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The use of photocatalysis for wastewater treatment is an important area of research, which is not yet fully exploited at an industrial level and has significant potential in the disposal of many industrial effluents, particularly the effluents that are difficult to treat by conventional treatment processes. This reprint tries to know the latest advances in the field of wastewater treatment by photocatalysis. In this sense, it is worth mentioning the treatments based on photolysis, TiO₂/solar light, oxidants/ultraviolet irradiation, oxidants/catalyst/ultraviolet irradiation, etc. In addition, the reprint describes catalyst manufacturing methods and reaction mechanisms.