Standards and Requirements for industrial wastewater treatment in Mongolia

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Industrial Wastewater Compliance in Mongolia: A Short Guide

Mongolia's framework for regulating industrial wastewater has moved quickly over the past few years — a new discharge standard, an updated pollution-fee law, and a national Industrial Pretreatment Plan (IPP) are now all in force together. This guide summarizes what each one means in practice for a factory discharging into the centralized sewer network, and how to get ready for a compliance assessment.

1. Understanding MNS 6561:2024

MNS 6561:2024 — *"Environment. Water quality. Wastewater discharged into the sewerage network. General requirements"* — is Mongolia's national standard setting the quality that wastewater must meet before it enters a centralized sewer system. It replaces the earlier MNS 6561:2015 edition and, as of 2024, was made freely available by the national standards agency (Стандарт, хэмжил зүйн газар), removing the cost barrier that previously made it harder for smaller enterprises to obtain the official text.

It's worth distinguishing MNS 6561 from its sibling standard, MNS 4943 (*Environment. Water quality. Wastewater. General requirements*), which governs wastewater discharged directly into the environment — a river, lake, or land. MNS 6561:2024 is specifically the standard for dischargers connected to a sewer network feeding a treatment plant, such as Ulaanbaatar's Central Wastewater Treatment Plant (CWWTP).

MNS 6561:2024 doesn't sit alone. A 2025 reference manual for pretreatment-plant installation, produced under a JICA-supported project with Mongolia's Ministry of Construction and Urban Development, lists the fuller family of standards a facility should be working from, including MNS 4219 (enterprise ecological passport), MNS 6279 (terminology), MNS 4288 (siting and technology requirements for treatment facilities), MNS ISO 5667-10 (wastewater sampling guidance), and BNbD 40-01-06 (external sewer network norms). In practice, MNS 6561:2024 sets the numeric bar; these companion documents govern how you sample, document, and design around it.

2. Industrial Wastewater Discharge Requirements

Connecting to the centralized sewer isn't a given right — it requires a discharge permit (historically issued for a one-year term) tied to a water-pollution-fee agreement, and effluent must meet MNS 6561:2024 at the point of connection.

To make the standard workable across very different industries, Mongolia's industrial guidance groups enterprises into a classification system — currently 12 categories plus a catch-all "Category 0" — each with its own characteristic pollutants:

Category	Products	Key pollutants
1	Milk & dairy	Acid/alkali, COD, BOD, oil & grease, suspended solids, total N & P
2	Alcoholic & soft beverages	Same core parameters as above
3	Meat & meat products	Same core parameters as above
4	Flour, bread, confectionery	Same core parameters as above
5	Leather & hides	Chromium, sulfide, plus the core parameters
6	Wool & cashmere washing	Surfactants, plus the core parameters
7	Carpets, textiles	Phenol, plus the core parameters
8	Plastics	Organochlorine compounds, acid/alkali, suspended solids
9	Paper & cardboard	Core parameters
10	Pharmaceuticals	Heavy metals, cyanide, plus the core parameters
11	Chemical products	Heavy metals, cyanide, plus the core parameters
12	Commerce & services	Core parameters

Beyond meeting the numeric limits, a discharger is expected to: mark and keep accessible a dedicated sampling manhole at the property boundary; maintain records of chemical use, sludge quantities, and treatment operations; report spills or accidents immediately to the sewer-network operator; and submit to both routine and "priority" (risk-based) monitoring. Non-compliance triggers an escalating administrative response — verbal guidance for minor issues, a written notice for repeated or serious ones, and ultimately a formal order suspending operations until compliance is demonstrated.

3. Industrial Wastewater Pollution Fees

Separate from the technical standard, dischargers also pay a wastewater pollution fee under the Law on Water Pollution Fees (Ус бохирдуулсны төлбөрийн тухай хууль), first adopted in 2012 and most recently amended in June 2024.

The fee isn't a flat charge — it's calculated from *both* the volume of wastewater discharged and the concentration of pollutants in it, so a facility with the same flow but a heavier pollutant load pays more (a 2021 joint order sets out the detailed calculation methodology). The government sets the actual rate within a statutory range and may vary it by river or water basin, based on that basin's ecological-economic valuation — so the same pollutant load can carry a different fee depending on which basin it affects (the Tuul River basin around Ulaanbaatar, for instance). The law also allows the government to approve a list of enterprises eligible for a reduced rate.

Fee revenue is directed into the Environment and Climate Protection Fund, earmarked for water-reserve protection, decontamination, monitoring, and rehabilitation — with at least 50% of it required to go toward renovating and repairing water treatment facilities.

The practical takeaway: pretreatment isn't only a compliance requirement, it's a lever on a recurring cost. Every unit of COD, BOD, or TSS removed on-site before discharge reduces both enforcement risk and the ongoing pollution fee — a case an equipment CAPEX business case can quantify directly.

4. The Industrial Pretreatment Plan (IPP) in Mongolia

The IPP is the umbrella national program requiring industrial dischargers to pretreat their wastewater before it reaches the sewer. It originated as a condition precedent under the Millennium Challenge Corporation (MCC) Mongolia Water Compact: the Government of Mongolia had to develop and formally approve the IPP, alongside a companion Cost Recovery Plan, before Compact funding — which finances major infrastructure including the new CWWTP in Songino Khairkhan District (— could be released.

Developing and running the IPP has involved a wide set of institutions: the Ministry of Construction and Urban Development, the environment ministry, the ministry overseeing food, agriculture, and light industry, the Water Agency, USUG (the water and sewer utility), the Ulaanbaatar municipal government, the water/sewer regulatory committee, the Tuul River Basin Authority, the tax authority, and the state specialized inspection agency, among others.

Operationally, the IPP works through the classification-and-characteristic-pollutant system described above: each factory is assigned to a category, and that category determines which pollutants it must control and, by extension, what its in-house pretreatment plant (IWPP) needs to remove before connecting to the sewer. A 2025 JICA-supported reference manual built out the practical side of this — covering how the responsible government bodies should be organized, how to guide enterprises on water-quality management and improvement, how to coordinate an accident response, how to run field inspections, and how to apply administrative guidance consistently.

For an individual enterprise, being "in scope" of the IPP means: falling within one of the classification categories, being required to install and operate an IWPP sized to your category's pollutant profile, and being subject to the IPP's monitoring and inspection regime — the same regime a compliance assessment will test you against.

5. How to Prepare for a Wastewater Compliance Assessment

Know your category and your parameters. Confirm which IPP classification category you fall under and which pollutants it flags, so you know exactly which MNS 6561:2024 limits apply — the shared parameters (pH, COD, BOD, TSS, oil & grease, total N/P) plus anything category-specific, like chromium and sulfide for tanneries.

Check your paperwork. Make sure your discharge permit and pollution-fee agreement are current, and that your effluent sampling manhole is clearly marked and accessible at the property line, matching your original connection approval drawings.

Audit your IWPP against its design basis. Compare current operating conditions — pH/ORP set-points versus measured values, floc and sludge appearance in the reaction and settling tanks, chemical dosing levels, sludge dewatering and storage practices — against what the plant was designed to do.

Test before you're tested. Use simple field methods (pH meter or paper, portable colorimetric kits) for a quick self-check, and schedule periodic accredited-lab testing for the full parameter list. Keep dated records of both — this is exactly the kind of self-monitoring evidence that shapes how an inspection response scales up.

Have your documentation ready. Process flow diagrams, a water balance, chemical-use and sludge-quantity logs, IWPP as-built drawings and O&M records, prior inspection notes and any corrective-action reports, third-party waste-disposal contracts, and emergency spill-response contacts should all be organized and current, not assembled on the day of the visit.

Prepare for the physical inspection. Expect inspectors to arrive with limited notice, walk the full process from raw-water intake through the IWPP to the discharge manhole, and check that what they see matches your permit application. Have PPE on hand, sampling points safely accessible, and a staff member who knows the system well enough to walk it with them.

Don't wait for a violation to write your improvement plan. If your effluent doesn't currently meet standard, prepare (or update) a water-quality improvement report now: identify the root cause — a process change, a raw-material change, equipment malfunction, or a chemical shortage — and lay out a corrective-action plan with a timeline. This is the document that determines whether the regulatory response is a verbal note or a suspension order.

Build a monitoring cycle, not a one-off effort. A simple Plan–Do–Check–Act rhythm — plan the year's monitoring and inspection frequency, carry it out, verify the results, and adjust next year's plan based on them — is what regulators are actually looking for. A facility with a documented, functioning monitoring program is treated very differently from one with no track record at all.

Sources: estandard.gov.mn (MNS 6561:2024 listing); Ministry of Construction and Urban Development / JICA-supported reference manual on industrial wastewater pretreatment plant installation, operation and maintenance (2025); legalinfo.mn and FAOLEX (Law on Water Pollution Fees, 2012, as amended through June 2024); MCA-Mongolia (Water Compact and Industrial Pre-Treatment Plan news); Wikipedia (New Central Wastewater Treatment Plant). This article summarizes publicly available regulatory information as of September 2026 and is not a substitute for the official standard text or legal advice — verify current numeric limits and procedures directly against the official MNS 6561:2024 document and applicable law.