

# Water Softening Treatment Attachment

## NPDES/SDS Permit Program

Doc Type: Permit Application

The National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Permit Program regulates wastewater discharges to land and surface waters. This attachment applies to municipal and industrial water treatment facilities that utilize water softening treatment (i.e., lime and ion exchange).

Complete the attachment by typing or printing in black ink. Attach additional sheets as necessary. For more information, please contact the Minnesota Pollution Control Agency (MPCA) at: In Metro Area: 651-296-6300 or Outside Metro Area: 800-657-3864.

### Facility Information

1. **Permittee name:** \_\_\_\_\_ **Permit number:** MN
2. Describe the softening process used by your facility:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. What percentage of water is softened? \_\_\_\_\_

### Treated Water Use

4. Water softening treatment wastewater from the facility is discharged to (check all that apply):  
☐ Surface water – Name: \_\_\_\_\_  
☐ Municipal storm sewer (identify where this discharges): \_\_\_\_\_  
☐ Sanitary sewer (*discharges to sanitary sewer do not require an NPDES/SDS Permit*)  
☐ Seepage basin or rapid infiltration basin

### Lime Softening

5. What is the average production of the treatment component in gallons per day? \_\_\_\_\_ gallons/day
6. What is the maximum production capacity of the treatment component in gallons per day? \_\_\_\_\_ gallons/day
7. What type of lime is used (ex. quicklime, hydrated lime, etc.)? \_\_\_\_\_
8. What is quantity of lime is used for softening annually? \_\_\_\_\_
9. Is there a dewatering system for the spent lime? ☐ Yes ☐ No If yes, describe: \_\_\_\_\_
10. What is the average daily design discharge rate for the treatment component in gallons per day? \_\_\_\_\_ gallons/day
11. What is the maximum daily design discharge rate for the treatment component in gallons per day? \_\_\_\_\_ gallons/day
12. How often is there a discharge for each treatment component to the environment?  
(Specify frequency, volume, and duration. *Ex. 500 gal/2 hours, once every two weeks.*)  
\_\_\_\_\_
13. How is the lime waste stored? \_\_\_\_\_
14. What quantity of lime waste is stored on-site? \_\_\_\_\_
15. How long does the lime waste remain on-site? \_\_\_\_\_
16. Are there lime storage lagoons? ☐ Yes ☐ No If yes, are they lined? ☐ Yes ☐ No
17. How is the lime waste managed? \_\_\_\_\_
18. If land applied, please provide MN Department of Agriculture License Number. \_\_\_\_\_
19. If lime waste management is subcontracted, provide information on subcontractors. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
20. Are any other waste streams mixed with the lime softening waste process (ex. filter backwash water)?  
☐ Yes ☐ No If yes, describe: \_\_\_\_\_  
 \_\_\_\_\_

## Ion-Exchange Softening

21. What is the average production of the treatment component in gallons per day? \_\_\_\_\_ gallons/day
  22. What is the maximum production capacity of the treatment component in gallons per day? \_\_\_\_\_ gallons/day
  23. What is the average daily design discharge rate for the treatment component in gallons per day? \_\_\_\_\_ gallons/day
  24. What is the maximum daily design discharge rate for the treatment component in gallons per day? \_\_\_\_\_ gallons/day
  25. How often is there a discharge for each treatment component to the environment?  
(Specify frequency, volume, and duration. *Ex. 500 gal/2 hours, once every two weeks.*)
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26. What is the volume of backwash wastewater discharged in gallons per day? \_\_\_\_\_ gallons/day
  27. What is the volume of regeneration wastewater discharged in gallons per day? \_\_\_\_\_ gallons/day
  28. What is the volume of rinsate wastewater discharged in gallons per day? \_\_\_\_\_ gallons/day
  29. Is the recharge cycle based on water usage or time? \_\_\_\_\_

## Water Quality Testing

Sample results for the following parameters are required as part of the permit application submitted to the Minnesota Pollution Control Agency (MPCA). The sample shall be a composite sample, representative of the **total discharge** to the environment, collected at a time during the 12-month period before the permit application is submitted. Also include any additional test parameters required by your existing NPDES/SDS Permit. For proposed, new, and expanding discharges, these test parameters are required for the raw water.

Analyte	Results	Units
Aluminum		ug/L
Bicarbonates		mg/L
Boron, Total (as B)		ug/L
Calcium, Total (as Ca)		mg/L
Chloride, Total		mg/L
Chromium, Total		mg/L
Chloride, Total Residual <sup>1</sup>		ug/L
Fluoride		mg/L
Hardness, Calcium & Magnesium, calculated (as CaCO <sub>3</sub> )		mg/L
Lead, Total		ug/L
Magnesium, Total (as Mg)		mg/L
Manganese		ug/L
pH, field <sup>1</sup>		SU
Phosphorus, Total		mg/L
Potassium, Total (as K)		mg/L
Salinity, Total		mg/L
Sodium, Total (as Na)		mg/L
Solids, Total Dissolved (TDS)		mg/L
Solids, Total Suspended (TSS)		mg/L
Specific Conductance, field <sup>1</sup>		umh/cm
Sulfate, Total (as SO <sub>4</sub> )		mg/L
Zinc		ug/L
Volume per Discharge Event		gallons

<sup>1</sup> Analyze Immediately.

mg/L = milligrams per liter ug/L = micrograms per liter

**Review the application to ensure all requested items are submitted with this attachment.**

**Please make a copy for your records**

**Refer to the Transmittal Form for mailing instructions.**