



Best Management Practice (BMP) for Alcohol Beverage Manufacturing

Effective Date: January 1, 2018

1. Purpose

Alcohol beverage manufacturing may produce wastewater that is incompatible with the sewerage system of the Hampton Roads Sanitation District (HRSD). This BMP was developed to protect public health and prevent degradation of the sanitary sewerage system by facilities involved in the manufacturing of alcoholic beverages.

2. General Information

pH is the negative base 10 logarithm of the hydrogen ion concentration in a aqueous solution. A neutral pH, such as that of pure water, is 7.0 standard units (s.u.). A pH below 7.0 s.u. is considered acidic, while a pH above 7.0 s.u. is considered basic. Acidic wastewater can have negative effects on the wastewater collection system and the wastewater treatment process. Acidic wastewater can produce hydrogen sulfide gas, which is the cause of most sewer odors and can create explosive conditions, endangering workers health and the public. Hydrogen sulfide gas is converted to sulfuric acid which degrades sewer pipes causing corrosion, failures, and/or collapsing of the sewer pipes and pump stations. These issues can lead to an uncontrolled release of wastewater and disruption of service.

Manufacturing alcoholic beverages may require the use of acidic and/or caustic cleaners. Wastewater with a pH lower than 5.0 s.u. is prohibited from discharge to the sanitary sewer [Title 40, Part 403.5(b) (2)]. Any wastewater

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with a pH greater than or equal to 12.5 s.u. is considered hazardous waste and must be reported to the wastewater treatment authority, HRSD [Title 40 Part 261.22(a)(1)].

HRSD's Industrial Wastewater Discharge Regulations provide requirements for control of the discharge of industrial wastewater into the sanitary sewer. Section 301 of the Regulations states that "No person shall discharge or cause to be discharged into any portion of the sewerage system, directly or indirectly, any wastes which may violate any law or governmental regulation or have an adverse or harmful effect on the sewerage system, maintenance personnel, wastewater treatment plant personnel, processes, or equipment, treatment plant effluent quality, biosolids quality, air quality, public or private property, or which may otherwise endanger the public, the local environment or create a nuisance, or which may interfere with or adversely impact wastewater treatment and/or biosolids technology, as determined by HRSD."

3. Safety Data Sheets (SDS)

- A. All SDS for chemicals used in any cleaning processes of equipment at the facility shall be submitted to this office within seven (7) calendar days of receipt of this BMP. Additionally, if at any point the composition of chemicals or use of chemicals were to change after the issuance of this BMP the new SDS must be submitted to this office within seven (7) calendar days

- B. The SDS shall be reviewed by this office and correspondence indicating the approval or disapproval for discharge to the sanitary sewage system will be sent to the primary facility contact. All cleaning process chemicals are deemed unapproved and shall not be discharged to the sanitary sewerage system until correspondence is received from HRSD.

4. Waste Disposal

Prior to the discharge of the cleaning wastewater and associated rinse water to the sanitary sewer, the pH shall be measured using an electronic pH measuring device or pH strips. Once the initial pH of the wastewater has been measured it can be disposed of based on the following criteria:

- A. If the pH is greater than or equal to 5.0 s.u and below 12.5 s.u. the wastewater can be discharged into the sanitary sewer. A discharge pH must be recorded in the logbook.
- B. If the pH is below 5.0 s.u. it must be adjusted to a pH equal to or greater than 5.0 s.u. prior to discharging to the sanitary sewer. A discharge pH must be recorded in the logbook. Upon adjustment if the pH is greater than or equal to 12.5 s.u. refer to 4.3a-4.3b
- C. If the pH is greater than or equal to 12.5 s.u. it is considered hazardous waste and must be reported to HRSD. OR. To eliminate the need to report to HRSD, the pH shall be adjusted to greater than or equal to 5.0 s.u. and below 12.5 s.u. prior to discharge. A discharge pH must be recorded in the logbook.
- D. In lieu of pH adjustment or in the event the waste is deemed unsuitable for discharge to the sanitary sewer, an appropriate alternative disposal method shall be used. All copies of receipts/manifests must be maintained on-site and available for review for the most current three (3) year period.

5. pH Measuring Equipment

- A. If a pH measuring device (i.e. meter) is used it must be calibrated prior to use in accordance with manufacturer's specifications and documented in a logbook in compliance with section 6.A of this BMP.

B. If pH measuring strips are used they must be stored in a cool dry area.

6. Record Keeping

A. A calibration logbook for the electronic pH measuring device must be maintained indicating the employee initials, unique meter identification, date, time and results of all buffer solution standards measured to include pH value obtained, temperature (if applicable), buffer solution expiration date, and if the calibration check met acceptance criteria. The log should not be submitted to this office, but shall be maintained onsite for the most current three (3) year period. The log shall be available for review by HRSD personnel at all times.

B. A pH logbook must be maintained indicating the discharge pH, date, time of sample analyzed, and initials of person who took the measurement. The log book should not be submitted to this office, but shall be maintained onsite for the most current three (3) year period. The log shall be available for review by HRSD personnel at all times.

7. Access

In accordance with section 506 of the HRSD Industrial Discharge Wastewater Regulations; "Authorized HRSD personnel shall be provided reasonable access to all facilities which directly or indirectly discharge to HRSD's sewerage system at all times, including those occasioned by emergency conditions, and shall be allowed to perform inspections and take independent samples for compliance purposes at all times. Such inspections shall include all records of wastes and Inflow and Infiltration managed, whether disposed to the HRSD sewerage system or otherwise."

8. Special Conditions

Any waste removed from the alcohol beverage manufacturing process cannot be discharged directly or indirectly to the HRSD sewerage system. This includes spent mash/grain, must, distillate and associated wastewater or residual materials removed from any pretreatment device.

9. Enforcement Actions

Enforcement actions resulting from non-compliance with any portion of this BMP shall be applied in accordance with the HRSD Industrial Wastewater Discharge Regulations and the HRSD Pretreatment & Pollution Prevention Enforcement Response Plan (ERP). A copy of the Regulations and ERP can be found at www.hrsd.com.

Additionally, any person or discharger who violates any provision of this BMP shall also be financially responsible and liable to HRSD, for all costs incurred by HRSD associated with the violation(s) as outlined in Section 608 of the HRSD Industrial Wastewater Discharge Regulations.

10. Optional Bill Deduction

Due to the nature of the alcohol manufacturing business, HRSD understands that a good portion of water utilized at the facility has the potential to not be discharged to the sanitary sewer. Considering most of the facilities under this BMP are billed on influent meter readings, an optional deduction for water contained in the final product may be applicable.

In order to receive this deduction, a copy of the prior year's Department of the Treasury TTB Reports (5130.9, 5120.17, 5110.28) must be submitted annually to our office by January 31st. For example, all reports for the calendar year

2017 must be submitted to HRSD by January 31, 2018. Upon request, a refund may be issued or a credit adjustment will be applied to the account.

Forms may be submitted via email to p3data@hrsd.com or mailed to:

HRSD
Pretreatment & Pollution Prevention Division
PO Box 5902
Virginia Beach, VA 23471-0902

11. References

For more information refer to the following:

HRSD's Industrial Wastewater Discharge Regulations – Available at HRSD.com

HRSD Pretreatment & Pollution Prevention Enforcement Response Plan – Available at HRSD.com

HRSD Rate Schedule – Available at HRSD.com

Code of Federal Regulations Title 40 Part 136

Code of Federal Regulations Title 40 Part 261

Code of Federal Regulations Title 40 Part 403