

NOM-001-SEMARNAT-2021, That establishes the permissible limits of pollutants in the discharges of wastewater in receiving bodies owned by the nation

Mexico City, March 14, 2022

On March 11, 2022, the NOM-001-SEMARNAT-2021 (the "NOM-001") was published in the Federal Official Gazette (Diario Oficial de la Federación) ("DOF"). The NOM-001 establishes the permissible levels of pollutants in wastewater discharges into receiving bodies owned by the nation and replaces NOM-001-SEMARNAT-1996 (the "NOM of 1996").

The purpose of NOM-001 is to establish the permissible levels of pollutants in wastewater discharges, in order to protect, conserve and improve the quality of national waters and assets, therefore, is not applicable to discharges of water coming from drains exclusively destined for rainwater or to discharges directly to the municipal drainage and sewerage systems.

I. Reasons for the Update

1. The Quality Infrastructure Law (Ley de Infraestructura de la Calidad), which abrogated the Federal Law on Metrology and Standardization (Ley Federal Sobre Metrología y Normalización), sets forth that the Official Mexican Standards (Normas Oficiales Mexicanas) should be revised every 5 years from the effective date. However, for 25 years, the NOM of 1996 had not been updated, even though the Maximum Permissible Levels and parameters established therein had proven to be insufficient to control contamination in water bodies.
2. Likewise, the NOM of 1996 established a gradual and progressive compliance (2000, 2005 and 2010) according to the population ranges for municipal discharges and according to the pollutant load expressed as Biochemical Oxygen Demand 5 ("BOD5") or Total Suspended Solids for non-municipal discharges, whose compliance deadlines expired for all cases on January 1, 2010.

II. Main Changes

A. General changes

1. Section 2 (Normative References) is updated in relation to the list of Mexican Standards for the sampling and analysis of the parameters that are established as a reference for the application of NOM-001, given that several of those indicated in the NOM of 1996 have been canceled or modified.
2. The way in which the wastewater discharges indicated in tables 2 and 3 of the NOM of 1996 is classified has been modified, eliminating the use of the water to be discharged (agricultural irrigation, urban public, etc.), focusing on the nature of the receiving body (rivers, streams, channels and drains; reservoirs, lakes and lagoons; Mexican marine zones and estuaries; and soils), in order to improve the management and protection of water bodies.
3. The permissible levels of pollutants in wastewater discharges in receiving bodies are modified for their conservation, due to the increase in the volume and concentration of pollutant loads derived from population growth and economic activities. With this modification, in general, the levels will be stricter.

B. Parameters eliminated and added

1. The parameters of BOD5, Floating Matter, Sedimentable Solids and Fecal Coliforms are eliminated from NOM-001.
2. It was determined that it is necessary to use the Chemical Oxygen Demand (COD),¹ toxicity and color parameters, which have a greater capacity to detect contaminants and, therefore, offer better results to typify water contamination with the purpose to control and reduce it.²

¹ COD is the measure of oxygen consumed by the oxidation of organic and inorganic matter in a specific test.

² Based on the results of the National Water Quality Measurement Network (Red Nacional de Medición de Calidad del Agua), it has been identified that, when measuring the water quality of the recipient bodies with the parameters of the NOM of 1996, such as BOD5, the test is not capable of detecting non-biodegradable or toxic organic pollutants present in water bodies, from discharges such as effluents from wastewater treatment plants.

3. The NOM establishes that to measure the organic pollutant load in waters with a concentration greater than 1,000 mg / L of chlorides, the parameter of Total Organic Carbon (TOC)³ should be used in substitution of COD, since salinity interferes in the determination of the COD. This substitution for such cases allows to obtain more reliable results that better characterize the wastewater discharge.
4. The obligation to measure toxicity in wastewater discharges is established, as it is an integrating parameter that indicates the existence of elements, regulated or unregulated substances, or mixtures of them that can cause damage to human health or the environment and that are currently discharged into bodies of water without being characterized or regulated.
5. It is established that the expression color must consider the concept of "true color", that is, the color of the water from which the suspended and pseudo-colloidal solids were removed. The term "apparent color" encompasses not only the color due to dissolved substances but also to suspended matters and is determined in the original sample without filtering or centrifuging it.
6. Regarding temperature, NOM-001 establishes 35 degrees as the maximum temperature for discharge into rivers, lowering the parameter that existed in the NOM of 1996 by five degrees.
7. A comparative table between NOM-001 and NOM of 1996, in relation to the eliminated and added parameters, is included as Annex A.

C. Methodology and sampling

1. The specifications regarding the methodology for calculating the Daily average and Monthly average are relocated to the sampling section, which were found in the definitions section of the NOM of 1996. Likewise, the specification for the calculation of the Daily average of the parameters Escherichia coli and Fecal Enterococcia is included.
2. A NORMATIVE APPENDIX is included, which establishes the conditions that allow the proper use of equipment and material for taking samples and measurements in the field, as well as for preserving the integrity of the

³ TOC is an indicator of organic matter present in water.

sample, and the security of the authorized signatory. This in addition to defining a fixed sampling point for any verification process and providing secure access to the discharge to be sampled, generating certainty that the sample is representative and that it can be repeated at any time with the same effects and processes to determine the concentrations of the parameters established in NOM-001.

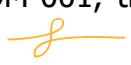
3. A detailed procedure is established for the evaluation of the conformity of NOM-001 when it is required to verify its compliance for official purposes.

D. Entry into effect

1. The entry into effect of NOM-001 will occur in the following way:

Transitory		Date
First	NOM-001 will come into effect 365 calendar days after its publication in the DOF, with the exception of the provisions of the Second, Third, Fourth and Fifth Transitory.	03/11/2023
Second	The parameters and permissible levels set forth in tables 1 and 2, as well as the Normative Appendix.	04/03/2023
Third	The parameters and permissible levels of true color and acute toxicity set forth in Table 1 will enter into force at the beginning on the fourth year from the date of its publication.	03/11/2026
Fourth	The competent authorities within the scope of their attributions may formulate the Guidelines that must be published in the DOF, by which the regulated may present programs for the timely compliance of NOM-001.	--
Fifth	Until the parameters and permissible levels referred to in the Second Transitory come into force, wastewater discharges will continue to be subject to numerals 4.1, 4.2, 4.3, Tables 2 and 3 established in the NOM of 1996.	--
Fifth	NOM-001 cancels the NOM of 1996, as of its entry into force, with the exception of the provisions of the Transitory Fourth.	--

2. As part of the Specifications included in number 4 of NOM-001, it is established that if there are particular discharge conditions issued in accordance with a Declaration Classification of National Bodies of Water published in the DOF or if the CONAGUA have established limits, additional or specific parameters in the discharge permits, in comparison with those provided for in the NOM-001, the permissible parameters and limits that



must be met will be those established by the aforementioned particular conditions.

* * *

This document is a summary for disclosure purposes only. It does not constitute an opinion and may not be used or quoted without our prior written permission. We assume no responsibility for the content, scope or use of this document. For any comments regarding it, please contact any partner of our firm.



Annex A
Comparative table of NOM-001 vs NOM de 1996

Type of parameter	Parameter	NOM from 1996	NOM-001	
			<1,000 mg/L of Chlorides	>1,000 mg/L of Chlorides
Sampling	Composite Sampling	Ok	Ok	Ok
Basic Pollutants	pH (UpH)	Ok	Ok	Ok
	Temperature (°C)	Ok	Ok	Ok
	Floating Matter	Ok	Eliminated	Eliminated
	Fats and Oils	Ok	Ok	Ok
	Settling solids	Ok	Eliminated	Eliminated
	Total suspended solids	Ok	Ok	Ok
	Total Nitrogen (N2-NO2 + N3-NO3 + NTK)	Ok	Ok	Ok
	Biochemical Oxygen Demand (DBO5)	Ok	Eliminated	Eliminated
	Total Phosphorus	Ok	Ok	Ok
	Chemical Oxygen Demand (COD)	Not included	Ok	Not applicable
	Total Organic Cotton	Not included	Not applicable	Ok
Pathogens and Parasites	Fecal cloiforms	Ok	Eliminated	Eliminated
	Fecal enterococci	Not included	Not applicable	Ok
	Escherichia coli	Not included	Ok	Not applicable
	Helminth eggs	Ok	Ok	Ok
Acute Toxicity	Vibro Fisheri Toxicity (UT)	Not included	Ok	Ok
Color	True Color	Not included	Ok	Ok

