

Practical Value of Chemical Knowledge

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Abstract

Chemical industry is one of the important embodiment of the practical value of chemistry. Middle school chemistry teaching can be from the integrity, scientific and environmental protection. In many ways, it helps students to get involved in the production of chemical industry, so as to reflect the practical value of chemistry and arouse their interest in learning, Promote the overall improvement of students.

Keywords

Chemical industry; Penetration; Practical value.

1. Introduction

Chemistry has a positive and extensive influence on promoting industrial and agricultural production and improving people's living standards. The development of chemistry has a great role in promoting the development of human society. For many years, the teaching of chemistry has always attached too much importance to the teaching and teaching of theoretical knowledge and the simple application of theoretical knowledge in production and life, but little attention has been paid to the actual chemical production process of common chemicals, which makes students lack of basic chemical knowledge, and it is easy to unilaterally link chemistry with negative effects such as environmental pollution, toxic substances and malignant explosion. Therefore.

2. The Concept of "Process Flow" Has Been Initially Introduced to Embody the Integrity of Chemical Production

Chemical process flow is based on the chemical industry production technology. It refers to the sum of all the chemical reactions in the process from raw material to target product in the chemical industry production technology. It is usually expressed by flow chart. In teaching, using flow chart to represent the transformation between substances instead of traditional chemical equation teaching can make the integrity of industrial production better accepted.

3. Permeate the Complexity of Chemical Industry and Embody the Scientificity of Chemical Production

In the actual chemical production, in view of the variability of raw material cost and purity, raw material conversion rate, equipment power configuration, equipment load rate, external conditions, enterprise cost, human resource cost and many other factors, the actual operation is much more complex than the theoretical knowledge in the textbook. In the process of teaching, it is necessary to permeate the operation complexity of raw material purification, catalyst poisoning treatment, tail gas absorption, high temperature and high pressure condition control, so that students can have a preliminary understanding of the characteristics of chemical production and have an objective and real understanding of chemical production. Qualified schools can make students understand the main equipment, understand its role, and make the

chemical teaching as close to the actual production as possible, so that students can think about the chemical production problems from the conversion rate, economic factors and other aspects when designing the chemical process flow chart, and give consideration to the feasibility, safety and efficiency of chemical production from many aspects.

4. Permeate the Idea of Green Utilization and Embody the Environmental Protection of Chemical Production

The chemical production process is complete and complex. When considering the chemical process, we can not simply analyze its advantages from the conversion rate, economic factors and other aspects

At the same time, the actual environmental problems in the production process should be taken into account. It is required to make full use of resources and energy under non-toxic and harmless conditions, improve the utilization rate of atoms through reasonable process flow, and try to convert raw materials into products as far as possible, realize zero emission and green utilization of raw materials, and produce healthy, environmental friendly products. Taking the blast furnace ironmaking in industry as an example, the teaching material introduces the process of smelting pig iron with hematite as raw material. There will be waste in the whole process, but the textbook ignores the introduction of "three wastes" treatment, and ignores the environmental problems caused by waste water, waste gas and waste residue in the whole process. Students often have a superficial understanding that raw materials can be completely converted into intermediate products or target products in each step of the reaction; under current conditions, the "three wastes" of many chemical plants have been converted into fertilizer and other by-products through chemical transformation to achieve economic benefits, or non-toxic and harmless emissions after technical treatment. However, there are still some chemical industries that need to develop the utilization of "three wastes". Therefore, in the teaching process, we should pay attention to the practice of green utilization in combination with the process flow, so as to give students more space for thinking and let them analyze and evaluate chemical production from the Perspective of environmental protection. Similar problems such as the production of concentrated sulfuric acid, caustic soda and the comprehensive utilization of coal and oil.

5. The Thought of Integrating Theory with Practice Reflects the Practicability of Chemical Production

As a natural science, chemistry directly promotes the development of human society. In the process of Chemistry Teaching in middle school, it should be more practical through the actual chemical production and application of chemicals to reflect the practicality of chemical production. Taking the teaching content of mutual transformation of chemical energy and electric energy as an example, this section involves the formation and working principle of primary battery, chemical power supply and other knowledge. Through the study of this section, students can understand and master the formation and working principle of primary battery and chemical power supply, but few students can correctly use and maintain the secondary power supply in daily life, such as how to correctly use the secondary power supply of mobile phones, electric vehicles, laptops and other electrical appliances. Therefore, the specific application of such knowledge should be initially involved in the teaching process. In addition, some dangerous chemicals, such as sulfuric acid and nitric acid, are mentioned in the textbook to enable students to understand and master the nature and application of related substances. In terms of their risks, how to correctly use, transport and store these dangerous goods in industrial production, accidental leakage of dangerous goods in transportation, and how to do

a good job of self-protection and preliminary self-help, etc,Therefore, in the teaching process, we should try to link the theoretical knowledge with the practical application to reflect the practicality of chemical engineering knowledge.

6. Conclusion

Chemistry has accumulated rich chemical culture in the long development process. With the help of the education of chemical history, students can have basic scientific literacy, understand scientific knowledge, master scientific methods, form scientific spirit, and then influence students imperceptibly, so as to promote their all-round development and improvement in intelligence, morality and emotion. There are many great figures and deeds in the history of chemical industry at all times and in all over the world. In the teaching process, we should pay attention to the introduction of the influence of the history of chemical engineering on the development of human society, so as to enhance the students' close sense of chemistry and promote their interest in learning chemistry. Chemical industry plays a positive role in agricultural production, resource and environmental protection, medicine and health.

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