production, the raw materials used must be converted from the maximum to the product and put into production. The development of such green chemical technology is of great significance to the long-term stability and sustainable development of the chemical industry [5].

2. Application of Green Chemical Technology in Chemical Engineering and Technology

2.1. Application of biotechnology

With the current trend of ecological development of the social environment, environmental problems in chemical engineering continue to be the main content of current people's attention. When green chemical technology is specifically applied, biotechnology can be better used in chemical engineering. Therefore, the ecological development needs of chemical engineering can be met. Biotechnology contains the contents of cell and microbial technology and microgene technology. When promoting the effective application of biotechnology to the bionics of chemical engineering, it effectively improves the effectiveness of chemical engineering design. For example, when a biological enzyme is used as a catalyst in the living body, its high efficiency and transferability are prominent, which can effectively make the specific application of this enzyme prominent in biochemical engineering. This makes it possible to significantly reduce the degree of environmental pollution and promote the full realization of the goals of chemical engineering design. And in chemical bionics, the correlation between membrane chemistry technology and biotechnology is relatively high, which can fully improve the effectiveness of chemical engineering design Therefore, at the current stage of chemical engineering development and the application of green chemical technology in the process, it promotes the obvious conversion of renewable resources into chemical products. In this case, the creation requirements of the modern ecological environment can be met. For example, when green chemical technology is used, the acrylonitrile possessed by biological enzymes in nature can be fully used. After the acrylamide is synthesized, the energy consumption can be fully reduced, enabling chemical engineering to achieve energy-saving development. Therefore, in the case of the use of green chemical technology, it is also necessary to consider the economic benefits involved in the development of chemical engineering, and also to clarify the technical factors, so that the pollution problems in chemical engineering can be clearly resolved, and various green technologies must be promoted Better use in chemical engineering.

2.2. Application of clean technology

When analyzing the implementation of chemical engineering projects, pay attention to the value of clean technology in the actual application process, and clarify the value of green environmental protection technology, so that harmless and non-toxic green chemical technology is better implemented in life. In the case of combination with cleaning technology, the specific scope of use

of cleaning technology is determined [6]. First of all, in the specific implementation of biological engineering, better use of clean technology in the research of genes and cells. Secondly, when the green clean technology is applied, the green catalysis is made to better apply the clean technology in the case of the integration of the characteristics of the chemical catalytic reaction, so as to improve the effectiveness of the practical application of the green chemical technology. Finally, when the supercritical fluid technology is specifically used, it can also avoid the generation of harmful substances in the process of analyzing supercritical states such as H2O and CO2, and fully enhance the overall utilization value of clean technology. In the treatment of environmental pollution, in the process of pollutant discharge, it is necessary to recognize that most of these pollutants are caused by industrial production and urban domestic waste, etc. In the end, green chemical technology can be effectively applied in pollution treatment. The discharged pollution is better treated at the terminal, to achieve the full conversion of pollutants, and then to promote the recycling of resources. Therefore, it is clear that the environmental pollution problem can be fully improved in the practical application of clean technology, and the effect and effectiveness of environmental governance must be significantly improved in the process of pollution problem treatment, providing necessary support for environmental improvement and sustainable development in China [7].

2.3. Application of production technology for green products

With the current development of green chemical technology, when the rest of the chemical engineering is integrated, the specific implementation goals of raw material recycling can be fully realized, and the waste generated during the chemical engineering production process can be integrated into it, making The industrial production has obtained larger value articles, and the use efficiency of raw materials has been greatly improved. When combined with traditional chemical engineering production conditions, it cannot meet the practical needs of ecological environment development. When green chemical technology is used, it can promote better control of energy selection. In the production of chemical products, effectively use clean resources, fully reduce the utilization rate of substances that may adversely affect the environment, and avoid the impact of chemical production on the ecological environment. It causes adverse effects, and at the same time, when this green chemical technology is used, it shows the value of specific use of green chemical technology in chemical engineering, which enables the sustainable development of modern chemical processes [8].

Conclusions

In the current situation of serious environmental pollution problems and people's more urgent needs for energy conservation and emission reduction, on the basis of improving the tidbits and the environmental protection level of the enterprise, people's efficiency in resource use can be effectively improved, which will bring greater benefits to the development of chemical companies Economic benefits. The occurrence of environmental pollution problems on the basis of affecting people's normal life is also likely to have an adverse impact on China's economic development. On this basis, various industries have gradually explored and researched on technologies with better environmental protection effects, and the chemical industry, which is one of the main sources of pollution, has clearly sought to develop green chemical technology. Based on a brief analysis of the relevant points of green chemical technology in chemical engineering processes, we can effectively judge the research on green chemical technology in the future development of the chemical industry. Through the joint efforts of the whole society, more and more will be produced in the future. The advanced green chemical technology enables these technologies to be better applied in the production process of the chemical industry, and promotes the continuous improvement of green chemical technology in chemical engineering processes.

Acknowledgements

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