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STUDY OF THE THERMAL STABILITY OF OLIGOMERS IN THE NS-2 BRAND BASED ON LOCAL RAW MATERIALS

Sanjar Berdiev

Doctor Of Philosophy In Technical Sciences (Phd) Researcher Of Tashkent Scientific Research Institute Of Chemical Technology Tashkent, Uzbekistan

ABSTRACT: The mechanism that improves the properties of addictions has been studied for many years due to the different types of compounds that are added to oils, choose supplements with an aoretic approach, taking into account the various frictions, and synthesis allows you to [do [1]. Preliminary studies have shown that testing for organic sulfur compounds is dependent on mild disruption of SSS-SAGE. This explains the difference between mono- and polysulfides in the properties of confectionery products. Sulfur compounds can react directly with the metal, forming a layer of protection against iron sulfur. [2] Scientists express a different point of view regarding the formation of a mercaptide film on the metal surface to prevent clogging with sulfur compounds and reduce friction; the mercaptide film is destroyed with the formation of iron sulfide and organic sulfides under severe friction conditions. [3]. Iron mercaptides act as adsorption films, protecting the metal surface and facilitating the formation of iron sulfides. Using radioactive sulfur, metal sulfides, the conditions of their formation, distribution in surface layers and properties were studied [4].

KEYWORDS: (DTA) curve, Thermogravimetry (TGA).

INTRODUCTION

The thermal stability of a sample of NS-1 oligomer containing sulfur, nitrogen and phosphorus was studied, and curves 2 (DTA) (TGA) were presented. In the derivative diagram (DTA) curve, three endothermic effects were observed at 1000C, 148.500C and 345.180C, and one exothermic effect was found at 2600C. Thermogravimetry (TGA) curve analysis shows that the TGA curve mainly occurs in three temperature ranges of intense decomposition. Decomposition interval 1 occurred in the temperature range 25.19–172.77°C, mass loss 0.05 mg or 1.650%. The 2nd decomposition interval was observed at temperatures of 172.77-285.230C, it was found that 1.95 mg or 39.319% of the mass was lost, and finally the 3rd decomposition interval took place in the temperature range 285.23-350.170C, weight loss 1.05. mg or 21.437% is suitable. In the temperature range of 25.19 – 350.17°C, the total mass reduction was 3.05 mg or 62.406%, which took 51.64 minutes.

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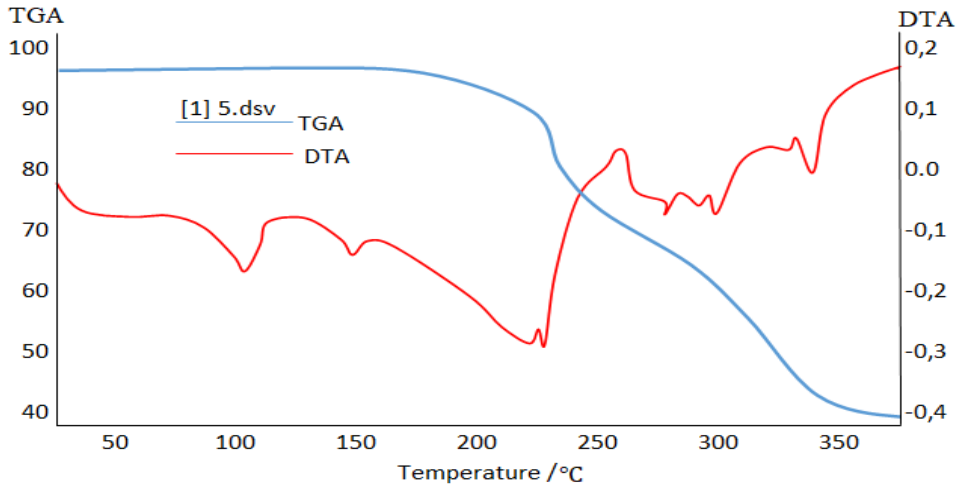

Figure 1. DTA and TGA plot of an oligomer labeled NS-1 containing sulfur, nitrogen and phosphorus

The analysis of the thermogravimetric analysis curve and differential thermal analysis curve is shown in Table 1 below. The table shows that the greatest mass loss occurs in the 2nd interval, i.e. in this range, 39.319% of the mass is lost.

table 1.

Thermogravimetry (TGA) curve analysis

Temperature, ^{0}C	Time - minute	Weight (mg)	Mass lost (%)
25,19-172,77	16,20	0,05	1,650
172,77 –285,23	17,15	1,95	39,319
285,23 -350,17	18,29	1,05	21,437

Thus, on the basis of the experimental data obtained on the kinetics of processes in the temperature range from 298 to 623 K, the characteristics of the thermal-oxidative degradation of the oligomer sample containing sulfur, nitrogen and phosphorus of the NS-1 brand were studied.

REFERENCES

1. Кузора, И.Е., Оценка возможности применения отечественных октаноповышающих присадок в АО «АНХК» / И.Е. Кузора, О.В. Старикова, Ж.Н. Артемьева, Д.А. Дубровский, А.А. Ганина // Нефтепереработка и Нефтехимия. Научно-технические достижения и передовой опыт. - 2016.-№8. – С. 45-49.
2. Ефремов, А.А. Высокооктановые эфиры / А.А. Ефремов, В.Е. Песков,Е.В. Ройтман, А.Ю. Фролов // Мир нефтепродуктов. Вестник нефтяных компаний.- 2015. - № 5. - С. 7-12.
3. Лазарев, В.А. Октаноповышающая добавка нового поколения «R&TOctane» / В.А. Лазарев // Нефтепереработка и нефтехимия. Научно-технические достижения и передовой опыт. - 2014. - №12. – С. 3-5.

Published: November 05, 2023 | Pages: 137-139

4. Цыганков, Д.В. Системный подход к снижению вредных выбросов автомобильного транспорта при использовании оксигенатных бензинов / Д.В. Цыганков, А.М. Мирошников, Э.Г. Виноград // Вестник КузГТУ. - 2005. - №3. - С. 101-105.