WEB OF SCIENTIST: INTERNATIONAL SCIENTIFIC RESEARCH JOURNAL
ISSN: 2776-0979, Volume 3, Issue 6, June, 2022

E-466 AS A STABILIZER IN PHARMACEUTICAL FIELD AND RESULTS AND ANALYSIS OF USE AS A PLASIFICATOR IN MANY SECTORS OF THE NATIONAL ECONOMY

M. M. Murodov
Tashkent Innovative Chemical-Technological Scientific-Research Institute

K. B. Karimova
Tashkent Innovative Chemical-Technological Scientific-Research Institute

B. B. Akhrarov
Tashkent Innovative Chemical-Technological Scientific-Research Institute

N. R. Yakubova
Tashkent Chemical-Technological Institute

Abstract
Innovative product E-466 is used as strength regulators in the production of sweets 1-3g / kg, ice cream and jelly 2-8g / kg, E-466 5-20g / kg in shell for meat, fish, confectionery, nuts. These definitions are related to the water permeability of the innovative product. The E-466 can bind water from 1 part to 120-140 parts. This supplement is especially meaty and its use in fish processing is important.

Keywords: Banana cellulose, extraction process, basic substance content, cotton lint, polymerization rate, pentosan, alkali sediment, suffocation, ash content, moisture, cellulose, concentration, parameter, optimal conditions, destruction.

Introduction

Carboxymethylcellulose does not decompose under the influence of bright light and is insoluble in vegetable and animal fats.

It is known that if the technical process is not followed (e.g. when the dose is exceeded), carboxymethylcellulose (food supplement E-466) can lead to digestive disorders. There are no official scientific data on toxicity when used in the cosmetics industry. Studies in some animals have shown that carboxymethylcellulose raises cholesterol levels and there is unconfirmed evidence that it can cause tumors and cancer [1-12]. The food supplement E-466 is used as a strength stabilizer, thickener, capsule. The main feature of carboxymethylcellulose is its ability to form a highly viscous colloidal solution that does not lose its properties over a long period of time.

As a thickener in the production of ice-cream, cottage cheese mass, mayonnaise; as a consistency regulator in sweets, jellies, creams and pastes; Used in shells for fish, meat, confectionery.

Analytical stages of the use of E-466 as a stabilizer in various industry networks. Stabilizers are mainly designed to reduce the filtration and stickiness of drilling fluid. These are organic compounds that have high hydrophilicity and high solubility in water. Cellulose-based stabilizers - reagents (carboxymethylcellulose, carbaminol, carbophene), lignosulfonates, lignin, polyphenols, acrylic polymers, biopolymers, sodium and potassium salts of humic acids, starch (technical starch, known modified starch). It is known that carmoxymethylcellulose (KMTs) with any degree of polymerization retains its protective properties at temperatures between 130-160 ^{o}C.

It is known from the literature that the physicochemical properties of KMTs (E-466) vary depending on its chain length and degree of exchange. It is soluble in water and alkalis, moderately soluble in acids, glycerin. Insoluble in organic solvents. Its laxative effect can be observed from a dose of 5 gr. Hygienic standards are not limited to DSP for KMTs (carboxymethylcellulose) (E-466). Risks according to GN-98: PDK is 10 mg / m^3 in workplace air, hazard class 3, and KMTs (carboxymethylcellulose) (E-466) have been approved as a strength regulator in 8 food standards:

- Canned sardines up to 20 g / kg;
- Canned mackerel up to 2.5 g / kg;
- Meat products up to 15 g / kg;
- Mayonnaise up to 1 g / kg;
- Certain types of margarine up to 10 g/kg;
- Processed cheeses (fused) up to 5 g / kg;
- Fragrant yogurt, etc. up to 5 g / kg;
- Soups-broth up to 4 g / kg;

KMTs (carboxymethylcellulose) (E-466) - TI (p. P. 3.1.8,3.6.58,3.16.53 SanPiN 2.3), which belongs to the quality control of TI in pasteurized cream, and other food products, such as consistency stabilizer, thickening texture, binder 2.1293-03) is used strictly in accordance with the requirements.

Innovative product 1-3 g/kg, ice cream as strength regulators in the production of sweets from E-466 and 2-8 g/kg in jelly, E-466 5-20 g/kg in shell for meat, fish, confectionery, nuts. These definitions are related to the water permeability of the innovative product. The E-466 can bind water from 1 part to 120-140 parts. The use of this supplement is especially important in the processing of meat and fish.

WEB OF SCIENTIST: INTERNATIONAL SCIENTIFIC RESEARCH JOURNAL
ISSN: 2776-0979, Volume 3, Issue 6, June, 2022

Taking into account the above in the table below, as a result of the study, the composition-recipe of E-466 products synthesized from local raw materials, which can be used in various sectors of the economy, was developed and recommended.

E-466 product synthesized from local raw materials is a recipe that can be used in various sectors of the economy

TABLE-1

№	Industry networks	Available content, g / kg	Recommended content, g / kg	E-466 brand	Tc 22235949-003:2015
1	Mayonnaise	20	18	70/600-0	3,9
2	Meat products	15	12	85/700-C-O	78
3	Fragrant yogurt and others	5	4,8	85/700-C-O	82
4	Soups-broth	4	3,7	70/600-0	99,0
5	Processed cheeses (melted).	5	5,4	70/600-0	3,9
6	Certain types of margarines	10	11,2	70/600-0	78

A study of the use of E-466 as a placeholder in many sectors of the economy. Plasifiers are elastic in the composition of polymeric materials during processing and use or substances introduced to give (or increase) plasticity. Plasticizers facilitate the dispersion of ingredients, reduce the processing temperature of the compositions improves the cold resistance of polymers but sometimes worsens their heat resistance. Some plasticizers, on the other hand, can increase fire, light, and heat resistance.

KMTs (carboxymethylcellulose) are used as a thickening agent for emulsion paints, act as a plasticizer, and powder paints delay setting time as an auxiliary agent for leveling compounds, cement mortars. It is also used in the manufacture of adhesives for wallpaper.

KMTs (carboxymethylcellulose) (E-466) - in the food industry as a plasticizer, thickener, and resorbent, mainly as a viscosity modifier or thickener and as an emulsion stabilizer in various products, toothpaste, diet pills, water-based paints and is widely used as an ingredient in many non-food products, such as various paper products.

In addition, KMTs (carboxymethylcellulose) (E-466) are widely used in medicine, cosmetology, as well as in the chemical industry. There are no data on the harmful effects of this substance on the body and therefore it is considered safe.

In conclusion to this chapter, it can be noted that the innovative technology product obtained on the basis of research results - from E-466 as a stabilizer in the pharmaceutical industry as well as research and analysis of its use as a placeholder in many sectors of the economy. In particular, the analytical stages of the use of E-466 as a stabilizer in various industries were studied.

Innovative product E-466 is used as strength regulators in the production of sweets 1-3g / kg, ice-cream and jelly 2-8g / kg, E-466 5-20g / kg in shell for meat, fish, confectionery, nuts. These definitions are related to the water permeability of the innovative product. The E-466 can bind water from 1 part to 120-140 parts. The use of this supplement is especially important in the processing of meat and fish.

Taking into account the above in the table below, as a result of the study, the composition-recipe of E-466 products synthesized from local raw materials, which can be used in various sectors of the economy, was developed and recommended. In addition, recommendations were made based on the results of research on the use of E-466 as a plasifier in many sectors of the economy.

KMTs (carboxymethylcellulose) (E-466) are a plasticizer, thickener, and resorbent in the food industry, primarily as a viscosity modifier or thickener and toothpaste, diet pills, water-based paints, detergents as emulsion stabilizers in various products and is widely used as an ingredient in many non-food products, such as various paper products. In addition, KMTs (carboxymethylcellulose) (E-466) are widely used in medicine, cosmetology, as well as in the chemical industry. There are no data on the harmful effects of this substance on the body and therefore it is considered safe.

References

1. M.M. Murodov. «Technology of making cellulose and its ethers by using raw materials» // International Conference “Renewable Wood and Plant Resources: Chemistry, Technology, Pharmacology, and Medicine”. Saint-Petersburg, Russia. June 21-24., 2011. 142-143.
2. M.M. Murodov. «The technology of making carboxymethyl cellulose (cmc) by method monoapparatus» // International Conference «Renewable Wood and Plant Resources: Chemistry, Technology, Pharmacology, and Medicine». Saint-Petersburg, Russia. June 21-24., 2011. 141-142.
3. Ўзбекистон Республика Вазирлар Маҳкамаси “РЕСПУБЛИКАДА ТЕЗ ЎСУВЧИ ВА САНОАТБОП ПАВЛОВНИЯ ДАРАХТИ ПЛАНТАЦИЯЛАРИНИ БАРПО ҚИЛИШ ЧОРА-ТАДБИРЛАРИ ТЎҒРИСИДА” 2020 йил 27 августдаги 520-сонли қарори.

4. Интернет: https://xs.uz/uzkr/post/ hududlarda –pavlovniya -plantatsiyalari -tashkil-qilinadi/
5. Муродов, М. Х., & Муродов, Б. Х. У. (2015). Фотоэлектрическая станция с автоматическим управлением мощностью 20 кВт для учебного заведения. Science Time, (12 (24)), 543-547.
6. Murodov, M. M., Rahmanberdiev, G. R., Khalikov, M. M., Egamberdiev, E. A., Negmatova, K. C., Saidov, M. M., & Mahmudova, N. (2012, July). Endurance of high molecular weight carboxymethyl cellulose in corrosive environments. In AIP Conference Proceedings (Vol. 1459, No. 1, pp. 309-311). American Institute of Physics.
7. Murodov, M. M., Yusupova, N. F., Urabjanova, S. I., Turdibaeva, N., & Siddikov, M. A. (2021). OBTAINING A PAC FROM THE CELLULOSE OF PLANTS OF SUNFLOWER, SAFFLOWER AND WASTE FROM THE TEXTILE INDUSTRY.
8. Murodov, M. M., Yusupova, N. F., Urabjanova, S. I., Turdibaeva, N., & Siddikov, M. A. Obtaining a Pac From the Cellulose of Plants of Sunflower, Safflower and Waste From the Textile Industry. European Journal of Humanities and Educational Advancements, 2(1), 13-15.
9. Murodov, M. M., Xudoyarov, O. F., & Urozov, M. Q. (2018). Technology of making carboxymethylcellulose by using local raw materials. Advanced Engineering Forum Vols. 8-9 (2018) pp 411-412/©. Trans Tech Publications, Switzerland. doi, 10, 8-9.
10. Primqulov, M. T., Rahmonbtrdiev, G., Murodov, M. M., & Mirataev, A. A. (2014). Tarkibida sellyuloza saqlovchi xom ashyoni qayta ishlash texnologiyasi. Ozbekiston faylasuflar milliy jamiyati nashriyati. Toshkent, 28-29.
11. Рахманбердиев, Г. Р., & Муродов, М. М. (2011). Разработка технологии получения целлюлозы из растений топинамбура. Итисодиёт ва инновацион технологиялар" илмий электрон журнали,(2), 1-11.
12. Elievich, C. L., Khasanovich, Y. S., & Murodovich, M. M. (2021). TECHNOLOGY FOR THE PRODUCTION OF PAPER COMPOSITES FOR DIFFERENT AREAS FROM FIBER WASTE.
13. MURODOVICH, M. M., QULTURAEVICH, U. M., & MAHAMEDJANOVA, D. (2018). Development of Technology for Production of Cellulose From Plants of Tissue and Receiving Na-Carboxymethylcellulose On its Basis. JournalNX, 6(12), 407-411.
14. Rahmonberdiev, G., Murodov, M., Negmatova, K., Negmatov, S., & Lysenko, A. (2012). Effective Technology of Obtaining The Carboxymethyl Cellulose From

Annual Plants. In Advanced Materials Research (Vol. 413, pp. 541-543). Trans Tech Publications Ltd.
15. Murodovich, M. M., Murodovich, H. M., & Qulturaevich, U. M. (2020). Obtaining technical carboxymethyl cellulose increased in main substance. ACADEMICIA: AN INTERNATIONAL MULTIDISCIPLINARY RESEARCH JOURNAL, 10(12), 717-719.
16. Murodovich, M. M., Qulturaevich, U. M., & Mahamedjanova, D. Comparative Researches of the Composition and Properties Cmc in Different Degree of Polymerization. JournalNX, 6(12), 412-415.
17. Йулдашева, Г. И., & Тешабаева, О. Н. (2020). Развитие цифровой экономики Республики Узбекистан. Universum: экономика и юриспруденция, (7 (72)), 4-6.
18. Teshabaeva, O., Yuldasheva, G., & Yuldasheva, M. (2021). DEVELOPMENT OF ELECTRONIC BUSINESS IN THE REPUBLIC OF UZBEKISTAN. Интернаука, (3-3), 16-18.
19. Ibragimovna, Y. G. (2022). ADVANTAGES OF CREDIT-MODULE SYSTEM IN THE FIELD OF EDUCATION. INTERNATIONAL JOURNAL OF SOCIAL SCIENCE & INTERDISCIPLINARY RESEARCH ISSN: 2277-3630 Impact factor: 7.429, 11, 14-16.
20. Йўлдашева, М. (2021). ЭФФЕКТИВНОЕ УПРАВЛЕНИЕ ИНВЕСТИЦИОННОЙ ДЕЯТЕЛЬНОСТЬЮ ИНФОРМАЦИОННО-КОММУНИКАЦИОННЫХ ТЕХНОЛОГИЙ УЗБЕКИСТАНА. Студенческий вестник, (3-4), 11-13.
21. Shermatova, G. Y. H. (2022). ANIQ FANLARNI O'QITISHDA AXBOROT TEXNOLOGIYALARIDAN FOYDALANISH. Scientific progress, 3(1), 372-376.
22. Yuldasheva, G. I., & Shermatova, K. M. (2021). THE USE OF ADAPTIVE TECHNOLOGIES IN THE EDUCATIONAL PROCESS. Экономика и социум, (4-1), 466-468.
23. Худаёрова, С. И. (2022). ОСОБЕННОСТИ МОРФОЛОГИЧЕСКОГО ФОРМИРОВАНИЯ ЛИСТЬЕВ У СОРТОВ ЛИМОНА (CITRUS L.) В ЗАЩИЩЕННЫХ МЕСТАХ. БАРҚАРОРЛИК ВА ЕТАКЧИ ТАДҚИҚОТЛАР ОНЛАЙН ИЛМИЙ ЖУРНАЛИ, 15-18.
24. Қодирова, Г. О. Қ., & Худоёрова, Ф. (2021). РОЛЬ ОБРАЗОВАТЕЛЬНЫХ ТЕХНОЛОГИЙ В ПРЕПОДАВАНИИ ЯЗЫКА. Scientific progress, 2(3), 894-898.

25. Itolmasovna, K. S. (2022). DEVELOPMENT OF MARKETABLE PROPERTIES OF PROCESSED LEMON. The American Journal of Agriculture and Biomedical Engineering, 4(02), 21-25.
26. Хамидов, О. Р., & Кудратов, Ш. И. (2022, March). ИНТЕГРАЛЬНАЯ ОЦЕНКА ТЕХНИЧЕСКОГО СОСТОЯНИЯ СИСТЕМ ЭНЕРГЕТИЧЕСКИХ УСТАНОВОК ЛОКОМОТИВОВ. In " ONLINE-CONFERENCES" PLATFORM (pp. 165-168).
27. Грищенко, А. В., & Хамидов, О. Р. (2018). Оценка технического состояния локомотивных асинхронных тяговых электродвигателей с использованием нейронных сетей. Транспорт Российской Федерации. Журнал о науке, практике, экономике, (6 (79)), 19-22.
28. Сафаров, А. М., Жураева, К. К., & Рустемова, А. Р. (2020). ВОПРОСЫ ПОВЫШЕНИЯ ЭФФЕКТИВНОСТИ ИСПОЛЬЗОВАНИЯ ЭНЕРГОРЕСУРСОВ. ИННОВАЦИОННОЕ РАЗВИТИЕ: ПОТЕНЦИАЛ НАУКИ И СОВРЕМЕННОГО ОБРАЗОВАНИЯ, 20-23.
29. Хамидов, О. Р., & Грищенко, А. В. (2013). Вибродиагностика повреждения подшипников качения локомотивных асинхронных электродвигателей. In Подвижной состав XXI века: идеи, требования, проекты (pp. 174-176).
30. Bedritsky, I. M., Jurayeva, K. K., & Bozorov, L. K. (2020). USING OF PARAMETRIC NONLINEAR LC-CIRCUITS IN STABILIZED TRANSDUCERS OF THE NUMBER OF PHASES. Chemical Technology, Control and Management, 2, 42-48.
31. Komilovna, J. K., & Rustemovna, R. A. (2020). The role of vacuum circuit breakers in traction substations. International Journal on Orange Technologies, 2(5), 1-2.
32. Qulturaevich, U. M., Elievich, C. L., Murodovich, M. M., & Fattahovna, Y. N. (2021, May). TECHNOLOGIES FOR PRODUCING CELLULOSE FROM SAFLOR PLANTS AND PRODUCING CARBOXYMETHYL CELLULOSE BASED ON IT. In Euro-Asia Conferences (Vol. 5, No. 1, pp. 1-4).
33. Qulturaevich, U. M., Elievich, C. L., Murodovich, M. M., & Uralovich, K. S. (2021, May). TECHNOLOGY OF PATS GETTING BY MONOAPPARAT. In Euro-Asia Conferences (Vol. 5, No. 1, pp. 5-7).
34. [34]. Murodovich, M. M., & Mahamedjanova, D. (2020). Technologies for producing cellulose from saflor plants and producing carboxymethyl cellulose based on. ACADEMICIA: AN INTERNATIONAL MULTIDISCIPLINARY RESEARCH JOURNAL, 10(12), 730-734.
35. Халиков, М. М., Рахманбердыев, Г. Р., Турабджанов, С. М., & Муродов, М. М. (2016). ИНГИБИРОВАНИЕ ДЕСТРУКЦИИ НАТРИЕВОЙ СОЛИ

КАРБОКСИМЕТИЛЦЕЛЛЮЛОЗЫ В ПРОЦЕССЕ ЕЁ ПОЛУЧЕНИЯ. Химическая промышленность сегодня, (11), 22-26.

36. Murodov, M. M., Yusupova, N. F., Urabjanova, S. I., Turdibaeva, N., & Siddikov, M. A. (2021). OBTAINING A PAC FROM THE CELLULOSE OF PLANTS OF SUNFLOWER, SAFFLOWER AND WASTE FROM THE TEXTILE INDUSTRY.
37. Turabovich, D. A., & Murodovich, M. M. Processing And Development Of Technology For Development Of Equipment For Sustainable Promotions For Maximum Communities. International Journal on Integrated Education, 3(12), 498-504.
38. Murodovich, M. M. Creation of Innovative Technology to Be Involved in Popular and Wine Tours (Marmar Popular, Another Bentonit and Maxali Homes). International Journal on Integrated Education, 3(12), 494-497.