REFERENCES

http://www.osha.gov/OshDoc/data_General_Facts/ethylene-oxide-factsheet.pdf.

http://www.dow.com/ethyleneoxide/news/20050405b.htm.

http://www.en.wikipedia.org/wiki/Plasma.

http://www.prlog.org.

Bhasin, M.M. (1988). Catalyst composition for oxidation of ethylene to ethylene oxide. US Patent 4,908,343.

Bröer, S.and Hammer, T. (2000). Selective catalytic reduction of nitrogen oxides by combining a non-thermal plasma and a V_2O_5-WO_3/TiO_2 catalyst. Applied Catalysis B: Environmental, 28(2), 101-111.

Campbell, C.T., and Paffett, M.T. (1984). The role of chlorine promoters in catalytic ethylene epoxidation over the Ag(110) surface. Applied Surface Science, 19(1), 28-42.

Campbell, C.T., and Koel, B.E. (1985). Chlorine promotion of selective ethylene oxidation over Ag(110): Kinetics and mechanism. Journal of Catalysis, 92(2), 272-283.

Campbell, C.T. (1986). Chlorine promoters in selective ethylene epoxidation over Ag(111): A comparison with Ag(110), Journal of Catalysis, 99(1), 28-38.

Chang, J.-S., Lawless, P.A., and Yamamoto, T. (1991). Corona discharge processes. IEEE Transactions on Plasma Science, 19(6), 1152-1166.

Cullity, B.D. (1956). Elements of X-Ray Diffraction. Reading, Mass.: Addison-Wesley Pub. Co.

Eliasson, B., Hirth, M., and Kogeischatz, U. (1987). Ozone synthesis from oxygen in dielectric barrier discharge. Journal of Applied Physics, 20, 1421-1437.

Eliasson, B., and Kogelschatz, U. (1991). Nonequilibrium volume plasma chemical processing. IEEE Transactions on Plasma Science, 19(6), 1063-1077.

Epling, W.S., Hoflund, G.B., and Minahan, D.M. (1970). Study of Cs-promoted, α-alumina-supported silver, ethylene-epoxidation catalysts. Journal of Catalysis, 171(2), 490-497.

Geenen, P.V., Boss, H.J., and Pott, G.T. (1982). A study the vapor-phase epoxidation of propylene and ethylene on silver and silver-gold alloy catalysts. Journal of Catalysis, 77, 499-510.

Goncharova, S.N., Paukshtis, E.A., and Bal'zhinimaev, B.S. (1995). Size effects in ethylene oxidation on silver catalysts: influence of support and Cs promoter. Applied Catalysis A: General, 126, 67-84.

Harndumrongsak, B., Lobban, L.L., Rangsunvigit, P., and Kitiyanan, B. (2002). Oxidation of Ethylene in Plasma Environment. Proceeding of the 9th APCChE Congress in Christchurch, New Zealand 29 September – 3 October 2002.

Harndumrongsak, B. (2002). Oxidation of Ethylene in a Plasma Environment. M.S. Thesis, Chulalongkorn University, Bangkok.

Heintze, M., and Pietruszka, B. (2004). Plasma catalytic conversion of methane into syngas: the combined effect of discharge activation and catalysis. Catalysis Today, 87, 21-25.

Hermstein, W. (1960). Archiv Fur Electrotech., 45, 209-279.

Holgado, M.J., Inigo, A.C., and Rives, V. (1998). Effect of preparation conditions on the properties of highly reduced Rh/TiO_2 (anatase and rutile) catalysts. Applied Catalysis A: General, 175(1-2), 33-41.

Horvath, M. (1980), The Netherlands, Ozone, Elsevier Science.

Iwakura, G. (1985). A novel silver catalyst prepared by using superheated-steam as a heating medium for ethylene oxide production. Japan Patent 63-126552.

Jankowiak, J.T., Barteau, M.A. (2005). Ethylene epoxidation over silver and copper-silver bimetallic catalysts: I. Kinetics and selectivity. Journal of Catalysis, 236(1), 366-378.

Jankowiak, J.T., and Barteau, M.A. (2005). Ethylene epoxidation over silver and copper-silver bimetallic catalysts: II. Cs and Cl promotion. Journal of Catalysis, 236(1), 379-386.

Jeong, J.Y., Park, J., Henins, I., Babayan, S.E., V.J., Tu, Selwyn, G.S., Ding, G., and Hicks, R.F. (2000). Reaction chemistry in the afterglow of an oxygen-helium, atmospheric-pressure plasma. Journal of Physical Chemistry A, 104(34), 8072-8032.

Jun, Y., Jingfa, D., Xiaohong, Y., and Shi, Z. (1992). Rhenium as a promoter ethylene epoxidation. Applied Catalysis A: General, 158, 363-377.

Kilty, P.A., Rol, N.C., and Sachtler, W.M.H. (1973). The activity and selectivity for oxygen atoms adsorbed on a $Ag/\alpha\text{-}Al_2O_3$ catalyst in ethene epoxidation. Catalysis Letters, 99(1-2), 45-53.

Kondaries, D.I., and Verykios, X.E. (1996). Interaction of oxygen with supported Ag-Au alloy catalysts. Journal of Catalysis, 158, 363-377.

Law, G.H., and Chitwood, H.C. (1942). Catalyst Composition for Oxidation of Ethylene to Ethylene Oxide. US Patent 2,279,470.

Liu, Ch., Marafee, A., Mallinson, R.G., and Lobban, L. (1997). Methane conversion to higher hydrocarbons in a corona discharge over metal oxide catalysts with OH groups. Applied Catalysis A: General, 164(1-2), 21-33.

Kraus, M., Ph.D. Thesis, Swiss Federal Institute of Technology, Zurich, 2001.

Kruapong, A. (2000). Partial Oxidation of Methane to Synthesis Gas in Low Temperature Plasmas. M.S. Thesis, Chulalongkorn University, Bangkok.

Malik, M.A. and Malik, S.A. (1999). Catalyst enhanced oxidation of VOCs and methane in cold-plasma reactors. Platinum Metal Review, 43(3), 109-113.

Mao, C.F., and Vannice, M.A. (1995). High surface area a-aluminas: III. Oxidation of ethylene, ethylene oxide, and acetaldehyde over silver dispersed on high surface area α-alumina. Applied Catalysis A: General, 122, 61-76.

Matar, S., Mirbach, M. J., and Tayim, H. A. (1989). Catalysis in Petrochemical Processes, Kluwer Academic Publishers, Dordrecht: The Netherlands, P. 85.

McQuarrie, D.A., Rock, P.A. (1987). General Chemistry, New York, Freeman.

Nasser, E. (1971). Fundamentals of Gaseous Ionization and Plasma Electronics, USA: John Wiley & Sons, Inc.

Patiño, P., Ropero, M., and Iacocca D. (1995). Reactions of $O(^3P)$ with aromatic compounds in liquid phase. Plasma Chemistry and Plasma Processing, 16(4), 563- 575.

Patiño, P., Hernández, F.E., Rondón, S. (1995). Reactions of $O(^3P)$ with secondary c-h bonds of saturated hydrocarbons in nonequilibrium. Plasmas Plasma Chemistry and Plasma Processing, 15(2), 159-171.

Patiño, P., Sánchez, N., Suhr, H., Hernández, N. (1999). Reactions of nonequilibrium oxygen plasmas with liquid olefins. Plasma Chemistry and Plasma Processing, 19(2), 241-254.

Roatluechai, S., Chavadej, S, and Schwank, J. (2001). Effect of Au on Ag Catalysts: Selective Oxidation of Ethylene. Proceedings of the 6th World Congress of Chemical Engineering, Melbourne, Australia.

Rojluechai, S., chavadej, S., Schwank, J.W., and Meeyoo, V. (2007). Catalysis Communications. Catalytic activity of ethylene oxidation over Au, Ag and Au-Ag catalysts: support effect, 8(1), 57-64.

Rojluechai, S., chavadej, S., Schwank, J. W., and Meeyoo, V. (2006). Activity of ethylene epoxidation over high surface area alumina support Au-Ag catalysts. Journal Chemical Engineering of Japan, 39(3), 321-326.

Rosacha, L.A., Anderson, G.K., Bechtold, L.A., Coogan, J.J., Heck, H.G., Kang, M., McCulla, W.H., Tennant, R.A., and Wantuck, P.J. (1993). Treatment of hazardous organic wastes using silent discharge Plasmas. Non-Thermal Plasma Technique for Pollution Control, NATO ASI series, 34, part B, 128-139.

Saktrakool, K. (2003). Oxidative Removal of Ethylene in a Multistage Plasma Reactor in the Presence of TiO_2. M.S. Thesis, Chulalongkorn University, Bangkok.

Satterfield, C. N. (1991). Heterogeneous Catalysis in Industrial Practice. New York: McGraw-Hill.

Seyedmonir, S.R., Plischke, J.K., Vannice, M.A., and Young, H.W. (1990) Ethylene oxidation over small silver crystallites. Journal of Catalysis, 123(2), 534-549.

Suga, Y., and Sekiguchi, H. (2005). Epoxidation of carbon double bond using atmospheric non-equilibrium oxygen plasma. Thin Solid Films, 506-507, 427-431.

Suhr, H. (1983). Application of nonequilibrium plasmas in organic chemistry. Plasma Chemistry and Plasma Processing, 3(1), 1-61.

Suhr, H., Schmid, H., Pfeundschuh, H., and Lacocca, D. (1984). Plasma oxidation of liquids. Plasma Chemistry and Plasma Processing, 4(4), 285-295.

Suhr, H. and Pfreundschuh, H. (1988). Reactions of nonequilibrium oxygen plasmas with liquid olefins. Plasma Chemistry and Plasma Processing, 8(1), 67-74.

Sutthiruangwong, S. (1999). Plasma Catalytic Production of Methanol. M.S. Thesis, Chulalongkorn University, Bangkok.

Tansuwan, A. (2007). Epoxidation of Ethylene over Silver Catalysts in Low-Temperature Corona Discharge. M.S. Thesis, Chulalongkorn University, Bangkok.

Tan, S.A., Grant, R.B., and Lambert, R.M. (1986). Chlorine-oxygen interactions and the role of chlorine in ethylene oxidation over Ag(111). Journal of Catalysis, 100(2), 383-391.

Tezuka, M., and Yajima, T. (1996). Oxidation of aromatic hydrocarbons with oxygen in a radiofrequency plasma. Plasma Chemistry and Plasma Processing, 16(3), 329-340.

Tories, N., and Verikios, X.E. (1987). The oxidation of ethylene over silver-based alloy catalysts: 3. Silver-gold alloys. Journal of Catalysis, 108, 161-174.

Viriyasiripongkul, S. (2000). Oxidative Coupling of Methane to Higher Hydrocarbons over Zeolite in AC Electric Discharges. M.S. Thesis, Chulalongkorn University, Bangkok.

Yan, K., Hui, H.; Cui, M., Miao, J., Wu, X., Bao, C., and Li, R. (1998). Corona induced non-thermal plasmas: fundamental study and industrial applications. Journal of Electrostatics, 44(1), 17-39.

Yeung, K.L., Gavriilidis, A., Varma, A., and Bhasin, M.M. (1998). Effects of 1, 2 dichloroethane addition on the optimal silver catalyst distribution in pellets for epoxidation of ethylene. Journal of Catalysis, 174(1), 1-12.

Yong, S.Y., Kennedy, E.M., and Cant, N.W. (1991). Oxide catalysed reactions of ethylene oxide under conditions relevant to ethylene epoxidation over supported silver. Applied Catalysis, 76(1), 31-48.

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