References -A Catalogue of Crude Oil and Oil Product Properties [1999] ---Revised 2022 Références- Un catalogue des propriétés du pétrole brut et des produits pétroliers [1999]---Révisé 2022

ACGIH 96

American Conference of Governmental Industrial Hygienists, 1996 Threshold Limit Values for Chemical Substances and Physical Agents; Biological Exposure Indices, ACGIH, Cincinnati, Ohio, 1996.

Anderson 74

Anderson, J.W., J.M. Neff, B.A. Cox, H.E. Tatem, and G.M. Hightower, "Characteristics of Dispersions and Water-soluble Extracts of Crude Oil and Refined Oils and their Toxicity to Estuarine Crustaceans and Fish", *Marine Biology*, vol. 27, pp. 75-88, 1974.

API 81

American Petroleum Institute, API-EPA Sample Analysis of Standard Reference Oils, Ref. #71271, Washington, D.C., 1981.

ARC 87

Alberta Research Council, Information Sheets, Oil Sands Bank, ARC, Edmonton, Alberta, 1987.

ASTM D396

American Society for Testing and Materials, "Standard Specification for Fuel Oils", *Annual Book of AVM Standards - Section 5 Petroleum Products, Lubricants, and Fossil Fuels*, West Conshohocken, Pennsylvania, 1996.

ASTM D910

American Society for Testing and Materials, "Standard Specification for Aviation Gasolines", *Annual Book of ASTM Standards - Section 5 Petroleum Products, Lubricants, and Fossil Fuels*, West Conshohocken, Pennsylvania, 1996.

ASTM D975

American Society for Testing and Materials, "Standard Specification for Diesel Fuel Oils", *Annual Book of AVM Standards - Section 5 Petroleum Products, Lubricants, and Fossil Fuels*, American Society for Testing and Materials, West Conshohocken, Pennsylvania, 1996.

ASTM D1655

American Society for Testing and Materials, "Standard Specification for Aviation Turbine Fuels", *Annual Book of ASTM Standards - Section 5 Petroleum Products, Lubricants, and Fossil Fuels*, American Society for Testing and Materials, West Conshohocken, Pennsylvania, 1996.

ASTM D2880

American Society for Testing and Materials, "Standard Specification for Gas Turbine Fuels", *Annual Book of ASTM Standards - Section 5 Petroleum Products, Lubricants, and Fossil Fuels*, American Society for Testing and Materials, West Conshohocken, Pennsylvania, 1996.

ASTM D4814

American Society for Testing and Materials, "Standard Specification for Automotive Spark-Ignition Engine Fuel", *Annual Book of ASTM Standards - Section 5 Petroleum Products, Lubricants, and Fossil Fuels*, West Conshohocken, Pennsylvania, 1996.

Bobra 83

Bobra, A.M., W.Y. Shiu, and D. Mackay, "Toxicity of Hydrocarbons and Crude Oils", *Proceedings of the 6th Arctic and Marine Oil Spill Program Technical Seminar*, Environment Canada, Ottawa, Ontario, pp. 52-58, 1983.

Brown 94

Brown, C.E., Z. Wang, M. Fruhwirth, and M.F. Fingas, "May 1993 Oil Spill Sensor Test Program: Correlation of Laser Fluorosensor Data with Chemical Analysis", *Proceedings of the 17th Arctic and Marine Oil Spill Program Technical Seminar*, Environment Canada, Ottawa, Ontario, pp. 1239-1261, 1994.

Buist 89

Buist, I., S. Potter, D. Mackay, and M. Charles, "Laboratory studies on the behaviour and cleanup of waxy crude oil spills", in Proceedings of the 1989 Oil Spill Conference, American Petroleum Institute, Washington, D.C., 1989, pp. 105-113.

Burnett 85

Burnett, M.W., R.M. Giannini, W.C. Kuby, H.J. Modetz, R. Strucko, and A.F. Talbot, "Worldwide Characterization of Marine Fuels", *Marine Fuels*, ASTM STP 878, Cletus H. Jones, Ed., American Society for Testing and Materials, Philadelphia, Pennsylvania, 1985.

Caltex 92

Caltex Petroleum Corporation, personal communication to Emergencies Science Division, Environment Canada, Ottawa, Ontario, 1992.

Cao 92

Cao, J.R., Microwave Digestion of Crude Oils and Oil Products for the Determination of Trace Metals and Sulphur by Inductively-Coupled Plasma Atomic Emission Spectroscopy, Environment Canada Manuscript Report Number EE-140, Ottawa, Ontario, 82 pp., 1992.

CHRIS 91

Chemical Hazards Response Information System (CHRIS), United States Coast Guard, Department of Transportation, Washington, D.C., 1991.

Clark 88

Clark, G.H., *Industrial and Marine Fuels Reference Book*, Butterworth and Co. (Publishers) Ltd., London, England, 1988.

Daling 91

Daling, P.S. and P.J. Brandvik, *Characterization and Prediction of the Weathering Properties of Oils at Sea A Manual for the Oils Investigated in the DIWO Project*, DIWO 16, IKU Sintef Group (Continental Shelf and Petroleum Technology Research Institute), Trondheim, Norway, 1991.

Dillon 78

Dillon, T.M., J.M. Neff, and J.S. Warner, "Toxicity and Sublethal Effects of No.2 Fuel Oil on the Supralittoral Isopod, Lygia Exotica", *Bull. Environ. Contam. Toxica*, volume 20, pp. 320-327, 1978.

Dome 84

Dome Petroleum, *personal communication* to Emergencies Science Division, Environment Canada, Ottawa, Ontario, 1984.

Dukek 78

Dukek, W.G., "Aviation and Other Gas Turbine Fuels", *Kirk-Othmer Encyclopaedia of Chemical Technology-Volume 3*, John Wiley and Sons, New York, New York, pp.328-351, 1978.

ESD

Environmental Emergencies Technology Division, *experimental data*, Environment Canada, Ottawa, Ontario, 1983-1989; and Emergencies Science Division, *experimental data*, Environment Canada, Ottawa, Ontario, 1990-1996. Presently referred to as the Emergencies Science and Technology Section (ESTS) of Environment and Climate Change Canada (ECCC).

Esso 84

Esso Petroleum Canada, Product Health and Safety Data Sheets on Voltesso 35, 1984.

Esso 90a

Esso Petroleum Canada, Material Safety Data Sheet, CCINFO Disc, Chemical Information Series, 1990.

Esso 90b

Esso Petroleum Canada, Product Information - Lubricants and Specialties (7th edition), 1990.

Gulf 83a

Gulf Canada Resources Inc., East Tarsiut Crude Oil Analysis, File No. 187-80-29, 1983.

Harris 94

Harris, G., *The Comparative Toxicity of Crude and Refined Oils to Daphnia Magna*, Environment Canada Manuscript Report Number EE-152, Ottawa, Ontario, 29 pp., 1992.

Hedtke 80

Hedtke, S.F. and F.A. Puglisi, "Effects of Waste Oil on the Survival and Reproduction of the American Flagfish, Jordanella Floridae", *Canadian Journal of Fisheries and Aquatic Sciences*, vol. 37, pp. 757-764, 1980.

Hedtke 82

Hedtke, S.F. and F.A. Puglisi, "Short-term Toxicity of Five Oils to Four Freshwater Species", *Arch. Environm. Contam. Toxicol, vol.* 11, pp. 425-430, 1982.

Hutcheson 83

Hutcheson, M.S., P.O. Keizer, and R. Odense, *Chemistry and Toxicity of the Venture Field Condensates*, Mobil Oil Canada Ltd., 1983.

Lockhart 87

Lockhart, W.L., R.W. Danell, and D.A.J. Murray, "Acute Toxicity Bioassays with Petroleum Products: Influence of Exposure Conditions", *Odin Freshwater: Chemistry, Biology and Countermeasures: Proceedings of the Symposium on Oil Pollution in Freshwater*, Pergamon Press, New York, New York, 1987.

Lynch 81

Lynch, B.W.J., *The Fate of Controlled Oil Spills at Sea, Report No. LR 390(01")*, Warren Spring Laboratory, Stevenage, England, 1981.

Mackay 80

Mackay, D., K. Hossain, and W.Y Shiu, *Analysis of Beaufort Sea and Prudhoe Bay Crude Oils*, Department of Chemical Engineering and Applied Chemistry, University of Toronto, Toronto, Ontario, 1980.

Mackay 82a

Mackay, D. and W. Zagorski, *Studies of Water-in-Oil Emulsions*, Environment Canada Manuscript Report Number EE-34, Ottawa, Ontario, 100 pp., 1982.

Mackay 82b

Mackay, D., W.Y. Shiu, K. Hossain, W. Stiver, D. McCurdy, S. Paterson, and P.A. Tebeau, *Development and Calibration of an Oil Spill Behaviour Model*, Report No. CG-D-27-83, United States Coast Guard, Department of Transportation, Washington, D.C., 85 pp., 1982.

MacLean 89

MacLean, M.M. and K.G. Doe, *The Comparative Toxicity of Crude and Refined Oils to Daphnia Magna and Artemia*, Environment Canada Manuscript Report Number EE-111, Ottawa, Ontario, 72 pp., 1989.

Maijanen 84

Maijanen, A., A. Ng, W.Y. Shiu, and D. Mackay, *The Preparation and Composition of Aqueous Solutions of Crude Oils and Petroleum Products*, Petroleum Association for the Conservation of the Canadian Environment, 1984.

McAuliffe 77

McAuliffe, C.D., "Evaporation and Solution of C2 to C10 Hydrocarbons from Crude Oils on the Sea Surface", *Proceedings of the Symposium on Fate and Effects of Petroleum Hydrocarbons in Marine Ecosystems and Organisms*, Pergamon Press, New York, New York, pp. 363-372, 1977.

Moles 79

Moles, A., S.D. Rice, and S. Korn, "Sensitivity of Alaskan Freshwater and Anadromous Fishes to Prudhoe Bay Crude Oil and Benzene", *Trans. Am. Fish. Soc.*, volume 108, pp. 408-414, 1979.

Murray 84

Murray, D.A.J., W.L. Lockhart, and G.R.B. Webster, "Analysis of the Water-soluble Fractions of Crude Oils and Petroleum Products by Gas Chromatography", *Oil and Petrochemical. Pollution*, vol. 2, 1984.

Neff 76

Neff, J.M, J.W. Anderson, B.A. Cox, R.B. Laughlin, S.S Rossi, "Effects of Petroleum on Survival, Respiration and Growth of Marine Animals", *Proceedings of the Symposium on Sources, Effects and Sinks of Hydrocarbons in the Aquatic Environment*, The American Institute of Biological Sciences, pp. 516-532, 1976.

OGJ 83a

Aalund, L.R., "Guide to Export Crudes for the '80s - 1: Assay series begins with Mideast crudes", *Oil& Gas Journal*, April 11, pp. 71-77, 1983.

OGJ 83b

Aalund, L.R., "Guide to Export Crudes for the '80s - 2: Assays cover additional 19 Middle East crudes", *Oil& Gas Journal*, May 2, pp. 204-215, 1983.

OGJ 83c

Aalund, L.R., "Guide to Export Crudes for the '80s - 3: North Sea now offers 14 export crudes", *Oil & Gas Journal*, May 23, pp. 69-76, 1983.

OGJ 83d

Aalund, L.R., "Guide to Export Crudes for the '80s - 4: North Sea crudes: Flotta to Thistle", *Oil& Gas Journal*, June 6, pp. 75-79, 1983.

OGJ 83e

Aalund, L.R., "Guide to Export Crudes for the '80s - 5: West African crude production diversifies", *Oil& Gas Journal*, June 20, pp. 92-95, 1983.

OGJ 83f

Aalund, L.R., "Guide to Export Crudes for the '80s - 6: Ten additional West African assays", *Oil& Gas Journal*, July 4, pp. 96-99, 1983.

OGJ 83g

Aalund, L.R., "Guide to Export Crudes for the '80s - 7: North African crudes important to assay series", *Oil& Gas Journal*, July 25, pp. 146-150, 1983.

OGJ 83h

Aalund, L.R., "Guide to Export Crudes for the '80s - 8: Quality crudes hallmark of Asian production", *Oil& Gas Journal*, August 22, pp. 124-133, 1983.

OGJ 83i

Aalund, L.R., "Guide to Export Crudes for the '80s - 9: Minas crude, plus Soviet and Chinese streams", *Oil& Gas Journal*, September 5, pp. 144-149, 1983.

OGJ 83j

Aalund, L.R., "Guide to Export Crudes for the '80s - 10: Latin America offers diverse crudes for use in refineries", *Oil& Gas Journal*, October 24, pp. 88-90, 1983.

OGJ 83k

Aalund, L.R., "Guide to Export Crudes for the '80s - 11: Eight additional Latin American crudes assayed", *Oil& Gas Journal*, November 7, pp. 105-109, 1983.

OGJ 831

Aalund, L.R., "Guide to Export Crudes for the '80s: New assay, Bombay High", *Oil& Gas Journal*, November 21, p. 78, 1983.

OGJ 83m

Aalund, L.R., "Guide to Export Crudes for the '80s - 12: Important North American crudes", *Oil & Gas Journal*, December 12, pp. 120-125, 1983.

OGJ 83n

Aalund, L.R., "Guide to Export Crudes for the '80s - 13: Assay Series Concludes with Index, U.S. Streams", *Oil & Gas Journal*, December 19, pp. 71-74, 1983.

OGJ 85

Corbett, R.A., "Guide to Export Crudes for the '80s: Two high-quality onshore crude oils, Sharjah Condensate and Margham Light, are assayed", *Oil& Gas Journal*, July 8, pp. 54-55, 1985.

OGJ 86

Corbett, R.A., "Guide to Export Crudes for the '80s: Columbia's Cano Limon crude ready for export", *Oil& Gas Journal*, May 12, p. 59, 1986.

OGJ 89

Corbett, R.A., "Guide to Export Crudes: Oseberg premium crude in production", *Oil& Gas Journal*, July 24, pp. 56-57, 1989.

OGJ 90a

Corbett, R.A., "Important Norwegian crude assays updated", Oil & Gas Journal, March 12, pp. 37-40, 1990.

OGJ 90b

Du, P.Q., "Detailed assays conducted on Vietnamese crude oils", Oil & Gas Journal, July 16, pp. 58-60, 1990.

OGJ 91a

Manriquez, L., A. Moreno, and C.G. Anaya, "Export Crudes for the '90s: Assays for important Mexican crudes updated", *Oil & Gas Journal*, March 4, pp. 45-48, 1991.

OGJ 91b

"Export Crudes for the '90s: Alba is first heavy North Sea crude", Oil & Gas Journal, May 27, p. 94, 1991.

OGJ 91d

Rhodes, A.K., "Export Crudes for the '90s: Emerald crude oil assayed", *Oil& Gas Journal*, September 16, pp. 84-85, 1991.

OGJ 91e

Rhodes, A.K., "Export Crudes for the '90s: Kittiwake crude assayed", *Oil& Gas Journal*, October 28, p. 55, 1991.

OGJ 91f

Rhodes, A.K., "Export Crudes for the '90s: Two important Saudi crude assays updated", *Oil& Gas Journal*, December 2, p. 64, 1991.

OGJ 92a

Rhodes, A.K., "Export Crudes for the '90s: East Zeit Mix and Dulang crudes assayed", *Oil & Gas Journal*, March 2, p. 46, 1992.

OGJ 92b

Rhodes, A.K., "Four California OCS crudes assayed", Oil& Gas Journal, March 30, pp. 67-68, 1992.

OGJ 92c

Rhodes, A.K., "Export Crudes for the '90s: Malaysian, Canadian, Saudi crudes assayed", *Oil& Gas Journal*, April 27, p. 44, 1992.

OGJ 93a

Rhodes, A.K., "Export Crudes for the '90s: Papua New Guinea's first commercial crude assayed", *Oil& Gas Journal*, February 15, pp. 73-74, 1993.

OGJ 93b

EI-Emarn, N.A., A.W.A. Bayoumi, I.M. EI-Gamal, and A. Abu-Zied, "Choosing how to boost waxy crude line flow depends on oil's qualities", *Oil& Gas Journal*, April 26, pp. 70-72, 1993.

OGJ 93c

Rhodes, A.K., "Guide to World Crudes: Two light, sweet CIS crudes assayed", *Oil& Gas Journal*, September 6, pp. 82-84, 1993.

OGJ 93d

Rhodes, A.K., "Northwest Australia's Saladin crude assayed", Oil& Gas Journal, October 18, pp. 50-51, 1993.

OGJ 94a

Rhodes, A.K., "Guide to Export Crudes: Two offshore Australian crudes assayed", *Oil& Gas Journal*, May 9, pp.76-79, 1994.

OGJ 94b

Rhodes, A.K., "Guide to World Crudes: Yemen's light, sweet Alif crude assayed", *Oil& Gas Journal*, May 23, pp. 78-80, 1994.

OGJ 94c

Rhodes, A.K., "Benchmark West Texas Intermediate crude assayed", Oil & Gas Journal, August 15, p. 88, 1994.

OGJ 94d

Rhodes, A.K., "Danish North Sea crude assayed", Oil & Gas Journal, September 12, pp. 91-92, 1994.

OGJ 94e

Rhodes, A.K., "Guide to World Crudes: Two light, sweet Indonesian crudes assayed", *Oil& Gas Journal*, October 31, pp. 46-48, 1994.

OGJ 94f

Rhodes, A.K., "Australia's Cooper Basin and Griffin crudes assayed", Oil & Gas Journal, December 12, pp. 51-53, 1994.

OGJ 95a

Rhodes, A.K., "U.K. North Sea's Forties Blend crude assayed", Oil& Gas Journal, January 23, pp. 48-50, 1995.

OGJ 95b

Rhodes, A.K., "Brent blend, U.K. North Sea marker crude, assayed", Oil & Gas Journal, February 6, pp. 63-64, 1995.

OGJ 95c

Aalund, L.R, "Guide to Export Crudes: Four Argentine crudes in world market", *Oil& Gas Journal*, April 17, pp.58-62, 1995.

OGJ 95d

Rhodes, A.K., "Guide to World Crudes: Columbia's new light, sweet Cusiana crude assayed", *Oil& Gas Journal*, December 11, pp. 71-73, 1995.

OGJ 96

Rhodes, A.K., "Guide to World Crudes: Preliminary assay reveals quality of Mars blend", *Oil& Gas Journal*, June 10, pp. 67-68, 1996.

OGJ 99

Oil & Gas Journal Databook, Tulsa, OK, PennWell, 1999.

PetroCan 90

Petro-Canada, Material Safety Data Sheet, CCINFO Disc, Chemical Information Series, 1990.

PetroCan 97

Lubricants Handbook, Mississauga, ON, Petro-Canada, 1997.

PetroCan 98

Material Safety Data Sheet, Petro-Canada, Calgary, AB, 1998.

Rice 79

Rice, S.D., A. Moles, T.L. Taylor, and J.F. Karinen, "Sensitivity of 39 Alaskan Marine Species to Cook Inlet Crude Oil and No. 2 Fuel Oil", Proceedings of the 1979 Oil Spill Conference, American Petroleum Institute, Washington, D.C., pp. 549-554, 1979.

Ross 82

Ross, S.L., *The Behaviour and Fate of Gas and Condensate Spills*, S.L. Ross Environmental Research Ltd., Ottawa, Ontario, 1982.

Ross 93

Ross, S. and S. Maharaj, "Potentially Beneficial Spill-Related Effects of Chemicals Routinely Added to Crude Oils", *Proceedings of the 16th Arctic and Marine Oil Spill Program Technical Seminar*, Environment Canada, Ottawa, Ontario, pp. 123-137, 1993.

Ross 99a

Reexamination of the properties, behaviour and dispersibility of Hibernia oil spills, SL Ross Environmental Research Ltd., Ottawa, ON, 1999.

Ross 99b

Properties, behaviour and dispersibility of Hebron D-94 oil spills, SL Ross Environmental Research Ltd., Ottawa, ON, 1999.

Rossi 76

Rossi, S.S., J.W. Anderson, and G.S. Ward, "Toxicity of Water-Soluble Fractions of Four Oils for the Polychaetous Annelids, Neanthes Arenaceondentata and Capitella Capitata", *Environmental Pollution*, volume 10, pp. 9-18, 1976.

Shell 93

Shell Canada Limited, Shell Canada Lubricants Handbook 1993-94 Edition, 1993.

Shell 99a

Material Safety Data Sheet, Shell Canada Ltd., Calgary, AB, 1999.

Shell 99h

Shell Lubricants Handbook, Shell Canada Ltd., Calgary, AB, 1999.

Smith 81

Smith, J.H. and J.C. Harper, "Behavior of Hydrocarbon Fuels in Aquatic Systems", Proceedings of the 12th Conference on Environmental Toxicology, AFAMRL-TR-81-149, Air Force Aerospace Medical Research Laboratory, pp. 336-343, 1981.

Statoil 97

Crude oil assay, Ref. No. 204-022, Statoil, Stavanger, Norway, 1997.

Suntio 86

Suntio, I., W.Y. Shiu, and D. Mackay, *Analyses of Water Soluble Fractions of Crude Oils and Refined Products:* A Study of Solubility of Selected Oils in Water, Environment Canada, Ottawa, Ontario, 1986.

Twardus 80

Twardus, E.M., A Study to Evaluate the Combustibility and Other Physical and Chemical Properties of Aged Oils and Emulsions, Environment Canada Manuscript Report Number EE-5, Environment Canada, Ottawa, Ontario, 1980.

Walton 93

Walton, W.D., D.D. Evans, K.B. McGrattan, H.R. Baum, W.H. Twilley, D.Madrzykowski, A.D. Putorti, R.G. Rehm, H. Koseki, and E.J. Tennyson, "In Situ Burning of Oil Spills: Mesoscale Experiments and Analysis", *Proceedings of the 16th Arctic and Marine Oil Spill Program Technical Seminar*, Environment Canada, Ottawa, Ontario, pp. 679-734, 1993.