

THE EFFLUENCER

VOL.8

Wastewater Systems Effluent Regulations



Temporary Authorization to Deposit Un-Ionized Ammonia

If you are an owner or operator of a wastewater system that is depositing acutely lethal effluent due to un-ionized ammonia, you may apply for a temporary authorization to deposit effluent ([subsection 34](#)).

To be eligible to receive the authorization, you must demonstrate that:

1. The effluent is acutely lethal due to un-ionized ammonia; and
2. The receiving environment is able to assimilate the excess un-ionized ammonia.

A temporary authorization to deposit un-ionized ammonia is **issued for a 3 year period**. If you would like to extend your authorization, you must make a new application 90 days before the expiry of the existing authorization.

How to demonstrate acute lethality due to un-ionized ammonia

For your application, you are required to complete **one of the two following methods** to demonstrate that the effluent is acutely lethal due to un-ionized ammonia ([subsection 34\(1\)\(a\) and \(b\)](#)). All determinations must be made by an accredited lab ([subsection 16](#)).

1. **Un-ionized ammonia sample method:** present sample results that show the concentration of un-ionized ammonia is above 1.25 mg/L, expressed as nitrogen (N). The required sampling frequency is outlined in the chart below.

For Continuous Systems:	For Intermittent Systems:
2 samples of effluent taken 7 days apart	Only 1 sample of effluent

2. **Acute lethality test sample method:** demonstrate that the failed acute lethality is due to un-ionized ammonia by following the steps below.
 - a. Complete the acute lethality test using Reference Methods [EPS 1/RM/13](#) and [EPS 1/RM/50](#). If you fail an acute lethality test without using the RM50 test method, conduct another acute lethality test using the RM50 method before applying for a temporary authorization to deposit un-ionized ammonia. Additionally, if you fail an acute lethality test, you must report it immediately to enforcement as an unauthorized deposit. Please consult our [fact sheet on unauthorized deposits](#) for more information.
 - b. Establish that the acute lethality of the effluent was primarily due to the concentration of un-ionized ammonia using laboratory methods such as a Toxicity Identification Evaluation (TIE).



Determination that the environment is able to assimilate the excess un-ionized ammonia

To demonstrate that the receiving environment is able to assimilate the un-ionized ammonia, a sample of water must be collected **100 metres downstream** from the point of entry in the receiving environment ([subsection 35\(f\)](#)). If this sample has an un-ionized ammonia **concentration of less than or equal to 0.016 mg/L**, expressed as nitrogen (N), it is considered that the environment is able to assimilate the un-ionized ammonia.

Please consider these recommendations when taking this sample:

- Take the sample in the receiving environment on the same day as one of the un-ionized ammonia samples (first method) or as the acute lethality test sample (second method).
- The sample should not be taken in a stagnant or isolated area of the receiving environment to ensure that it is a representative result. For example, the sample should be taken in an area where wastewater effluent would mix with the receiving water body and where the concentration of un-ionized ammonia is expected to be the highest.

HOW TO APPLY

You must submit your application for a temporary authorization to deposit un-ionized ammonia through the [Effluent Regulatory Reporting Information System \(ERRIS\)](#) **within 30 days** of receiving either the test results which demonstrate the presence of acute lethality or a high un-ionized ammonia concentration.

When applying, you must select which method was used to determine that the effluent is acutely lethal due to un-ionized ammonia and provide the corresponding test results. You must also include the test result of the sample taken in the receiving environment.

If you have any additional information to include as part of your application, please contact eu-ww@ec.gc.ca.

FOR ADDITIONAL INFORMATION

Visit the Wastewater website at Canada.ca/wastewater.

If the information you need is unavailable on our website, please contact Environment and Climate Change Canada at eu-ww@ec.gc.ca.

DISCLAIMER

This information does not in any way supersede or modify the *Wastewater Systems Effluent Regulations* or the *Fisheries Act*, or offer any legal interpretation of those Regulations or Act. Where there are any inconsistencies between this information and the Regulations or Act, the Regulations or Act take precedence, respectively. A copy of the Regulations is available at the following website: <https://laws-lois.justice.gc.ca/eng/Regulations/SOR-2012-139/FullText.html>

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