

References

- American Society for Testing and Materials. Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and The Calculation of Dynamic Viscosity). ASTM D445. **Annual Book of ASTM Standards**, Philadelphia, PA (1986).
- _____. ASTM Color of Petroleum Products (ASTM Color Scale). ASTM D1500. **Annual Book of ASTM Standards**, Philadelphia, PA (1986).
- _____. Flash and Fire Points by Cleveland Open Cup. ASTM D92. **Annual Book of ASTM Standards**, Philadelphia, PA (1986).
- _____. Sulfur in Petroleum Products by Non-Dispersive X-Ray Fluorescence Spectrometry. ASTM D4294 **Annual Book of ASTM Standards**, Philadelphia, PA (1986).
- _____. Neutralization Number by Color-Indicator Titration. ASTM D974. **Annual Book of ASTM Standards**, Philadelphia, PA (1986).
- _____. **Viscosity Index Tables for Celsius Temperatures**. Baltimore, Md. May (1975).

- Argon, J.M., Jodra, L.G., Barbas, M. Recycling of Used Lubricating Oils. Study of Catalytic Hydrogenation. *Ing. Quim. (Madrid)* 21(244) (1989):of **Chemical Abstract** No.111:117902x.
- Becker, D.A. Recycling Oil. **Kirk-Othmer Encycl. Chem. Technol.**, 3rd Edn. (1982):979-985.
- Berry, R.I. Rerefining Waste Oil. **Chemical Engineering**. Apr. 23 (1979).
- _____. Oil Re-Refining Route is Set for Waste Lube Oils **Chemical Engineering**. Oct.5 (1981).
- Bethea, G.R., et al. To Hydrotreat Waste Lube Oil. **Hydrocarbon Processing**. Sept.(1979): 134-136.
- Billon, A., Frank, J.P., and Peries, J.P. Consider Hydrorefining for Lubes. **Hydrocarbon Processing**. sept. (1975):139-144.
- Bhan, O.K., et al. Catalytic Upgrading of Used Lubricating Oils. **Fuel Sci. Technol. Int.** 4(3) (1986):303-325.
- Brinkman, D.W. Technologies for Re-Refining Used Oil. **Lubrication Engineering**. May (1987):324-328.
- Brownawell, D.W., et al. Refining of Used Lubricating Oils. **U.S. US 3,639,229** Feb. 1 (1972).
- Caltex Oil(Thailand) Ltd. **Caltex Lubrication Handbook**. (1973):2-32.
- Cameron, A. **The Principles of Lubrication**. John Willey & Son, Inc. (1987):508-512.
- Chantalaka, S. Influence of Nitrogen compounds on Hydrodesulfurization of Thiophene. Master's Thesis, Chulalongkorn University, 1993.

- Cutler, L.E., et al. Re-refining Used Automotive Lubricating Oil. **U.S. US 3,919,076** Nov.11 (1975).
- David, J.D. Bright Prospects Loom for Used-oil Rerefiners. **Chemical Engineering**. July 20 (1987):21-23.
- Ellis, C. **The Chemistry of Petroleum Derivatives**. Vol. 1 New York:The CHEMICAL CATALOG CO., Inc. (1945):30.
- Eric, R.B. **LUBRICATION and LUBRICANTS**. Chap.3:Chemical Additive Elsevier Publishing Company (1967):119-139.
- Falconer, M., et al. Re-Refining Used Lubricating Oils. **Pollut. Eng.** 18(6), (1986):44-6.
- Gary, J.H. and Handwerk, G.E. **Petroleum Refining Technology and Economics**. 2nd Edn. New York:Marcel Dekker, Inc. (1984).
- George, W.J. **Lubricating Fundamentals**. Mobil Oil Corporation (1980):27-34.
- Guthrie, V.B., **Petroleum Products Handbook**. First Edition, McGraw-Hill Book Company, Inc., 1960.
- Hira A.U., et al. **Waste Oil:Reclaiming Technology, Utilization, and Disposal**. New Jersey:Mueller Associates, Inc. (1989).
- Hugel Chim, et Ind. 26 (1931):1282; **Brit. Chem. Abs. A.** (1932):116 quoted in Ellis, C. **The Chemistry of Petroleum Derivatives**. Vol. 1 New York:The CHEMICAL CATALOG CO., Inc. (1945):30.

- Khaltaeve, T.S., et al. Hydrogenation of Oil Distillates. **Mater. Resp. Nauchno-Tekh. Konf. Molodykh Uch. Pererab. Nefti Neftekhim.** 3rd, 1, 34 (1976): of **Chemical Abstract No.89:165802p.**
- LE Page, J.-F., et al. **Applied Heterogeneous Catalysis: Design Manufacture Use of Solid Catalysts.** Paris:Institut Francais Du Petrrole Publications (1987).
- Linnard, R.E., and Henton, L.M. Re-refine Waste Oil with PROP. **Hydrocarbon Processing.** Sept. (1979):148-154.
- Mead, T.C., et al. Process for Reclaiming Used Lubricating Oil. **U.S. US 4,490,245** Dec. 25 (1984).
- Meketta J.J. **Encyclopedie of Chemical Processing and Design.** New York:Marcel Dekker, Inc. (1982):218-246.
- Mohammed, A.H.A.K. and Hankish, K. Kinetic Study of Hydrodesulfurization of Spent Lube Oil Distillate. **J. Pet. Res.** 5(2) (1986):19-28: of **Chemical Abstract No.106:140774n.**
- Nowack, G.P., et al. Reclaiming Used Lubricating Oils. **U.S. US 4,151,072** Apr. 24 (1979).
- O'Connell, J.P., and Wozniak, J.F. Removing Halogenated Polyphynyl Materials from Used Oil Products. **U.S. US 4,623,448** Nov. 18 (1996).
- Popvich, M., Herling C. **Fuels and Lubricants.** John Wiley & Sons, Inc.(1959):167-209.

- Prasad, Ds.A. **Process Technology for Greases and Lubricating Oils**. Small Business Publications (2521).
- Reid, L.E., et al. Used Oil Re-Refining U.S. US 4,512,878 Apr. 23 (1985).
- Satterfield, C.N. **Heterogenous Catalysis in Practice**. McGraw-Hill Book Company (1980):267-268.
- Short, H., et al. Three Rerefining Methods for Waste Lube Oils. **Chemical Engineering**. Oct.5 (1981).
- Somogyi, L., et al. Refining Used Lubricating Oils with Sulfuric Acid and Hydrogenation. U.S. US 3,346,483, Oct.10 (1967).
- Soudek, M. What Lube Oil Processes to Use. **Hydrocarbon Processing**. Dec. (1974):59-66.
- Surprenat, N.F., and Fennelly, P.L. Fate of Hazardous and Nonhazardous Wastes in Used Oil Recycling and Disposal. DOE/BC/10375-6 (October 1983), quoted in Brinkman, D.W. **Lubri. Eng.** May (1987).
- Szeri, A.Z. **TRIBOLOGY; Friction, Lubrication, and Wear**. Hemiisphere Publishing Corporation (1980):441.
- Tanpichart, V. **Effect of Organometallic Compounds on Hydrodesulfurization of Thiophene**. Master's Thesis, Chulalongkorn University, 1992.
- Waddams A.L. **Chemicals from Petroleum**. 4th Edn. Texas:Gulf Publishing Company (1980).
- Whisman, M.L., et al. Re-Refining Makes Quality Oils. **Hydrocarbon Processing**. Oct. (1978).

Wilson, D.B., and Brinkman, D.W. Hydrotreating of Re-Refined Lubricating Oil, report prepared for the U.S. Department of Energy, DOE/BC/10332-1, April 1983 quoted in Bahn, O.K., et al. Catalytic Upgrading of Used Lubricating Oils. **Fuel Sci. Technol. Int.** 4(3) (1986):303-325.

Zienkiewicz, E., et al. Process for Mild Catalytic Hydrorefining of Lubricating Oils. **Pol PL. 138,387** Jan. 30 (1988): of **Chemical Abstract** No.112:201901z.

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