

Impact of Disinfectant and Sanitizer on Human and Environment during COVID-19 Pandemic

V. M. Lagade¹, S. S. Taware², S. V. Lagade³, P. S. Pawar⁴, B. S. Wali⁵

Department of Zoology, Shri Yashwantrao Patil Science College Solankur, Kolhapur, Maharashtra^{1,5}

Department of Zoology, Rajaram College Kolhapur. Maharashtra^{2,3}

Department of Chemistry, Shri Yashwantrao Patil Science College Solankur, Kolhapur, Maharashtra⁴

Abstract: *In context of pandemic COVID-19, all communities of world are under strong psychologically pressure of outbreak corona virus and its impact on human life. Due to its severity and deleterious effects, controlling and transmission of COVID-19 virus among society is at highest priority all over the world. According to WHO (World Health Organization) to avoid the infection of COVID-19 virus and combat directly with virus use the sanitizer or disinfected on daily basis as preventive strategies against COVID-19 virus. In present attempt, we have highlighted the detrimental effects of disinfectant or sanitizer on human and environment. Information on use of disinfectant and sanitizer to prevent the spreading of virus and its deleterious effects was collected from 10 families by web based (Google form) survey through different questionnaires. Gathered information reveals, that families are continuously applying disinfectant or sanitizer on body surface to inactive or destroy the effects of microorganism. As sanitizer and disinfectant is complex mixture of various concentrations of chemical agents and such chemicals may have adverse impact on human health, environment, water ecosystem and aquatic life as well. Collected information concluded that, about 90% families agreed that sanitizer and other disinfectant have adverse impact on human health, 80% families granted that sanitizer produce adverse effect on water ecosystem and 70% families said that sanitizer and other disinfectant have detrimental impact on environment and aquatic life. Finally, we recommended that, to reduce the side effect of disinfectant and sanitizer, we have to use the safe concentration, eco-friendly and herbal based sanitizer and disinfectant in present pandemic scenario.*

Keywords: Disinfectant, Sanitizer, Adverse impacts, Pandemic COVID-19, etc.

REFERENCES

- [1] Brondeau MT, Falcu M, Jargot S, Miraval S, Protois JC, Reynier M, et al. Eaux et extraits de Javel. Fiche toxicologique N° 157 de l'INRS. Cah Notes Doc-Se'cur Hyg Trav 2000; 178:11 – 5
- [2] Evens Emmanuel, Ge' rard Keckc, Jean-Marie Blanchardb, Paul Vermandeb and Yves Perrodina: Toxicological effects of disinfections using sodium hypochlorite on aquatic organisms and its contribution to AOX formation in hospital wastewater, Environment International 30 (2004) 891–900.
- [3] Jane Lee Jia Jing, Thong Pei Yi 1, Rajendran J. C. B., Jason R. M., Nagendran T. and T. Madheswaran: Hand Sanitizers: A Review on Formulation Aspects, Adverse Effects, and Regulations, Int. J. Environ. Res. Public Health 2020, 17, 3326.
- [4] Manocha, S.; Walley, K.R.; Russell, J.A. Severe acute respiratory distress syndrome (SARS): A critical care perspective. Crit. Care Med. 2003, 31, 2684–2692.
- [5] Metcalf & Eddy. Wastewater Engineering: Treatment, disposal, and reuse. Revised by Tchobanoglous, G., Burton. 3rd ed. New York: F.L. Irwin/ McGraw-Hill; 1991.
- [6] Sattar, S.A. Microbicides and the environmental control of nosocomial viral infections. J. Hosp. Infect. 2004, 56, 64–69.
- [7] EPA, U.S. (United States Environmental Protection Agency). Reportable quantity document for chlorine, draft. Environmental criteria and assessment office. Cincinnati (OH): U.S. EPA; 1994b
- [8] World Health Organization and the United Nations Children's Fund (UNICEF), Water, sanitation, hygiene, and waste management for the COVID-19 virus: interim guidance 2020. Some rights reserved.

- [9] Ying Wang, Lin Wang, Yi Lu and Yazhou Wang: Effects of sodium hypochlorite on structure and function of pond microcosms, 2007;36(2):144-147.