

Toulouse (France) - 1-3 March 2000

Session 1: Physical Properties of Ozone

Key-note paper: Fundamental Properties of Ozone in Relation to Water Sanitation and Environmental Applications by W. Masschelein (Belgium)

- 1.1. Some considerations and comments on ozone solubility - R. Munter, S. Kamenev, E. Siirde (Estonia)
- 1.2. Thermodynamical bases for ozone solubility and diffusivity in water - J.-N. Foussard, H. Debellefontaine (France)

Session 2: Ozone Chemical Reactions and Inactivation: Mechanisms and Kinetics

Key-note paper: Oxidation and disinfection with ozone, an overview by U. von Gunten (Switzerland) and A. Laplanche (France)

- 2.1. Ozonation kinetics of reactive Blue 81 in aqueous solution - R. Maciejewska, S. Ledakowicz, L. Glebicka, J. Perkowski (Poland)
- 2.2. Kinetics and modelling of advanced oxidation of toxic and carcinogenic aromatic compounds - J. Kallas, M. Trapido, R. Munter (Finland)
- 2.3. Role of radical mechanism in ozone and transition metals reaction in water - Escude, C. Legay, Y. Lucchese, S. Baig, M. Dartiguenave (France)
- 2.4. Ozone demand of waters - J.-P. Duguet (France)
- 2.5. Ozone system design proposal for color removal in sanitary landfill leachates - I. Monje Ramirez, M.T. Orta de Velasquez, R. Gutiérrez Castro (Mexico)
- 2.6. Ozone for urban waste water disinfection: a new efficient alternative solution - M.-L. Janex, P. Savoye, X. Pei, J. Rodriguez, V. Lazarova (France)

Session 3: Mass Transfer in Ozone Reactors

Key-note paper: Mass transfer in ozone reactors by A. Bin (Poland) and M. Roustan (France)

- 3.1. Modelling and optimisation of ozone mass transfer in semi-batch reactor - T.I. Poznyak, J. L. Vivero Escoto (Mexico)
- 3.2. Ozone mass transfer and decomposition in a fixed bed reactor - V. Farines, S. Baig, J. Albet, J. Molinier (France)
- 3.3. Evaluating a vertical in-line diffusion system for ozone dissolution - C. R. Schultz (USA)
- 3.4. Modelling of static mixers as chemical reactors using ozone and hydrogen peroxide - C. Langlais, D. Wolbert, A. Laplanche, K. Maillard (France)
- 3.5. Computer simulation of side stream ozone transfer based on extensive pilot plant studies using Venturi injectors and nozzles - P.K. Overbeck, A. L. Mazzei, M. Meyer (USA)
- 3.6. Ozone transfer through static mixers: impact of the operating conditions - C. de Traversay, R. Bonnard, C. Adrien, F. Luck (France)
- 3.7. Use of an innovative gas-liquid reactor for ozonation of waste water - V. Boisdon, P. Campo (France)
- 3.8. Verification of ozone mass transfer model using operating data from full WTP - D. MacKay (Mexico)
- 3.9. Ideal Mach number for ozone mass transfer through venturies - F. Montalvão (Brazil)

Session 4A: Hydrodynamics of Ozone Reactors

Key-note paper: Hydrodynamics of ozone reactors by B. Mariñas (USA), J. Kim (USA) and M. Roustan (France)

- 4A.1. Modelling of bromate formation during ozonation of drinking water in different type of reactors A - W. Uhl, R. Gimbel (Germany)
- 4A.2. Ozone diffusion with simultaneous chemical reaction A - P.-A. Liechti (Switzerland)
- 4A.3. An assessment of ozone contactor and application system design for optimised plant performance A - D. Arnold, R. Lowndes (UK)

Session 4B: Case Studies

- 4B.1. Ozone reactor design for organic mixture elimination in gas phase B - T.I. Poznyak, A.S. Poznyak (Mexico)
- 4B.2. Removal of carbofuran by ozonation followed by direct filtration B - R.L. Dalsasso, M.L. Sens, A. Laplanche, R.H.R. Da Costa (Brazil)
- 4B.3. Textile effluent treatment by coupling of ozone and aerobic fluidised bed B - K.C. Grando-Alvez, R.H.R. Da Costa, R.L. Dalsasso, M.L. Sens, A. Laplanche (Brazil)
- 4B.4. Experience with different intake systems for the ozonation of drinking water B - U.F. Reicherter (Germany)

Session 5: Process Control and Optimisation

Key-note paper: Drinking Water Ozone Process Control and Optimization by K. Rakness (USA)

- 5.1. Developing ozone contactor design criteria: an integrated approach - J.F. Crozes (USA)
- 5.2. An improvement in full-scale ozone practices: operating on a CT basis with the measurement of a performance ratio - C. Galley, G. Dourdin, P. Haignere, D. Gatel, P. Bonne, J. Cavard (France)
- 5.3. Control of ozonation systems: ozone demand under variable conditions - P.-A. Liechti (Switzerland)
- 5.4. Monitoring and control of low ozone residual on a full scale plant - P. Gislette (France)
- 5.5. Predictive process control - M.-V. Le Lann (France)

Session 6: Simulation Tools

Key-note paper: Recent advances in modelling tools development and application for ozone reactors design: the CFD approach by A. Liné and Z. Do-Quang (France)

- 6.1. Assessing the efficiency of the ozone disinfection process with fluorescent-dyed polystyrene microspheres - B. Mariñas, J. Rennecker (USA)
- 6.2. Requirements for advanced CFD applied to gas-liquid reactors - J. Chahed, L. Masbernat (Tunisie)
- 6.3. Relative importance of turbulent diffusion and bulk motion to mixing in a bubble column - S.S. Thakre, J.B. Joshi (India)