



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
DRINKING WATER AND ENVIRONMENTAL HEALTH DIVISION



PHILLIP D. ROOS
DIRECTOR

November 27, 2024

Alex Little, Interim City Manager
City of Benton Harbor
200 Wall Street
Benton Harbor, Michigan 49022

WSSN: 00600
County: Berrien

Dear Alex Little:

SUBJECT: Violation Notice (VN) – City of Benton Harbor – Sodium Hypochlorite Overfeed

The Department of Environment, Great Lakes, and Energy (EGLE), Drinking Water and Environmental Health Division (DWEHD), records show that the City of Benton Harbor (City) violated the Michigan Safe Drinking Water Act, 1976 PA 399, as amended (Act 399); R 325.12102, *Approval of chemical and other materials*.

The City's water plant uses sodium hypochlorite solution as a primary disinfectant, which is certified for use in drinking water systems by the National Sanitation Foundation (NSF), under standard 60. The City's specific disinfectant product (product name: HYPO 150, 12.5% to 15% sodium hypochlorite, Rowell Chemical Corporation) certification by NSF for drinking water use is accompanied by a maximum use of 84 milligrams per liter (mg/L), as undiluted product. The maximum use level is set by NSF as part of the certification process, and a water system must not utilize these chemicals above the maximum use level.

Drinking water in the City is continuously treated with sodium hypochlorite to disinfect and control microbial growth in distribution. At proper concentrations, disinfectants ensure the water meets state and federal treatment requirements. Due to degradation of the hypochlorite product stored at the plant (i.e., the reduction in concentration of sodium hypochlorite in the solution), in September 2024, the dose of the product was increased to ensure adequate chlorine residual in the drinking water. Although increasing the liquid chemical feed rate was necessary to maintain disinfectant residual requirements, feeding any treatment chemical above the NSF maximum use level is a violation of Act 399. The NSF maximum use limit not only limits the concentration of sodium hypochlorite, but also limits the addition of impurities and byproducts that may be present in hypochlorite solutions and may be a public health concern; increasing the dose of the degraded hypochlorite product could also increase the concentration of these impurities and byproducts.

According to the Monthly Operation Reports, the City was out of compliance for nine nonconsecutive days in September 2024, and 12 nonconsecutive days in October 2024; the City returned to compliance on October 26, 2024. A new shipment of sodium hypochlorite arrived at the water treatment plant during the last week of October 2024.

F&V Operations informed EGLE that an assessment of product storage will be completed, and actions will be taken to prevent degradation in the future. Actions taken shall include at least one of the recommendations found in the AWWA B300 Hypochlorites Standard (e.g., storage room climate control, increase delivery frequency, pH control). If you have any factual information you would like us to consider regarding the violation identified in this letter, please provide it in a written response by December 12, 2024

Administrative Rule R 325.10403, *Tier 2 public notice; form, manner, and frequency of notice*, of Act 399, requires that supplies provide public notice not later than 30 days after learning of a violation, by mail or direct delivery, and by any other means reasonably calculated to reach customers not normally reached by mail. Enclosed is a sample public notice. Please notify your consumers by December 27, 2024 and send to this office a signed and dated copy of the public notice that you post within 10 days of posting the public notice. This violation must be included in your Consumer Confidence Report due by July 1, 2025.

EGLE appreciates that the city's operations team brought this concern to our attention. If you have any questions regarding this letter, please contact me by phone at 231-942-1386, by email at BradyD6@Michigan.gov or by mail at the address below.

Sincerely,

Donal Brady, P.E.
Engineering Specialist, District 93
Engineering Section – Community Water Supply
Drinking Water and Environmental Health
Division

Enclosure

cc: Kyle P. Tyran, F&V Operations and Resource Management, Inc. (via email)
Darold Harlan, F&V Operations and Resource Management, Inc. (via email)
Nick Margaritis, Berrien County Health Department (via email)
Mike Bolf, EGLE (via email)
Erin Russell, EGLE (via email)
Emily Wright, EGLE (via email)