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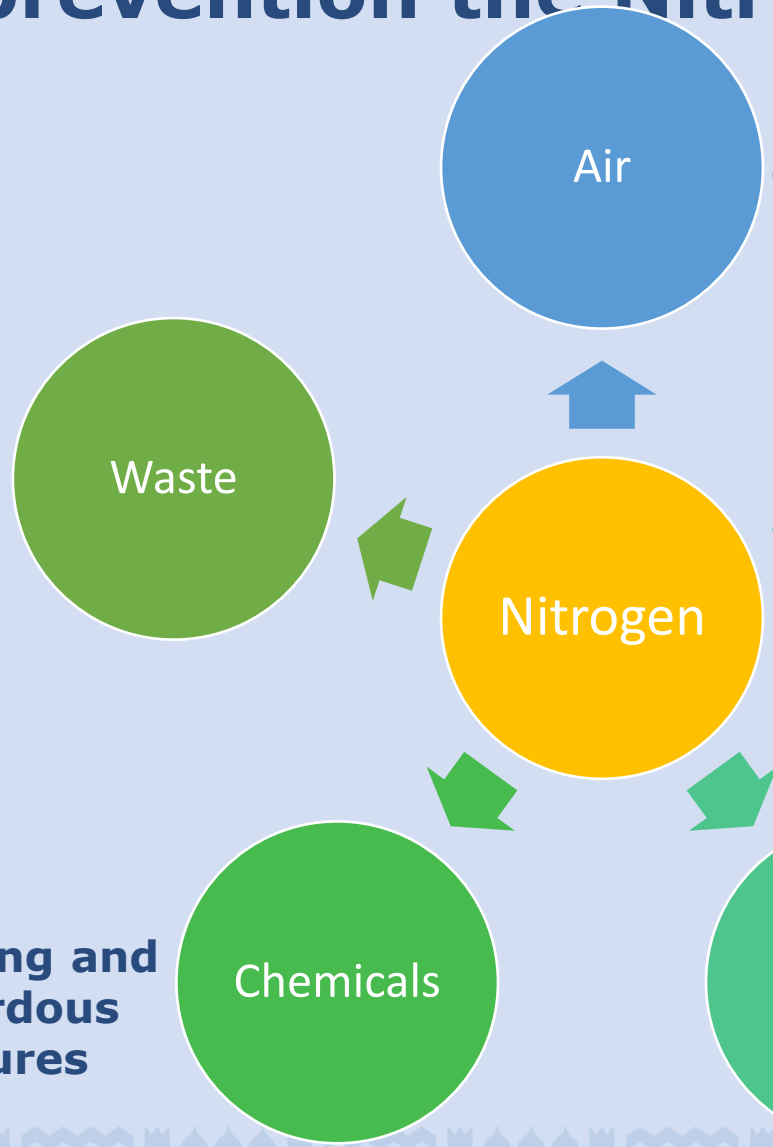
6° meeting of the UNEP Working Group on Nitrogen

International Affairs Office

Ministerio del Medio Ambiente

Gobierno de Chile

Work about prevention the Nitrogen Pollution



incineration, co-incineration and co-processing emissions regulations (PRTR)

regulation on the recycling of organic waste (in process)

liquid industrial waste discharges regulation to sewage, groundwater, marine and continental waters

regulations for classification, labeling and notification of hazardous chemicals and mixtures

regulations for composition, labeling and marketing of fertilizers and biostimulants

Nitrogen in air

- Since 2007 emissions from incineration facilities, co-incineration facilities and co-processing facilities, that use fuels different to traditional, have been regulated in Chile at national level.
- Prevent the negative effects on the health of the population and natural resources, derived from toxic emissions of incineration, co-processing and co-incineration processes.
- Incinerator or incineration facility: any construction where a thermal destruction treatment of substances or materials (different to traditional fuels) is carried out. It includes the incineration of gases generated by pyrolysis or gasification processes.
- Establishes the maximum limits allowed for certain pollutants, which must be analyzed according to the results of the measurements carried out. The maximum permitted emission limits for incineration to nitrogen oxide is 300 mg/Nm^3.

Nitrogen in air

The monitoring plans must contain the following information:

a) The schedule of the measurements to be carried out.
b) The contaminants to be measured.
c) The substances or materials used as fuel during the measurements.
d) The technical specifications of the particular measuring equipment(s) proposed.
e) The analysis methods to be used.
f) The laboratories that will carry out the measurements.

Nitrogen in air

Technical report from the previous calendar year that explains the following processed information:

a) The results of the discrete measurements carried out.
b) Records of continuous measurements of the installation.
c) The technical specifications of the measuring equipment used.
d) The operating conditions in the evaluation period and under which the measurements have been made.
e) The summary of abnormal operating situations and the measures applied.

Nitrogen in water

- In 1998 was established a regulation of pollutants associated with the discharge of liquid industrial waste to sewage systems.
- Improve the environmental quality of the wastewater that discharge into the bodies of water (continental or sea) by controlling liquid pollutants of industrial origin, which are discharged into sewers.
- Protecting wastewater collection systems, prevents the contaminants transported by them from being eventually released without treatment into the urban environment (streets, soil, air, among others), due to breaks or obstructions in the system, situation that could affect its quality and people's health.
- Establishes the maximum limits of contaminants allowed for liquid industrial waste, discharged by industrial establishments to public wastewater collection services.

Nitrogen in water

- Industrial Establishment: an economic activity is carried out where a transformation of the raw material or materials used occurs, giving rise to new products, or in which its fractionation, handling or cleaning operations, does not produce any type of transformation in its essence.

	Pollutant load corresponding to a population of 100 inhabitants/day	Pollutant load corresponding to a population of 200 inhabitants/day
Ammoniacal nitrogen	800 gram per day	1600 gram per day

- The maximum permitted limit of ammoniacal nitrogen is 80 milligrams per liter from the discharges.

Nitrogen in water

- In 2000, was promulgated a standard for the pollutants associated with the discharge of liquid industrial waste to marine and continental surface waters.
- Environmental protection objective is to prevent pollution of surface marine and continental waters, through the control of contaminants associated with liquid waste that is discharged to these water bodies.
- Establishes the maximum concentration of contaminants allowed for liquid waste discharged by emitting sources into surface marine and continental water bodies at the national level.
- Emission Source: the establishment that discharges liquid waste to one or more water bodies, as a result of its process, activity or service.
- If the establishment's discharge exceeds 800 grams per day of Total Kjeldahl, it is considered an Emission Source that must comply with this regulation.

Nitrogen in water

Discharges of liquid industrial waste to different bodies of water separately

	Maximum limits allowed for discharge to river	Maximum limits allowed for discharge to river considering the dilution capacity of the receptor	Maximum limits allowed for discharge to lake	Maximum limits allowed for discharge to marine water
Total Kjeldahl Nitrogen	50 milligrams per liter	75 milligrams per liter		50 milligrams per liter
Total Kjeldahl Nitrogen + Nitrite + Nitrate			10 milligrams per liter	

Nitrogen in water

- In 2002, was promulgated a standard for the emission of liquid waste into groundwater.
- Prevent contamination of groundwater, by controlling the disposal of liquid waste that infiltrates through the subsoil into the aquifer.
- Determines the maximum concentrations of contaminants allowed in the liquid waste that is discharged by the emitting source, through the soil, to the saturated areas of the aquifers, through infrastructure designed to infiltrate it.
- Emission Source: establishment that discharges its liquid waste through infiltration infrastructure (ditches, drains, lagoons, infiltration wells) or other intended to infiltrate said waste through the unsaturated zone of the aquifer, as a result of its process, activity or service.
- If average daily pollutant load contains values greater than 800 grams per day of Total Kjeldahl Nitrogen, it is considered an Emission Source that must comply with this regulation.

Nitrogen in water

- Intrinsic vulnerability of an aquifer: is related to the speed with which a contaminant can migrate to the saturated zone of the aquifer. It will be defined as high, medium and low (to faster speed is greater the vulnerability).

	Maximum concentrations of contaminants allowed in the liquid waste in high vulnerability of aquifer	Maximum concentrations of contaminants allowed in the liquid waste in medium vulnerability of aquifer	Maximum concentrations of contaminants allowed in the liquid waste in low vulnerability of aquifer
Total Kjeldahl Nitrogen	Emission equal or better quality than the natural content of the aquifer	10 milligrams per liter	15 milligrams per liter

Nitrogen in chemicals and fertilizer

- Efforts have been made to update the regulatory framework regarding chemicals and fertilizers.
- In 2019 a standard was promulgated to regulate the classification, labeling and notification of hazardous substances and mixtures.
- The implementation of this regulation includes a list of substances with their respective hazardous categories, which will be considered as a reference and guidance for manufacturers and importers affected by this regulation. In this list, nitrogen is considered a dangerous substance.
- In 2021, a law was promulgated to regulate the composition, labeling and marketing of fertilizers and biostimulants.
- Producers, manufacturers, formulators, marketers, packagers, importers and exporters of fertilizers and biostimulants, and those people who in the exercise of their activity use them for different purposes than agricultural use, register in Single National Registry.

In process of elaboration

- Work is being done on a law project to regulate the organic household waste, from which nitrogen in these matters could be addressed.

- In addition, the implementation of a pilot project focused on the management of phosphorus is being coordinated, another nutrient that could support nitrogen management indirectly.

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