

Discussion on Unorganized Waste Gas Emission and Prevention Measures in Fine Chemical Production

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Abstract: This paper mainly discusses the safety management measures of fine chemical production enterprises from the perspective of the importance of safety management in fine chemical production enterprises, and describes them from different angles. At the same time, it expounds the safety technology countermeasures of fine chemical production enterprises, analyzes some safety technologies in the production process, and strengthens the feasibility and necessity of prevention and control of unorganized waste gas in combination with practical cases. In the future, the supervision of enterprises' unorganized emission of waste gas and the research and application of new waste gas treatment technologies in the chemical industry park will be strengthened, and the regional ambient air quality and people's satisfaction with the environment will be significantly improved.

Keywords: Waste gas emission; prevention measures; fine chemical production

1. INTRODUCTION

In the actual production process of a fine chemical production enterprise, its own characteristics lead to high accident rate and risk. Once a safety accident occurs, the consequences are very serious. Therefore, in the actual production process, the safety of the entire production process should be guaranteed first, and effective safety management and safety technology measures should be applied to effectively manage and control the entire production process. In recent years, Especially since the implementation of the New Environmental Protection Law, in order to effectively curb the frequency of heavy pollution weather caused by haze and photochemical pollution, and vigorously carry out the construction of ecological civilization, it is urgent for environmental regulatory authorities to collect and deal with unorganized exhaust gas and carry out centralized remediation.

Due to people's limited understanding of the organic waste gas emitted by the chemical industry, they do not know what harmful substances are contained in the organic waste gas, nor do they know that these harmful substances will cause great harm to people's health. In the process of production in the chemical industry, the organic waste gas discharged contains a large number of harmful substances that are difficult to degrade, and there are many kinds. Different kinds of harmful substances cause different harm to the environment and people's bodies. The composition of nitrogen oxides is divided into NO and NO₂, which are derived from chemical reaction of sewage treatment station, nitric acid production, chemical furnace, metal surface treatment and other processes. The main components of carbon oxides are CO and CO₂, which are derived from the structure of combustion process and self fuel combustion.

The main states of halogen compounds are HF, HCL, etc., mainly from chemical processing plants, plastic chemical plants, waste incineration, hydrochloric acid manufacturing and other links. Secondly, we will increase the investment in scientific and technological innovation and safety management funds, further improve the level of enterprise

automation production, timely maintain and update aging production equipment, avoid corrosion of transmission pipelines and falling of protective layers, increase the proportion of funds in safety management, ensure the strength of safety management, and further ensure the production quality and efficiency of enterprises.

State-wise of total waste generation is shown below.

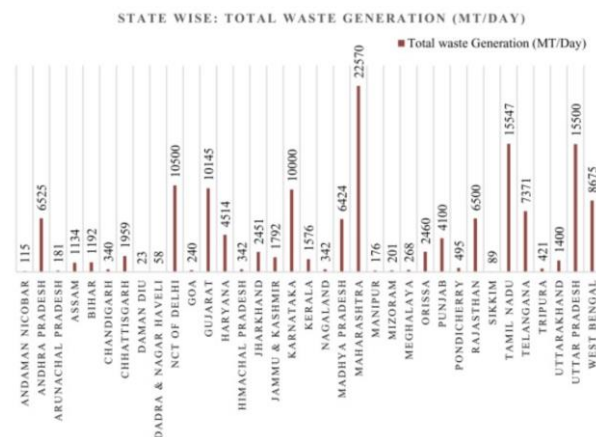


Figure. 1 State-wise: Total waste Generation

2. THE PROPOSED METHODOLOGY

2.1 Analysis of Safety Management Measures in Refined Production Enterprises

Long term exposure to low concentration pollution environment will lead to physical deterioration, low spirits, respiratory system diseases, benzopyrenes, polycyclic aromatic hydrocarbons, dioxins in incinerator waste gas and other strong carcinogens, which have attracted great attention. Some enterprises engaged in chemical industry production still adopt the original and relatively backward treatment methods to control the exhaust gas.

As far as the governance effect is concerned, the backward governance mode is obviously no longer applicable to the current chemical industry production. If the mode is continued to be used for governance, the consequences will still be increased environmental pollution and people's health will be damaged. In particular, the emission concentration of unorganized waste gas is very high in production procedures such as filtration, centrifugation, filter pressing, crushing and drying. In addition, during the production process, the open cover operation of barreled solvent, the solvent transportation process, the manhole cover opening and feeding process of the reactor, the use of the water vacuum pump and mechanical vacuum pump, some vent pipes not connected to the waste gas treatment device, the dripping during the material transfer process, and the discharge process of process waste water are all important sources of unorganized waste gas.

If the steel pipe system is used, electrostatic bridging shall be carried out for the flange part. If there are four or fewer bolts on a pair of flanges, electrostatic bridging shall be used. If there are more than four bolts, electrostatic bridging is not required. Copper wire shall be used as static jumper.

2.2 Suggestions on Unorganized Waste Gas Environment Management

The point sources of unorganized emission of waste gas are scattered, and there are many pollution producing links and points, which makes it difficult to implement effective collection, let alone treatment. At the same time, the emission of waste gas from each point source is small, and the enterprise neither pays attention to nor wants to deal with it. After sorting, the sources are roughly sewage treatment station, solid (hazardous) waste storage yard, volatile raw material loading and unloading process, product storage site and tank farm Waste gas escapes in the production process. Waste gas treatment equipment and instruments are closely related to organic waste gas treatment in chemical enterprises, and their aging will directly affect the effect of organic waste gas treatment.

Therefore, it is necessary for enterprises engaged in chemical production to optimize and upgrade the waste treatment equipment and instruments in a timely manner, eliminate the aging equipment in a timely manner, and actively introduce advanced equipment and instruments that can meet the treatment needs for waste gas treatment to meet the standards for waste gas treatment. The waste gas generated by the water vacuum pump shall be connected to the waste gas header and discharged through the exhaust funnel after entering the waste gas treatment device for treatment. If necessary, the waste gas from the water vacuum pump shall be subject to pretreatment such as condensation before being connected to the waste gas header

Check all vent pipes of the production unit to ensure that all vent pipes are connected to the exhaust header or a separate waste gas treatment unit for treatment. In the actual chemical production process, there will be initial reaction heating and heat release during the reaction process. Heat transfer is required for such reaction process. Under normal circumstances, coil cooling and jacket cooling will be used to transfer excess heat, The applied coolant is generally refrigerant and circulating water.

3. CONCLUSION

To sum up, in the process of operation, fine chemical production enterprises should pay high attention to the safety of production, actively apply effective safety management and

safety technology measures, build an effective safety production environment, improve the safety awareness of employees, improve relevant safety management systems, and actively explore new safety management technologies, The aging of treatment equipment and the lack of implementation of treatment measures hinder the efficient development of organic waste gas treatment, and relevant departments must take reasonable and targeted measures to control it. Only in this way can we effectively solve the problem that organic waste gas emissions in chemical enterprises pollute the air and endanger people's health.

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