

FURFURAL REFINING OF LUBRICATING OILS

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The rapid development of petroleum refining provided for in the decisions of the Twenty-Third CPSU Congress requires a very considerable increase in the number of people who are specially trained for working on crude-processing units or units for secondary processing. Under these conditions the number of young workers (as a rule, with secondary education at present) is increasing steadily at the refineries. It is necessary not only to teach, but to educate, the young worker who has a good general training but not sufficient experience of production work.

The series "Small Library for the Young Worker" helps to solve the above problem to a great extent. It was only recently that one of the numbers of the series was published in the form of a brochure "Units for Furfural Refining of Lubricating Oils" by Sh. Sh. Spektor,* which is certainly a valuable teaching aid for the new young refinery workers.

In the first chapter Sh. Sh. Spektor considers the production of lubricating oils as a whole, from vacuum distillation of residue to blending of additives, describing at the same time the principal methods for improving the quality of oils to meet the modern requirements. The second chapter is devoted to the general problems of selective solvent refining of oils. Here the author expounds the theory of this problem, and describes the process of extraction, different selective solvents, and their interaction with petroleum distillates. He describes in particular and in detail the properties of furfural and its use in petroleum processing. The third chapter described the technological schemes and certain furfural-refining apparatuses for oils. The fourth chapter is devoted to the methods of technological calculation of the main selective-refining apparatuses, the knowledge of which, as the author says, is generally necessary for the workers for "showing creative initiative to intensify and improve the technological process." The fifth chapter contains essential information on the operation of furfural-refining units—inspection and testing of apparatus, starting, normal operation, breakdowns and their prevention and elimination, and so on. The last two chapters describe the automatic control and monitoring of the process, the safety engineering and protection of labor, and the fire-prevention engineering for selective-refining units.

Thus, despite its small size, the brochure contains extensive material on furfural refining and much on the general problems of using selective solvents in petroleum refining. It is written in a strictly businesslike, simple, and clear language.

However, considering that this brochure is bound to be not only a text-book, but also has an educative significance, we should mention one fault. In the introduction the author describes well the importance of lube oils in the national economy, the need for improving its quality to speed up the country's general technical progress, and the role that selective refining plays in this matter. But he has not at all gone into the history of using selective solvents in petroleum processing. A few words should have been said about the remarkable Russian scientist K. V. Kharichkov, who was the first in the world to develop the "cold fractionating" process as early as in the prerevolutionary years. He could have told us of the Soviet (those of Baku in particular) engineers and researchers—enthusiasts of the new progressive process, who were creators of the first solvent-refining units in this country, and of the first furfural-refining unit of the country set up at Baku. This information could have enriched the brochure, increasing its volume only by 2-3 pages. The young worker should know the history of the field to which he is devoting his labor as well as his conscientious productive activity.

Of course, the above fault does not reduce the usefulness and importance of the brochure for training personnel. There is no doubt that it will receive general recognition and wide popularity.

*Sh. Sh. Spektor, Units for Furfural Refining of Lubricating Oils, Izd. "Khimiya," 1967, 88 p., price 20 Kop., 4000 copies.