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Application of Green Chemical Environmental Protection Technology in Industrial Production

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Abstract:

Green chemical environmental protection technology is a modern processing technology born in the new era. At present, green environmental protection has become the theme of the development of the times, and industrial production is the most important factor affecting the ecological balance. In order to reduce the negative impact that production may have, green chemical environmental protection technology should be actively introduced to achieve effective control of resources and waste emissions. Therefore, it is necessary to analyze the application and development of green chemical environmental protection technology in industrial production combined with the actual production situation.

Keywords:

Green chemical industry; Environmental protection technology; Industrial production; Application

1 Overview of green chemical environmental protection technology

Green chemical environmental protection technology mainly refers to the use of chemical means in the production process to eliminate or reduce the various harmful substances that may be produced in order to reduce the damage of industrial production to the natural environment and ecology as much as possible. In order to better implement this, the application of this technology strictly follows the three basic principles of "reduction", "reuse" and "recycling" to avoid harmful substances produced by industrial production and reduce the emissions of waste materials to the nature. On this basis, some waste resources can also be reused by chemical means, which plays an important role in reducing resource waste and reducing production costs. According to the characteristics of green chemical environmental protection technology, it is easy to know that how to better use the technology has become the key to the sustainable development of industrial production, also the effective path to reduce industrial pollution must be taken, which is of great significance for the sustainable development of society.

2 Value and significance of using green chemical and environmental protection technologies in industrial production

Green chemical environmental protection technology is a new means of production, which aims to protect the environment in chemical production, control the damage to the ecological environment of chemical production to the greatest extent, and make chemical production and ecological environment live in harmony. To achieve the goal of clean and harmless chemistry, it is necessary to accelerate the application of green chemical and environmental protection technologies and complete the job in pollution management from the source.

With the increase in demand for chemical products for social development, China's chemical product market is becoming larger and larger. The scale of chemical production is constantly expanding, showing a state of intensive production, providing chemical products needed for social development and people's lives, and playing an important role in promoting economic development. The development of human society cannot be separated from chemical production. Traditional chemical enterprises use backward technology, have low production efficiency, consume more resources and energy, and produce a large number of harmful gases and wastes. In order to save the cost of pollutant treatment, harmful pollutants are directly discharged to the outside, resulting in prominent pollution problems in chemical production. The task of environmental protection in chemical production

is heavy, and it is necessary to follow the concept of green production all the time to avoid large-scale environmental deterioration. In recent years, urban residents have been plagued by smog, which is the result of environmental pollution. The particulate matter emitted in the air exceeds the standard, and it is difficult for people to live in such an environment to ensure their health, and an important reason for the haze is that there are many exhaust gases emitted by chemical production. Production to achieve benefit growth but pay the cost of destroying the environment, the survival crisis is getting bigger and bigger, which is the evil result of human beings themselves. Entering a new era, human beings have tasted the bad results of destroying the environment, environmental problems have been paid attention to, and protecting the environment has become a common responsibility for people all of us. Chemical production to curb pollution needs to start from the details. The previously used polluting equipment can be phased out in batches, and its transformation can be carried out to improve the production process, and environmental protection technology can be adopted to reduce the generation and emission of pollutants. Comprehensively improve the efficiency of chemical production, effectively curb the environmental damage caused by chemical production, and at the same time, the rapid development of industrial production, do a good job of ecological environment protection and optimization.

The introduction of green chemical environmental protection technology in industrial production is inevitable and helps to promote the upgrading of the chemical industry. The green chemical environmental protection technology pursues the production mode of zero pollution and zero discharge, reuse and recycling. Finding the source of pollution is the first priority, followed by targeted remediation, in order to achieve good pollution control effect. Establish environmental protection awareness in chemical production, choose raw materials with less pollution, or choose green raw materials. The introduction of advanced technology and equipment, such as green chemical environmental protection technology, strengthen the supervision and management of the production process, in accordance with green environmental protection technology standards, and seize both prevention and control.

3 Specific application and development of green chemical environmental protection technology in actual industrial production

3.1 Practical application of clean production technology

For industrial production, clean production technology is mainly for no pollution, low toxicity, will not produce more waste a production technology. In industrial production, green catalytic technology and the use of radiation for thermal processing technology are often used. These technologies can be applied to the actual metallurgical production of the metallurgical industry, can also be applied to gas production and specific processing, can also be applied to printing and dyeing engineering to reduce the production of harmful substances. In addition, it can also be used in today's domestic waste treatment, which can maximize the removal of harmful substances in domestic waste through thermal processing, and can also use biogas technology to provide basic heating requirements for people. In addition, supercritical fluid technology in cleaner production technology can also play a better role in ocean purification, and can effectively remove marine pollutants with the help of supercritical fluid technology. Supercritical sulfur dioxide technology is also widely used in the chemical industry.

3.2 Practical application of bio-related technologies

For the field of biochemistry in industrial production, there are often problems such as gene and cell changes in the production process. After the extensive development of biological enzyme technology, the application of this technology in chemical production can achieve a good catalytic effect, so as to speed up the speed of chemical reaction, the problems faced will be better solved, and can effectively prevent the emergence of other kinds of chemical pollutants. If the use of biological enzymes to replace acrylamide in industrial production, it can make the product of acrylamide more pure than before, but also reduce the energy consumption of production. In addition, biotechnology can also use straw in agricultural production as raw materials for industrial production, and with the help of the basic synthesis technology of biology, lactic acid can be generated for the degradation of plastics. In the future development of biotechnology, natural biological resources will be effectively utilized, microbial fermentation technology will be broken through, and new technologies will be continuously developed.

3.3 Practical application of electrochemical related technologies

Usually, electrochemical reactions are used in batteries or electrolytic cells, which is an important part of green environmental protection technology. With the help of electrochemical related technologies, resources used in industrial production can

be effectively saved, environmental pollution prevention can be achieved, and the efficiency of industrial production can be continuously improved. Commonly used electrochemical technology includes fuel cell basic measures, SPE basic measures, etc. In industrial production, according to the basic characteristics and conditions of production, select the appropriate technology to improve the synthesis technology effect of production, change the traditional technology and working mode, and prevent the production of pollution.

3.4 Practical application of products beneficial to environmental protection

The use of green chemical technology will produce a lot of environmentally friendly products without pollution and damage to the environment. These products do not use polluting raw materials in actual production, but also through the production of chemical environmental protection production skills and equipment, so as to ensure the environmental protection of products at the source, in line with the basic requirements of modern production. In daily life, we often see green products, such as new energy electric vehicles and organic food. Such products can also be used in gasoline production, our country has relatively rich natural resources, due to the large population, to provide high-quality and environmentally friendly gasoline, we must use the latest production technology to produce. For example, a new green ethanol process can be used to produce gasoline instead of traditional diesel, thereby reducing vehicle exhaust emissions.

3.5 Development Research of green chemical environmental protection technology

With the continuous development and application of science and technology in China, green chemical environmental protection technology in the future development should not only meet the basic zero pollution and zero poison, but also combine chemical environmental protection production with modern Internet technology. Using information related software to simulate the emerging environmental protection technology, improve the technical defects in the continuous simulation process, and strive to combine chemical production with multiple utilization and recycling, so as to reduce energy consumption while achieving environmental protection. In addition, green chemical environmental protection technology should also apply the basic concept of sustainable development to continuously meet the development of China's economic market and improve the application scope of environmental protection technology.

Conclusion

In summary, the application of green chemical environmental protection technology in industrial production meets the requirements of sustainable development. It promotes the upgrading of chemical production, guarantees economic benefits, and improves environmental protection effectiveness. In the actual production process, it is necessary to replace backward equipment, adopt green raw materials and technology, enhance the environmental awareness of production personnel, achieve green production and clean production standards, and reduce the generation and emission of pollutants.

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