

Principal Players

Several companies dominate the chemical/petrochemical industry in Mexico. The following table identifies these companies, and lists their 1991 sales in million of \$US.

Celanese Mexicana	975.0
CYDSA	808.0
Novum	587.0
Industrias Resistol	460.0
Petrocel	222.0
Fibras Químicas	191.0
Pennwalt	175.0
Tereftalatos Mexicanos	157.0
Poliolés	142.0

The future prospects for the industry are positive. Experts estimate that immediately after the implementation of NAFTA, the industry will suffer due to poor economies of scale and outdated technology. Nevertheless, over the next four years primary petrochemicals are expected to grow 8% annually, intermediate petrochemicals 7% annually, and specialty petrochemicals 5% annually.

Depending upon the product manufactured, several norms apply to the chemical and petrochemical industry. Norm 3 regulates discharges of refiners of petroleum and petrochemicals. Discharges from the manufacture of fertilizers are covered by norm 4. Norm 5 controls the production of synthetic polymers and plastic products, while norm 12 regulates the rubber industry. The specifics of each norm can be found in the table on the following page.

In general, interest levels in wastewater technology are high. Of the all companies that responded to this survey, 43 operate in the chemical/petrochemical sector. Many production facilities are located in zone 1 priority areas for wastewater control. For example, Mexico D.F. and Tlalnepanitla as zone 1 areas. As a result, wastewater enforcement is more stringent than in other industries, and interest in treatment techniques is higher.

Companies active in this sector can be classified in one of three groups: smaller companies that only invest in environmental technology when forced to; medium to large companies that are proactive, and invest in technology for economic benefit; and multinational players, undertaking sustainable development projects as required by corporate head offices.

Wastewater treatment requirements vary accordingly. Smaller companies normally require basic primary treatment technology. Medium sized players often have the knowledge to develop simple primary and secondary solutions, but need assistance in more specialized water problems. Finally, multinational firms have sufficient technology for most wastewater needs, except highly toxic substances.

Maximum Permissible Limits: Daily Average

	Norm 3	Norm 4	Norm 5	Norm 12
PH Levels	All norms specify between 6 and 9			
Oils/Fats	30 mg/l	NA	70 mg/l	NA
Biological Demand for Oxygen (BOD)	60 mg/l	60 mg/l	100 mg/l	50 mg/l
Sulphur	0.2 mg/l	NA	NA	NA
Hexavalent Chrome	0.05 mg/l	NA	NA	NA
Total Chrome	1.0 mg/l	NA	NA	NA
Phenols	0.5 mg/l	NA	0.5 mg/l	NA
Suspended Solids	70 mg/l	60 mg/l	NA	60 mg/l
Fluorides	NA	10 mg/l	10 mg/l	NA
Total Phosphorous	NA	40 mg/l	NA	NA
Total Nitrogen	NA	30 mg/l	NA	NA
Sedimented Solids	NA	NA	15 mg/l	NA
Chemical Demand for Oxygen	100 mg/l	NA	200 mg/l	180 mg/l

NA = Not applicable

Sources:

1. Promociones Industriales Banamex, "*Mexico: The Chemical & Petrochemical Industry*," (Mexico D.F.: Promociones Industriales Banamex, 1991)
2. ANIQ, "*Informe Anual 1992*," (Mexico D.F.: ANIQ, 1992)
3. The Mexican Investment Board, "*The Petrochemical Industry*," (Mexico D.F.: Grupo Financiero Banamex, 1992)
4. Banca Serfin, "*Industry Review: Basic Chemical Industry*," (Mexico D.F.: Grupo Serfin, 1993)..