Bobilova Ch.X.

Senior lecturer of the Department of Natural Sciences

Karshi State Technical University.

Uzbekistan Karshi city

THE USE OF SECONDARY INHIBITORS IN THE PROCESSING OF OIL AND OIL PRODUCTS.

Abstract. This article analyzes the importance of secondary inhibitors in the processes of refining oil and petroleum products, their functions, and areas of application. It also highlights the types of inhibitors and how they help improve process stability and product quality.

Key words: ingibitors, polymer, corrosion, oxidation, catalyst, reactor, hydroxytoluene (BHT), organic phosphates.

Бобилова Ч.Х.

Старший преподаватель кафедры естественных наук

Каршинского государственного технического университета

Узбекистан г. Карши

ПРИМЕНЕНИЕ ВТОРИЧНЫХ ИНГИВИТОРОВ ПРИ ПЕРЕРАВОТКЕ НЕФТИ И НЕФТЕПРОДУКТОВ.

Аннотация. В статье анализируется значение вторичных ингибиторов в процессах переработки нефти и нефтепродуктов, их функции и области применения. В нем также рассматриваются типы ингибиторов и то, как они могут улучшить стабильность процесса и качество продукции.

Ключевые слова: Ингибиторы, полимер, коррозия, окисление, катализатор, реактор, гидрокситолуол (BHT), органические фосфаты.

Secondary inhibitors play an important role in the processing of petroleum products. They are mainly used to slow down or stop undesirable reactions that occur during oil refining processes. Secondary inhibitors are substances used either in conjunction with primary inhibitors or to enhance their effectiveness. They do not react directly at the reaction center but interact with intermediate products or free radicals, thereby slowing down the process.

Today, the oil industry is considered one of the largest energy and economic sectors. The oil refining processes include complex chemical and physical stages. It is crucial to prevent undesirable phenomena such as oxidation, polymerization, and corrosion during these processes. For this reason, special chemical substances known as inhibitors are used. Among these, secondary inhibitors hold a special place, as they are actively used to maintain stability in reactive environments, improve product quality, and protect equipment.

1. Definition and types of secondary inhibitors.Secondary inhibitors are chemical compounds that slow down or stop the progression of oxidation or other harmful reactions. Unlike primary inhibitors, they reduce the activity of free radicals after they are formed. The most commonly used secondary inhibitors include:- Butylated hydroxytoluene (BHT)- Aromatic amines- Organic phosphates- Phenols, for example, (BHT-butylated hydroxytoluene) - widely used as an antioxidant2. Main problems in refining processesThe main problems encountered in oil refining:- Oxidation - leads to deterioration and deterioration of products;- Polymerization - causes blockage of reactors and pipelines;- Corrosion - leads to erosion of metal

surfaces;- Catalyst degradation - reduces production efficiency **3**. Use of secondary inhibitors.

- In preventing corrosion: Inhibitors protect metal surfaces and reduce the effects of acids and sulfur compounds.

- In preserving product quality: As antioxidants, inhibitors extend the shelf life of products.
- In ensuring production stability: The service life of reactors, pipelines and catalysts is extended.
- In increasing environmental safety: Inhibitors reduce the formation of harmful gases and waste.

In conclusion, it can be said that secondary inhibitors are substances of incomparable importance in oil refining processes, with their help many problems are prevented. They serve to maintain the quality of petroleum products, increase the efficiency of production technology, and protect equipment and the environment. The modern chemical industry pays great attention to the development of new, highly effective inhibitors in this regard.

References

1 Salimov Yu.J. and others. Oil and gas processing technology. Study guide. T.: Cholpon, 2006.

2 Bozorov F.P., Khojakulov A.F. Oil and gas condensate processing technology. Study guide. T.: Editor, 2018.

3. A.K. Manovyan "Technology of primary processing oil and natural gas". Moscow "Khimiya", 2001. -568 c.

4. First Russian conference on petroleum technology./Documentation conference, September 25-27, 2001. Moscow
5. Technology of processing oil and gas. The process of deep processing oil and petroleum fraction: ucheb.-method. complex. Ch. 1. Course lecture/ sost. i obshch. ed. S.M. Tkacheva.- Novopolotsk: PGU, 2006. -392 p.
6. William L. Leffler. Pererabotka oil. CJSC "Olymp-business". -M.: 2001. C. 244.
7. Donald L. Bardick, William L. Leffler. Neftekhimiya. Translation from English. -M.: 2001. C. 416.
8. Dytnersky Yu.I. Process and apparatus chemical technology: Uchebnik dlya vuzov. Izd. 2-e. v 2-x kN.: Chast 1. Teoreticheskie osnovy protsessov khimicheskoy tekhnologii. Hydromechanical and thermal processes and apparatus. M.: Khimiya, 1995. -400 p.: il.
9. Strana mira, tsifry i facti. Dictionary, 2000. 206p.
10. Sokolov R.S. Khimich. technology t.1 i 2. – M.: Vlados. 2000.