

# REGULATION FOR WATER POLLUTION CONTROL(\*)

*Official Gazette Published*

*Date: 4.9.1988*

*No: 19919*

## SECTION ONE

### Objective, Scope, Legal Rationale and Definitions

#### Objective, Scope and Legal Rationale

**Article 1-** This Regulation has been prepared in accordance to the Environment Law, No 2872 dated August 9th 1983 and with the provisions supplementing and amending the aforesaid law, and its objective is to outline the legal and technical principles which are necessary to determine the basis of water pollution control in order realize the preservation of the potential of the country's underground and surface water resources for all kinds of utilization, to ensure the best possible way of utilization and prevention of water pollution in conformity with the objectives of economical and social development.

#### Definitions

**Article 2-** The technical terminology and concepts indicated in this regulation mean the followings:

Recipient environment and classification: Lakes, rivers, coasts and sea waters and near and remote environment such as underground waters of which the waste water are discharged into or indirectly mixed with,

Waste: Solid, liquid or gaseous materials and waste energy which when mixed with the recipient environment after any kind of production and consumption activity, cause direct or indirect harm to the recipient environment by changing the natural composition and particularities and has impact on the utilization potential of the environment with physical, chemical and bacteriological specifications,

Waste Water: Polluted water or water of which the particularities have partially or wholly changed due to household, industrial, agricultural and other uses and waters originated from mines and ore preparation facilities and waters originating from rain waters coming from roads, parking areas and similar sites of covered and uncovered structured urban areas transforming into surface or underground streams.

Waste Water Infrastructure: All of the sewer system collecting household and/or industrial waste water, and systems and facilities purifying waste waters and final disposal of purified waste waters,

Waste Water Infrastructure Facility Management: Metropolitan municipalities in metropolitan cities; municipalities in cities; regional directorates in small scale industrial regions; free zone directorates in free industrial and/or commercial zones established by private laws, the Ministry of Tourism or authorized entities in regions where tourism development projects are implemented who are responsible for the construction, maintenance and operation of waste water infrastructure facilities under the supervision, observation and knowledge of the highest government authority of the region,

Waste Water Purification: Several or one of the physical, chemical and biological purification processes applied to water in order to regain partially or wholly the lost physical, chemical and bacteriological particularities due to becoming waste water after various uses and/or in order to become in a position no to change the natural physical, chemical, bacteriological and ecological particularities of the recipient environment,

Waste Water Resources: Housings, commercial buildings, industrial establishments, mines, ore cleansing and enrichment facilities, urban areas, agricultural areas, industrial regions, workshops, hospitals and similar institutions, agencies and operations which create waste water due to their activities and productions.

---

(\*) The wordings of "General Directorate of Environment" and "The State Ministry of which The General Directorate of Environment is attached to" have been amended as "The Ministry of Environment" by the Provisional Article 1 of the Decree Law on The Establishment and Functions of The Ministry of Environment, No 443.

a) In every waste water catchment, waste water resources of which the pollution load defined by waste water flow rate or by any other pollution parameters (kg/day) or by any other appropriate unit exceeds 1% of the total flow rate and pollution load of the sewer system in that catchment or industrial waste water resources of which the daily flow rate exceeds  $m^3$  or contains harmful wastes are named as significant waste water resources,

b) The waste water resources of which the waste water flow rate is below  $50 m^3/day$  and which do not have the features of significant pollutant resource due to the kind and quantity of any pollution parameter are named as small waste water resources.

**Waste Water Collection Catchment:** The total area where the waste water is aggregated within the limits determined by corresponding engineering works prior to being discharged to recipient environment,

**Connection Channel:** The channel belonging to the proprietor and located between plot opening and waste water channel which carry waste water of waste water resources into sewer system,

**Fish Biological Experiment:** The standard experiment to determine the toxic effects of waste waters on fish used as indicator organisms by determining survival rates in various solutions of waste waters after certain duration such as 48, 72, 96 hours; expressing toxication with relation to thinning rates,

**Dam reservoir:** The facilities established for collecting water on a river is a dam, and the volume occurred at the downstream of the dam is the dam reservoir,

**Environment protection areas:** Specific areas allocated for the protection of the ecological balance existing in some specific regions known to have natural richness and for heritage to coming generations without deterioration and which are specified with article 9 of Environment Law No 2872, amended by Law No 3416 dated 3/3/1988,

**Flow Rate:** The volume of water passing at a unit of time in a flow section,

**Discharge:** Draining water, whether purified or not, directly or indirectly to the recipient environment (excluding on purpose leakage of drainage irrigation water from coasts or by using appropriate engineering structures) or systematically dumped into underground,

**Diffuser:** A specific hardware used at deep sea discharge operations for thinning waste water volume discharged to recipient environment by installing to the end of the waste water pipe and providing a multi jet stream for obtaining first thinning value as the intended 40-100 or above and controlling flow features during the discharge of waste water to recipient environment,

**Advance purification technologies proven to be economically viable:** Advance technological methods, devices, operational procedures and purification methods applicable in the country's conditions proven to be successful with the continuous experience, controllable by comparable methods, applications and operational procedures, ensuring practical measures providing discharge limitations to recipient environment and waste water infrastructure facilities,

**Industrial Waste Water:** All kinds of process and cleansing waste waters from industrial establishments, manufacturing sites, workshops, small scale industrial sites and organized industrial areas and boiler and cooling waters that are processed and discharged separately,

**Household Waste Water:** Waste water from housings and small scale operations such as schools, hospitals and hotels and those generated from needs and utilization of people's normal daily life,

**Fecal Waste:** Urine, excrement and waste of human and warm blooded animals causing especially bacteriological pollution of water,

**Catchment:** Entire area where the underground and surface waters feeding a water resource such as a river, lake, dam reservoir or underground water reservoir are aggregated,

Potable and utility water: Waters utilized by mankind in the daily activities for drinking, cleaning, washing and alike and the specifications of which are specified by TS 266 and which are distributed for common use by a collective water system,

Potable and utility water Reservoir: Natural lakes or dam reservoirs established for this purpose providing potable and utility water,

Administration:

a) General Directorate of Environment of the Prime Ministry which is authorized for inspection concerning purification, discharging, processing into harmless situation and importation due to article 12 of the Environment Law No 2872, amended by Law No 3416 dated 3/3/1988,

b) The following are authorized to execute the functions of granting operation and utilization permits to institutions, agencies and establishments and performing corresponding inspection duties: The Ministry of Health and Social Relief under articles 268-175 of the General Hygiene Law, No 1593; The Ministry of Culture and Tourism under Law on Tourism Incentives, No 2634; The Ministry of Industry and Commerce and other institutions and agencies under Law on Organization and Functions of The Ministry of Industry and Commerce, No 3143; Government authorities and metropolitan and urban municipalities under Law No 5442 for Provincial Administration, Law no 3030 for Metropolitan Municipality Administration, Law No 1580 for Municipalities (provisions under other laws are reserved),

c) Waste water infrastructure administration is authorized for granting and controlling connection permits and connection quality control permit certificates in the regions where waste water infrastructure facilities exist,

d) Metropolitan Municipalities in Metropolitan areas and highest government authority of the district in locations outside metropolitan areas are authorized for granting permit for discharging into recipient water environment by taking the considerations of the local environmental boards,

e) Metropolitan Municipalities in Metropolitan areas and highest government authority of the district in locations outside metropolitan areas are authorized for granting permit for deep sea discharging by taking the considerations of the General Directorate of Provincial Bank and agreeable consideration of the General Directorate of Environment,

f) General Directorate of State Hydraulic Works is authorized for utilization and protection of underground waters under Law on Underground Waters, No 167 and Law on Establishment and Functions of The General Directorate of State Hydraulics Works, No 6200,

g) The Ministry of Health and Social Relief, General Directorate of Environment of the Prime Ministry and the highest government authority of the district are responsible from ceasing the activities indicated in articles 15 and 16 of the Environment Law, No 2872,

h) The public institutions and agencies specified by article 24 of Environment Law, No 2872, amended by Law No 3301 are authorized to apply administrative penalties indicated in articles 20,21,22 and 23 of the aforesaid Law amended by Law No 3301,

i) Corresponding Governors and corresponding Regional Directorates of State Hydraulic Works are authorized if an environmental management plan is to be established within the "catchment" covering more than one governmental administration,

Sewer System: Interconnected piping or channeling system to collect, discharge and carry household and/or industrial waste water and rain water separately; and in case of a compound system all waste waters to purification system,

**In-land Water Resource:** All artificial and natural underground and surface waters on land, and waters up to the point of fresh water sources of those having connection with sea,

**Coast Line:** Line intersecting water with land at sea, natural and artificial lake, dam reservoirs and rivers other than flooding,

**Coastal Protection Area:** Segments of sea and lake coastal waters to be protected against pollution risk if to be utilized as beach or similar purposes,

**Composite Sample:** Sample taken from household and industrial waste waters in periodical time frames in proportion with the waste water flow rate,

**Bay and Gulf:** Sea segments where in and out bulk water stream is obstructed by straits or a wider opening and where the coastal line is recessed (concave),

**Belt Channel:** Waste water channel constructed to protect dam, lake and gulf and where waste water arriving from nearby locations aggregate along the coastal line,

**Sampling Point:** Waste water sampling point is the point where waste water is collected and discharged to urban waste water system or recipient environment; recipient environment sampling point is the point where sample are being taken following the discharge of waste water into recipient environment and fully mixed with this environment,

**Occurred Waste Water Volume:** Determined waste water volume by measurement at a specified occurrence period or through calculations from water consumption,

**Organic Waste:** Organic materials consuming oxygen through biochemical fragmentation in the water environment,

**Preliminary Purification Facility:**

a) Up to the acceptable limits of the system where waste water is being collected through sewage system,

b) In order for waste water to be accessible to singular, common waste water purification and disposal facility or to the ones belonging to organized industrial area or public through any other transportation tool, limit values foreseen for those establishments should be met,

c) In case of deep sea discharging and direct waste water draining into recipient environment; all kinds of purification facilities to provide purification up to the foreseen limits required for this purpose,

**Plot Opening:** Accessible openings in order to take samples, perform measurements and observe waste water flow and of which special types are specified by the Provincial Bank,

**Plot Waste Water Drainage Facility:** System providing aggregation of waste water in the plots, pre processing, controlling and connecting to the urban sewer system,

**Industrial Area:** Areas where small and larger scale industrial enterprises are located together and collecting and disposing their waste waters through a common system, covering organized industrial areas operating for specified production fields, craft sites, small scale industrial areas and similar organizations having legal personality performing production functions in the form of cooperatives,

**Thinning:** The reduction of the concentration of a pollutant parameter at the waste water discharged into a recipient environment due to the Physical and hydrodynamic occurrences at the recipient environment or due to various physical, chemical and biochemical reactions and the size that can be calculated with respect to the discharge way of waste water into the recipient environment and depending to the particularities of the recipient environment,

Characteristic Value of the Water Quality: 90% value of the measurements for any kind of parameter from the water samples to determine the quality of the environment,

Water Quality Criteria: The physical, chemical and biological specifications expected from water resources with respect to compliance with determined or will be determined utilization classification based on maintaining all water resources as balanced and healthy environment regardless of their utilization purposes being specified and as a basis for protection and utilization planning of the water resources,

Water Pollution: Discharge of materials and energy wastes that would be observed as negative changes at the chemical, physical, bacteriological, radioactive and ecological specifications of the water resource and that would, directly or indirectly, cause obstructive deterioration at biological resources, human health, fishery, water quality and other uses of water,

Controlling Standards of Water Pollution: The limit values given for quality inspection of water planned to be used for a specified purpose with respect to existing water quality criteria and for preventing more losses in the quality; and among these limit values;

a) the ones given for preventing quality deterioration of water that are considered as recipient environment due to waste water discharge are called as "recipient environment standards",

b) those given for limiting quality of waste water discharged for same purpose is called as "discharge standards",

Water Collecting Catchment: Entire area where underground and surface waters feeding this water resource in lakes and reservoirs; and upstream feeding a section of a river,

T<sub>90</sub> Value: Period of which the initial concentrations of fecal originated indicator microorganisms fall down to 10% under environmental conditions at sea and coastal waters provided that hydrodynamic and dispersiv thinning conditions being kept constant,

Stratification: As heat, salinity and concentration diversification due to them instantly show large values at coasts and open sea fragments and lakes, especially at estuary, bay and gulf, there could be more than one sea mass in various particularities,

Complete Mixing Point: The nearest point towards the discharge point where waste water reach to a uniform concentration through dispersing in the recipient environment,

Fresh Water Boundary: The point where the salinity increases considerably at in-land water resources having connections to the sea and where chloride ion concentrations for determination accepted as 250 mg/l.,

Dangerous and Harmful Materials: Materials causing acute toxication and chronic toxication in the long run by aspiration, digestion or skin absorption, cancer, resisting biological purification, requiring special treatment and disposal procedures under the Communiqué that will be issued under this Regulation in order to prevent pollution of underground and surface waters,

Productivity: The productivity levels of sea and lake waters exist as a result of various particularity of these environment and influence the utilization process. Gross primary productivity is the quantity of inorganic carbon taken into the organism through converting into organic products per unit of time and surface area at waters such as sea and lakes; net primary productivity is the remaining primary productivity after deducting inner aspiration and other energy losses,

Rain Water Channel: Channels carrying rain waters, surface waters and drainage waters at separated system sewer structures,

Underground Waters: Water under the ground in area where ground gaps are full with water,

Toxication: Threatening human health, various indicator organisms' health and ecosystem equilibrium by having a material defined as toxic exceeding a specified concentration in water environment; particularity of causing acute or chronic diseases, teratogenic and genetic deterioration and fatality,

Toxication Thinning Factor (ZSF): A unit used for determination of toxication degree of waste waters.

## **SECTION TWO**

### **Principles**

#### **Principles**

##### **Article 3-**

A- All kinds of pollutant resource should be subject to a permit with respect to water pollution control. The volume of the waste waters to be licensed and containing pollutants should be indicated; the need for technological measures for compliance with the standards should be recorded. For household originated waste waters it is accepted that the volume of waste water is equal to the volume of clean water entering the household. If the household provides water from sources other than urban potable water network such as from a well, then the volume of the waste water should be indicated in the permit.

B- In order for licensing industrial waste water sources, information on the type of the industry, production quantities, used raw materials, number of workers employed, water and energy consumption, production flow charts and waste water sources after production, quantities and particularities of solid and liquid wastes, whether there are any dangerous wastes will be advised by the industrial establishment to the Administration. Permits are renewed periodically. During this renewal procedure the Administration investigates whether there are any variations in the establishment against previously specified particularities, whether there are any variations at the quantity of waste water and pollution loads, whether previously required technological measures are taken, whether there is need for additional measures, whether measurement programs are implemented regularly. If any failure is determined for any one of these, the previously granted permit shall not be renewed. In such cases permit holders should start their permission procedures from the beginning and should take necessary measures in accordance to the principles indicated in articles 26 and 37 of this Regulation.

C- Areas where most heavily water pollution occur should be determined under water quality criteria enabling classification of in-land surface waters, underground waters and sea waters for their utilization purposes and priorities of measures to be taken should be specified.

#### **Environment Protection Areas**

**Article 4-** Though separate recipient environment standard has not been given in standard lists for environment protection areas defined in this Regulation, it is essential that quality parameters for the highest quality waters specified in the water environments quality classification should be followed separately for each group. The General Directorate of Environment has the authority to specify restricting discharge standards in these areas.

#### **Catchment Plans**

**Article 5-** In order for obtaining efficient utilization from water resources, usage areas of these resources need to be known in accordance to a pre-prepared catchment plan. Especially since our country's fresh water resources are limited and due to increasing water requirements these resources should be used in most economical way.

If economically and technically appropriate improving low quality water resource can be possible. It is essential to determine that the present quality of the resources are in compliance with the required quality criteria for utilization areas and the catchment plans be made by concerning Governors and Regional Directorates of State Hydraulic Works.

#### **Polluting Effects of Which the Waters are Protected From**

**Article 6-** Primary factors and problems causing pollution due to household, industrial, agricultural, sea traffic and similar resources in recipient environment are as follow:

- A- Fecal wastes
- B- Organic wastes
- C- Excretion of nutrients exceeding normal values causing excessive production increase
- D- Waste heat
- E- Radioactive waste

F- Increase of turbidity, shallowness and change of coastal line occurred due to discharging of sludge, garbage and earth moving residues

G- Materials other than those indicated above and imposing limit values with "Communiqué on Dangerous and Harmful Materials".

### **SECTION THREE**

#### **Quality Classification of Water Environment**

##### **Classification of In-land Surface Waters**

**Article 7-** The classification of in-land surface waters collected in river, lake and dam reservoirs with respect to their quality are given below:

Class I: High quality water

Class II: Slightly polluted water

Class III: Polluted water

Class IV: Highly polluted water

Water quality parameters for classification and their limit values for classes I,II,III and IV are given in Table 1. For a water parameter to be included in any one of these classes, all parameter values should be in compliance with the parameter values of the corresponding class.

Waters for quality classes indicated above are considered for the following water needs:

A- Class I- High quality water

- a) Providing potable water only with disinfection
- b) Recreational purposes (including waters requiring body contact as swimming)
- c) Trout production
- d) Animal production and farming needs
- e) Other purposes

B- Class II- Slightly polluted water

- a) Providing potable water through advance or appropriate purification
- b) Recreational purposes
- c) Fish production other than trout
- d) As irrigation water, provided that it should meet the irrigation water quality criteria to be given in Communiqué on Technical Procedures
- e) All uses other than Class I

C- Class III- Polluted water

Can be used for providing industrial water following an appropriate purification, excluding industries requiring quality water such as food and textile.

D- Class IV- Highly polluted water

Surface waters with lower quality with respect to quality parameters given for above classes I, II and III.

##### **Determining sampling points classification with respect to parameter groups**

**Article 8-** Separate quality classes are determined for each parameter group shown in Table 1 (A,B,C,D), in accordance to analysis results conducted on samples taken from water source. Furthermore, separate quality class are determined for each parameter in that group, e.g, chemical oxygen requirement (COR), biochemical oxygen requirement (BOR), total organic carbon and alike for group B.

Average, standard deviation and necessary statistical parameters are calculated in order to find characteristic value from measured values of pollution parameters. The parameter value giving standard variable equivalent to variable corresponding to 0.90 probability value in appropriate probability distribution table indicate characteristic value. During calculation of the characteristic value, results reflecting undesired situations accidentally emerged and occurred due to apparent faults are not considered. Sampling point

belong to a class where the determined characteristic value of a comparable parameter measured at a point of any water mass is lower than the top value of whichever water quality class given in Table 1. Comparison: for pH it is conducted by remaining in the spectrum of that class, for dissolved oxygen concentration and saturation rate, it is conducted by assuming that figures given in that class are the bottom limits.

### **Quality Classification of Lake Waters**

**Article 9-** Quality particularities and classification of lakes, ponds and dam reservoirs used for various purposes are conducted in accordance to Table 1 as clarified in articles 7 and 8. However, dissolved oxygen concentrations and oxygen saturation rates given in Table 1 are not taken as basis for classification for lakes and dam reservoirs.

### **Recipient Environment Standards for Lake Waters**

**Article 10-** Table 2 provides nitrogen and phosphor classification for earthification control which is the most significant threat for lakes, ponds and dam reservoirs. In lakes where hydrogen and phosphor input are close or above limit values complying with utilization purpose, a protection program will be developed by General Directorate of Environment based on productivity and coordinated so as to cover corresponding institutions and agencies of the region. If water products are to be produced in such in-land surface waters then Law on Water Products, No 1380 and provisions of corresponding regulations will also apply.

### **Determining Quality Areas in In-land Surface Waters**

**Article 11-** Determination of quality areas of in-land surface waters are accomplished with the following procedures:

A- Side arm connections of the surface water and waste water discharge points are marked. Sampling points are determined accordingly. Geographical and hydrological facts deteriorating continuity at flow conditions are taken into consideration during determination of sampling point.

B- Sampling frequency, minimum duration and analysis to be applied for samples will be further determined in "Communiqué on Methods of Sampling and Analysis".

C- Following the analysis the characteristic values representing sample are determined.

D- Analysis conducted on water samples are classified for "A,B,C,D" parameter groups.

E- The characteristic value of the sample found out for the selected quality parameter in accordance to "A,B,C,D" groups are compared with limit values given in Table 1 "A,B,C,D". Following this comparison the class of the sampling point "I,II,III,IV" are determined.

F- The quality classes determined for various sampling points of a surface water environment are shown in tables or marked on map and plan. From this marking quality classes of a river segment or stagnant water is determined.

G- Utilization opportunities of surface water of every quality class is different. To protect the water source, measures indicated in article 20 of this Regulation are applied in water collecting catchment of Class I waters, regardless of whether drinking water is acquired in whichever way from the same source. No waste or waste water can be discharged of what so ever to the water source where there are a possibility of utilization as drinking and utility water from Class II waters. For purposes other than these it is essential to protect definitely the existing quality at Class II waters and make efforts to improve the quality at Class III waters. For Class IV waters the objective is to improve the existing quality within the framework of long term catchment water quality management plan.

H- As determination of quality classes mentioned so far will take some time, if the Administration considers that the objectives indicated in para (G) are effected for waters subject to discharge of waste or purified or direct waste water, it can take considerations from the General Directorate of State Hydraulic Works or Regional Directorates and apply for determination from a scientific agency and/or experts.

I- The procedures indicated in this article will be accomplished by General Directorate of State Hydraulic Works within the mandate and responsibilities imposed by Law on Organization and Functions of the General Directorate of State Hydraulic Works, No 6200, dated 18.12.1953 and Law on Providing Drinking, Utility and Industrial Water in Ankara, Istanbul and Cities of Which the Populations Exceed 100.000 People, No 1053 dated 3.7.1968.

### **Classification of Underground Waters**

**Article 12-** The classes defined for quality of underground waters are given below:

- Class Yas I: High quality underground waters
- Class Yas II: Medium quality underground waters
- Class Yas III: Low quality underground waters

A- Class Yas I- High quality underground waters

Class Yas I waters are used for drinking and food industry. Underground waters classified in this class are suitable for all other usage purposes. Class Yas I waters, when necessary after an appropriate disinfection treatment, can be used as drinking water. With only providing the necessary oxygen for ventilation, underground waters having quality parameters of Class I surface waters are accepted as Class Yas I waters.

B- Class Yas II- Medium quality underground waters

Class Yas II waters are waters that can be used as drinking water following a purification treatment. These can be used without any purification treatment as agricultural water, animal watering or cooling water in industry. Underground waters having quality parameters of Class II surface waters are accepted as Class Yas II waters. However limits imposed for iron, ammonium, manganese and dissolved oxygen should not necessarily be ensured in waters of this class.

C- Class Yas III- Low quality underground waters

Class Yas III waters are waters having worse particularities than above given parameters. Their usage are determined by purification degree with respect to economical, technological and sanitary circumstances.

### **Determination of Underground Water Classes**

**Article 13-** Determination of sampling points classes are accomplished as follows:

A- Selection of sampling points for underground water classification are done by experts. Until such determination all wells collecting underground waters are sampling points. Sampling frequency, minimum duration and analysis to be applied for samples will be determined in "Communiqué on Methods of Sampling and Analysis".

B- Only three classes (Yas I, Yas II, Yas III) will be taken into consideration for classification of sampling points.

### **Classification of Sea and Coastal Waters**

**Article 14-** Sea and coastal waters are subject to following classification with respect to the expected qualities for utilization purposes:

- Class D I: Production of water products
- Class D II: Recreation
- Class D III: Commercial, industrial and other uses

Sea water utilization areas and particularities with respect to above given classification are as follows:

A- Class D I- Production of sea products

- a) Open sea where intensive commercial fisheries, water products hunting take place
- b) Areas of intensive coastal fisheries and production of shelled water products

c) Fishery areas

For sea and coastal waters quality expected from these areas, Law on Water Products, No 1380 and regulation issued under this law will apply.

B- Class D II- Recreation

The quality of coastal waters used as beach and sea waters used for sports purposes regardless of any need for contact and sea water used for esthetics are determined in this class. Recipient environment standards expected from sea for this purpose are given in Table 3.

C- Class D III- Commercial, industrial and other uses

Sea water quality is under high pollution risk due to sea traffic, port services and corresponding discharges of waste water, bilge water, ballast and accident threat. Furthermore, there is also considerable sea pollution risk during taking cooling water and industrial uses, mineral and oil exploration and extraction from sea bed. Though in general quality criteria indicated in Table 4 are required, utilization from this class will not be hitched if fall below this quality. However, those causing quality reduction in these waters will be observed due to pollution prohibition and be subject to penalties imposed by Environment Law, No 2872.

### **Quality Criteria of Sea Waters**

**Article 15-** In order for preserving all coastal and sea waters in a healthy environment, regardless of being classified or not for utilization for any reason what so ever, compliance with general quality criteria of sea waters is essential. These criteria are given in Table 4. The quality of sea and coastal waters where production of water products are carried out should be in compliance with the corresponding provisions of the Law on Water Products, No 1380 and the regulation issued under this law.

Compliance with the provisions of international agreements arranged for preventing sea pollution and of which Turkey is a part is mandatory. Compliance with recreational coastal waters standards and sea waters general quality criteria are foreseen by this Regulation, and those causing deterioration in sea water quality imposed in Tables 3 and 4 will be punished by authorized institutions and agencies indicated in article 24 of Environment Law, No 2872, amended by Law No 3301.

## **SECTION FOUR**

### **Basis of Planning on Water Quality and Prohibitions**

#### **Pollution prohibition on in-land surface waters where drinking and utility water is acquired**

**Article 16-** The following general principles and protection areas are applicable for drinking and utility water reservoirs and similar water sources until special provisions are applied for each source:

A) Activities causing pollution of waters in and adjacent to drinking and utility water reservoir can not be accomplished.

B) Waste such as garbage and rubbles can not be dumped into such water sources and permission cannot be granted for such dumping.

C) Use of row boats, boats and other vehicles operating with oil are not permitted. Sail boats, boats with row or batteries and rafts can be permitted. On exceptional circumstances permission can be granted for the use of vehicle operating with oil by the General Directorate of State Hydraulic Works or Regional Directorates. Discharge of all kinds of waste water and bilge water occur from those vehicles, even after purification, to drinking and utility water reservoir is prohibited.

D) Lands located in water collecting catchment of drinking and utility water reservoirs and possessed by the state, municipalities and public are subject to restrictions imposed for the protection areas.

E) Swimming, fishing, hunting and picnicking are not permitted in locations closer than 300 m to water source.

F) Fishing through tendering at reservoirs for drinking water is prohibited. However, provided that agreeable considerations are taken from the General Directorate of Environment of the Prime Ministry by General Directorate of State Hydraulic Works, permission for fishing through tendering can be granted for reservoirs creating economic districts.

#### **Absolute Protection Area**

**Article 17-** 300 m wide belt from maximum water level at drinking and utility reservoirs is the absolute protection area. If the boundaries of the said area exceeds the boundaries of water collecting

catchment, the absolute protection area ends at the catchment border. The following protection measures are taken in this area:

A) The area within the protection area will be expropriated by the Administration authorized by the corresponding law. In cases when expropriation requires high costs due to existing dense urban or rural settlements, necessary arrangements will be enforced by the Administration for protecting the drinking water source.

B) There can be no construction in this area other than the essential technical facilities for drinking and utility water project and improving of sewer systems of the already existing structures. The existing structures within this area are now frozen.

C) Pockets for benefiting from the lake, picnicking, swimming, fishing and hunting requirements will be established in accordance to environmental arrangement and management plan. These pockets can not be closer than 300 m to water in-taking structure.

D) The area will be fenced or protection area be established at locations where deemed necessary by the Administration.

### **Short Range Protection Area**

**Article 18-** 700 m wide belt from absolute protection area border of drinking and utility water reservoirs. If the boundaries of the said area exceeds the boundaries of water collecting catchment, the short range protection area ends at the catchment border. Within the boundaries of the short range protection area:

A) Tourism, resettlement and industrial settlements are not permitted.

B) Garbage and rubble accumulation are not permitted.

C) There cannot be any earth moving except the compulsory technical facilities indicated in article 17B and applications under Law for Protection of Cultural and Natural Assets.

D) Establishment of liquid and solid fuel depots and cemetery are not permitted. The already existing structures within this area are now frozen.

E) Temporary country cafés, buffets and similar single flat structures made from portable elements can be allowed under approved environmental arrangement and implementation plans and plan resolutions, to meet the public good and one-day tourism requirements of this area for recreational and picnicking purposes.

F) The closed area of the structures mentioned in above para E can not exceed 100 m<sup>2</sup>.

G) The sanitary facilities of the structures mentioned in above para E will be arranged in accordance to the provisions of "Regulation on Pits to be Made at Locations Where Construction of Sewer Channels are not Possible".

H) Other agricultural activities, excluding animal husbandry are permitted provided that artificial fertilizers and agricultural pesticides are not used. Furthermore, application of methods increasing erosion will be hampered.

I) Only transportation functions of the segments of the roads that will pass through in this area due to reconstruction plan are permitted.

### **Medium Range Protection Area**

**Article 19-** 1 km wide belt from short range protection area border of drinking and utility water reservoirs. If the boundaries of the said area exceeds the boundaries of water collecting catchment, the short range protection area ends at the catchment border. Within the boundaries of the short range protection area:

A) Industrial establishment of any kind and resettlement are not permitted.

B) Plots that will be acquired after separation in this area can not be smaller than 5000 m<sup>2</sup>. Following the separation the plots should acquire minimum 25 m frontage to a road indicated in title deed and cadastre or in title maps or to a already existing road.

C) Establishment of country residence or summer residence suitable for a family or entertainment or tourism facilities and annex structures can be allowed if there will not be hygiene and esthetically inconvenience and provided that occupational area should not exceed 5% of the plot surface, total construction area in 2 flats should not exceed 250 m<sup>2</sup>, height of eaves from ground should not exceed h=6.50 m, and structures be not closer than 5 m towards the road and plot boundaries.

Furthermore, non-housing structures such as dairy farm, coop, stable, pen, water and fodder depots, crop warehouses, fertilizer and silage pits, apiculture sites, fish production facilities and flour mills which are not in a form of an integrated facility can be established provided that the structures be not closer than 10 m towards originating road, 5 m towards the plot boundaries and construction area coefficient should not exceed 55% and structure height  $h=6.50$  m. Concrete foundation and steel greenhouses are not subject to construction area coefficient provided that approaching distances be complied.

Simple cover greenhouses other than concrete foundation and steel roof are not subject to above mentioned distances and construction area coefficient. It is essential to obtain the agreeable consideration of the Country Organization of the Ministry of Agriculture and Rural Affairs on these facilities and the proprietors should undertake through the notary public that the facilities are not be used for any other purposes. The structures mentioned in this article can be constructed on 1/50 or 1/100 type projects prepared by the corresponding Ministries and agencies. Furthermore, all structures should conform with the reconstruction legislation.

D) Waste water could only be used for irrigation after being purified in accordance to irrigation water quality criteria that will be given in "Communiqué on Technical Procedures".

E) Opening and operating any kind of mine are not permitted.

F) Agriculture is possible in this area provided that artificial fertilizer and agricultural pesticides are not used.

G) Establishment of garbage dumping and disposal areas are not permitted.

### **Long Range Protection Area**

**Article 20-** The remaining water collection catchment from the protection areas defined above is the long range protection area. The following protection measures will be taken in this area:

A) Establishment of new industrial facilities producing pollutant liquid, gas and solid wastes are not permitted in this area.

B) Averting the already existing facilities located in the long range protection area is an essence. However if that may not be possible, the Administration shall ask liquid, gas and solid wastes mentioned in above para A to be disposed by advance technological purification and disposal techniques proven to be economically viable.

C) Waste water or wastes can not be discharged for any reason to all waters feeding drinking and utility water reservoirs, running or dry brooks. As of the effectiveness date of this Regulation new settlements other than those indicated in Para C of article 19 and industrial establishments of which the types are indicated in para A of article 20 are not permitted. However discharge of waste waters originated from already existing settlement areas which is not possible to be replaced, can be permitted in a way that these are to be purified so as not to deteriorate the quality criteria of the water in the reservoir in accordance to classes of in-land waters indicated in Table 1 beyond the discharge restrictions given in section 5 of this Regulation. Solid waste cannot be dumped.

D) Necessary measures will be applied against pollution of drinking and utility water reservoir from the air and from the soil due to erosion.

E) Controlled garbage collection and disposal areas can be established in this area after taking the agreeable consideration of the General Directorate of Environment of the Prime Ministry by the corresponding Administration.

### **Pollution Prohibitions on Lakes**

**Article 21-** Non purified household waste waters can not be discharged into reservoirs established for purposes other than providing drinking and utility water, and into lakes and ponds used other than these purposes.

If deemed necessary following an environmental impact assessment the corresponding Administration may request from already existing or new industrial establishments to implement advance technological purification which have been proven to be economically viable.

Furthermore, deep sea discharge can not be applied into lakes under the principles regarding waste water discharge indicated in articles 33,34 and 35 of this Regulation.

The discharge standards to be met for purified household waste waters under complete purification principles are given in article 32 of this Regulation. The nitrogen and phosphor elements causing total coliform and earthification should also be in compliance with the tolerable limits at the recipient lake environment. Especially with respect to earthification control, household waste water to be discharged into lakes could only be discharged after being purified at a third purification facility removing nitrogen and phosphor together, beyond the classical biological purification required to obtain necessary discharge standards in accordance to article 32 of this Regulation. If the costs of such investments would be considerably high, then, provided that economical comparison are being made, waste waters will be discharged outside the water collection catchment of the lake. If, after taking all these measures, the quality of the lake waters as the recipient environment do not reach to the levels required in Table 2, the General Directorate of Environment shall establish the coordination among the General Directorate of State Hydraulic Works, General Directorate of Provincial Bank and corresponding organizations of the Ministry of Agriculture and Rural Affairs for developing a Catchment Water Quality Arrangement Plan. Compliance with the conservative plan prepared with such procedures is an essence.

### **Pollution Prohibitions and Arrangements on Underground Waters**

**Article 22-** Mandate and responsibilities for the utilization and protection of underground waters are given to the General Directorate of State Hydraulic Works. Furthermore, until special planning principles are provided for protection of underground waters the following obligations should be accomplished:

A) For any changes and deterioration occurred in the quality of underground waters of any class, the polluting source will be determined and polluting parties will be penalized.

B) In order to preserve the underground water quality in all sea coasts safe extraction should be monitored to prevent saline water penetration. Illegal wells causing exceeding safe extraction values will be determined and closed by the Administration. Such actions by real and legal persons will be considered as under the pollution prohibition and corresponding provisions of the environment law will be applied.

C) As there is the possibility of long lasting pollutants emerge from wells and drains after long periods of time, activities using materials indicated in "Communiqué on Dangerous and Harmful Materials" and stated as never to be discharged into environment are prohibited.

D) Among the wells, source and infiltration galleries where class Yas I and Class Yas II underground waters are acquired, for the ones used as providing drinking water, no permission can be granted for any structure, discharge and passage of solid and fluid waste in locations closer than 50 meters. For protection measures, barbed wire will be applied on 50 m perimeter of the water source.

E) The size of the protection area can be reduced or enlarged by the Administration, taking local conditions into consideration. When necessary, a second protection belt will be established and allowing this area only as passage and recreation without granting any permits for structuring.

F) If the present situation for establishing preservation belts do not allow the implementation of the measures indicated in above paras A,B,C,D and E then efforts will be made for expropriation of these structures. If that will not be possible, measures will be taken to prevent waste discharge.

G) Materials that can be dissolved by waste waters or rain waters and penetrate into underground water can not be stored on ground within the catchment, feeding underground waters.

H) Waste containing materials under classes STS 3 and STS 4 which will be specified in "Communiqué on Dangerous and Harmful Materials" can only be stored by taking the special measures indicated in the Communiqué.

I) In order to take measures for preventing pollution of underground waters all kinds of chemicals, process and purification sludge and garbage decaying tanks, storage tanks for special waste and similar materials will be so made as to cause no leakage.

J) If irrigation is to be conducted by waste water, the irrigation water volume and irrigation program should be arranged so that the risk of penetration into underground waters thus leading to a lasting pollution is minimized.

K) Especially in regions where underground waters are being used for drinking, the agricultural pesticides used should be fragmentable under natural conditions and should not create long lasting accumulation on living beings. Permission should be taken for their usage from the corresponding units of the Ministry of Agriculture, Forestry and Rural Affairs.

L) In case of fertilizing, the required quantities will be calculated in details by the corresponding units of the Ministry of Agriculture, Forestry and Rural Affairs and inspections be carried out for excessive use.

M) When deemed necessary to use radioactive monitors, monitors that would not pollute water will be used.

N) Considering the probability of an accident during the activities of which dangerous and harmful materials are used, preventive precautions will be taken for underground water pollution. For example, certain materials such as perlite and sawdust will be kept stored for immediate use for absorption of dispersed materials in case of an accident.

O) Excavation for acquiring sand from areas within the underground water feeding catchment and where underground water is being taken is prohibited.

P) Artificial feeding to underground water will be accomplished in accordance to provisions of corresponding legislation on underground waters.

#### **Pollution Prohibition on Sea**

**Article 23-** Any kind of sea and coastal water utilization and discharges that would create pollutant effects indicated in article 6 of this Regulation is prohibited or restricted. The prohibition provisions on unpermitted direct discharge and waste dumping into Turkey's territorial waters also cover the indirect effects to waters of which the country has the economic rights. In such cases the Administration takes the necessary measures for those creating these effects or creating such threats.

A) No one can discharge and dump without being granted an appropriate permission, any prohibited or subject to license materials from or outside Turkey into above mentioned waters or nearby waters that may effect them.

B) At seas within the sovereignty of Turkey, discharging of bilge water, ballast, garbage and household or industrial waste waters from vessels and aircrafts flying over these seas are prohibited.

C) The technical restrictions imposed for the installation of septic tanks installed on or adjacent to sand belts of coasts should conform with the "Communiqué on Technical Procedures " for preventing pollution of coastal waters.

D) In case of fishery, planting of water products to open sea and discharging wastes of fish, sponge and water products and similar processes are not subject to permission outside ports, bays and gulfs.

E) Dumping earthmoving residues, rubbles, sludge occurring from sea dredging, purification and processing and similar wastes into coasts and seas are prohibited, excluding the implementations foreseen under particular permissions granted by other corresponding laws.

F) Those vessels and sea crafts violating these prohibitions will be fined under articles 22 and 23 of the Environment Law, No 2872, amended by Law No 3301.

#### **Controlling of Oil Discharges**

**Article 24-** It is prohibited for all kinds of engined water crafts to discharge oil and fuel wastes, bilge water and ballast water wastes into water environment.

Considering the possibility of oil discharge into water environments due to some particular circumstances, establishments dealing with processing, loading and unloading, storing oil and oil derivatives are obliged to keep ready at any moment necessary organization, equipment and tools for struggle against oil.

Other than the circumstances of fire risk due to accidents, precipitation of oil dispersed into water environment through chemical precipitants or thinning by using chemical dispersants are prohibited.

## **SECTION FIVE**

### **Discharge Principles of Waste Waters**

#### **Discharging into Sewer Systems**

**Article 25-** The main principles to be applied for waste water discharge into sewer systems are as follows:

A) In principle, connecting all kinds of waste waters into sewer network where sewer systems exist is a right and an obligation.

B) The sewer systems cannot be destroyed and utilization purposes cannot be changed.

C) Real and legal persons causing the occurrence of waste waters are obliged to meet all expenses for their utilization of the sewer system and purification and discharge facilities which are established for purification and/or disposal activities.

D) In order for an industrial waste water to be directly connected to the sewer system or discharged through collector or a similar transportation vehicle:

- a) It should not cause destruction and hamper the structure and operation,
- b) It should not cause health inconvenience for the staff employed and nearby public,
- c) It should not have negative impact on the operation and productivity of the purification facility connected to the sewer system,
- d) It should not contain materials that cannot be purified in a classical biological purification facility,
- e) It should not cause difficulties for disposal and utilization of sludge and similar residues that would occur at the waste water purification facility and should not cause accidents leading environmental pollution.

#### **Principles of Direct Discharge into Recipient Water Environment**

**Article 26-** Controlling the nature and volume of the waste waters, reducing and purification of pollution, monitoring and documenting in appropriate intervals whether the given waste water discharge standards are complied or not, are under the responsibility and obligation of the polluting party. In case of controlling compliance with the standards, the measurements conducted by the polluting party will be kept for three years. If deemed necessary, the Administration may inspect by its own measurements whether this obligations are met. The costs of the measurement conducted by the Administration for inspection will be borne by the polluting party.

The following general principles are valid for the implementations required for preventing pollution in recipient water environments:

A) The industrial establishments located in regions where waste water collection and purification facility exists, may discharge their waste water into urban sewer system provided that the principles of connection to the sewer system be followed. For waste water sources outside urban areas and that are being discharged directly to the recipient environment, individual or common purification facilities need to be established and these waste waters should be purified. The possibility of common purification opportunities by establishing common waste water infrastructure facilities among the industries located in and outside urban areas producing similar wastes will be exploited and assessed.

B) Thinning of waste waters by rain waters, cooling waters, slightly polluted washing waters and similar slightly polluted waters for ensuring discharge standards is absolutely prohibited.

C) The presence and discharge of materials indicated in "Communiqué on Dangerous and Harmful Materials" that will be prepared within the framework of this Regulation, into the recipient environment are subject to conditions and limit values foreseen in this Regulation.

D) Dumping all kinds of solid waste and residues, purification sludge and septic tank sludge into recipient environment is prohibited.

E) The real and legal persons are obliged to meet the discharge standards given in from Table 5 to Table 21 for the waste waters discharged into recipient water environment, in accordance to their field of activity. When imposing discharge standards, concentration (mg/l), (ml/l) and /or pollution load per unit production (kg/t) are being used for certain parameters having special units. However, for easing the implementation during inspections the standard values given as concentration units will be taken as the basis. If two types of discharge standards are given for a single industry, these values will be valid separately for design and operation of the purification facility. In addition, complying with above para C for dangerous and harmful materials and obtaining necessary documents in accordance to "Communiqué on Dangerous and Harmful Materials" is compulsory.

F) If there will be more than one sector for the same industrial establishment, the more restricting value among the given separate values for these sectors will be taken as the basis.

G) The provisions for direct discharge into recipient water environment will apply for the discharge of waste water into irrigation and drainage channels.

#### **Direct Dumping into Recipient Water Environment**

**Article 27-** The standards are prepared separately on industry basis by taking into consideration the industry types, small scale industrial regions, organized industrial regions and other small scale enterprises. The mixture of various industrial waste waters are represented as group standards as miscellaneous industries sector.

On the other hand, the standard values applicable for household waste water discharging into recipient water environment are given similarly.

The institutions, agencies and enterprises who certify that they discharge their water without causing any change in the quality, to the same water environment which they have taken in will be considered as not violated the discharge standards for the amount of water used as such. However, if those establishments use any other water source in different quality than the above mentioned or produce waste water, this exception provision will not apply to the amount of water discharged after the quality being changed.

If the institutions, agencies and enterprises use more polluted water than their discharge standards, they are obliged to ensure that the discharged water should not be more polluted than the in-take water.

#### **Using Waste Water for Irrigation**

**Article 28-** In regions where irrigation water is scarce and has economical value, use of waste waters purified as ensuring irrigation water quality criteria given in the "Communiqué on Technical Procedures " for irrigation will be encouraged. Preliminary arrangements and investigations to be accomplished will be executed in accordance to the "Communiqué on Technical Procedures" which will be issued under this Regulation. Determination of the suitability of a waste water mass for this purpose will be accomplished by a joint decision of the corresponding units of General Directorate of State Hydraulic Works, General Directorate of Provincial Bank and the Ministry of Agriculture, Forestry and Rural Affairs.

#### **The Principles of Composite Sampling and Evaluation**

**Article 29-** The standard values imposed in this Regulation for direct discharging of waste waters into recipient water environments state the limit values which should not be exceeded at the composite waste water samples.

Three separate limitations are imposed in case for standards of waste water discharging into recipient water environment are given as concentration unit: These are: Concentrations acquired from instantaneous, 2 hours and 24 hours composite discharge water samples. During the inspections carried out by the Administration, instantaneous and 2 hours composite samples and corresponding limit values are taken as the basis under normal operational conditions. During the inspection, the arithmetical average of the 2 hours measurement results obtained separately for minimum of three working days will be compared with the given standards of instantaneous and 2 hours composite samples. These samples should be taken on the last year. The average of the results should not exceed the given standards for instantaneous and 2 hours composite. Following the applied penalties for arithmetical average exceeding the standard value and improvement conducted, if comply with the standard values after subsequent measurements then the previous arithmetical averages will not be taken into consideration. If the Administration deems necessary the results of 24 hours composite samples will be inspected for compliance with the limit values imposed in this Regulation. The polluting party is obliged to follow and document both of the limit values during the work to be done under article 26 of this Regulation. Particularly, the standards given for 24 hours composite samples should be taken as the basis for design and operation of newly established purification facilities. In facilities not having a 24 hour working period, composite sample taken during the daily total working period will be compared with the standards given for 24 hours composite.

### **Measures to be Taken for Reducing Waste Water Volume and Damage**

**Article 30-** The generally accepted methods applicable for waste water purification are defined in the "Communiqué on Technical Procedures ". While selecting the methods for waste water purification, necessary precautions will be taken for not causing environmental problems other than recipient water environment such as air pollution, soil pollution, solid residues.

The General Directorate of Environment, local environmental boards and waste water infrastructure managements are not bound to endorse any project on purification facility or propose methods.

### **Discharge Standards of Industrial Waste Water**

**Article 31-** The industries are grouped in accordance to their production types and sixteen sectors have been established. Among the establishments within these sectors waste water standards given in below Tables 5-20 will not apply to the ones engaged completely in dry type operations. These sectors and covering industry types are given below:

#### **A) Food Industry**

Flour plants, pasta plants, yeast industry, dairy and dairy products, extracting oil from oil seeds and liquid oil refining, olive oil and soap production, slaughter houses and integrated meat facilities, fish and bone flour production, processing of animal by-products, vegetable and fruit washing and processing, vegetable processing, sugar industry, salt establishments, field fishery, processing of water products and similar industrial establishments.

#### **B) Beverage Industry**

Soft drinks, alcohol and liquor industry, brewery and malt production, production of alcohol from molasses.

#### **C) Mining Industry**

Iron and non-iron metal ores, coal production and transportation, boron ore, ceramic and soil industry, cement, stone crushing soil industry and similar industrial establishments.

#### **D) Glass Industry**

Glassware, float glass and window glass production, glasswool preparation, mirror production with and without silver coating.

#### **E) Coal preparation, processing and energy production**

Preparation of hard coal and lignite, coke and coal gas production, thermal power generators, nuclear power generators, geothermal power generators, cooling water and alike, closed circuit industrial cooling waters, steam boilers operating with fuel oil and coal and similar establishments.

F) Textile Industry

Open fibers, thread production and treatment, woven fabric treatment, cotton textile and alike, carding industry, wool washing, treatment, weaving and alike, knitted fabric treatment and alike, carpet treatment and alike, synthetic textile treatment and alike.

G) Oil Industry

Oil refineries, oil loading facilities and alike.

H) Leather and Leather Products Industry

I) Cellulose, Paper, Cardboard Industry

Semi cellulose production, unbleached cellulose production, bleached cellulose production, pure cellulose production, production of paper without starch additive, production of paper with starch additive, extremely thin tissue paper production from pure cellulose, surface coated-stuffed paper production, production of paper with low rate clipping content, paper production from clippings, vellum production and alike.

J) Chemical Industry

Chlorine alkali industry, perborate and other boron products industry, orpiment production and alike, paint and ink industry, paint raw materials and auxiliary materials industry, medical industry, fertilizer industry, pipe, hose, rubber industry, vehicle tyres and tyre coating, medical and agricultural preparations (laboratories, tannin materials, cosmetics), detergent industry, petrochemicals and hydrocarbon production facilities, soda production, carpet production, barium composites production, disperse oxides production and alike.

K) Metal Industry

Iron and steel processing facilities, general metal preparation and processing, galvanizing, etching, electrolytic coating, metal coloring, zinc coating, watering-hardening, conducting plate production, battery production, enameling, glazing, metal grinding and polishing facilities, metal polishing and varnishing facilities, lacquering-painting, non-iron metal production, aluminium oxide and aluminium melting, iron and non-iron foundry and metal forming and alike.

L) Wood Products and Furniture Industry

Timber and carpenter works, fiberboard, box, packaging, duralite and alike

M) Serial Machinery Production, Electrical Machinery and Equipment, Spare Parts Industry

N) Vehicle Plants and Repairshops Industry

Engined and non-engined vehicle repairshops, plants manufacturing cars, trucks, tractors, minibuses, bicycles, motorcycles and similar vehicles, ship yards and ship dismantling facilities

O) Miscellaneous Industries

Large and small scale industrial regions and other industries of which sectors are not classified.

P) Other facilities producing industrial waste waters

Cleaning waters of drinking water filters, industrial cooling waters, water and sludge from filters used for air pollution controlling, waste waters from site and car washing activities in petrol stations, waste water from solid residue treatment and disposal facilities, waste water from petrol stations, waste water from adhesive productions, water softening, demineralization and regeneration, active carbon washing and regeneration facilities.

The waste water discharge standards specified for above mentioned industrial waste water sources are arranged from Table 5 to Table 20. The discharge standards of the industry types which are not covered in this Regulation will be specified by the General Directorate of Environment of the Prime Ministry on the basis of Table 19.

### **Discharge Standards for Household Waste Waters**

**Article 32-** The standard values for direct discharging and/or following a purification at urban purification facilities of household waste water sources into recipient water environment are given in Table 21. Household waste waters can be classified as follows for pollution loads:

- A) Pollution load being lower than 60 kg/day as row BOR<sub>5</sub> (Equivalent population being 1000 or lower)
- B) Pollution load being 60-600 kg/day as row BOR<sub>5</sub> (Equivalent population being 1000-10.000 )
- C) Pollution load being greater than 600 kg/day as row BOR<sub>5</sub> (Equivalent population being 1.0000 or more)

The standards for discharging into recipient environment from these sources are given separately in Table 21.

### **Dumping into Recipient Environment by Deep Sea Discharging**

**Article 33-** For industries located in sea coasts and settlements having coasts towards sea, if certified by detailed engineering works that sufficient thinning capacity exists in the recipient environment then sea discharging of waste waters and cooling waters will be permitted. In such cases discharge standards specified for direct discharging of household and industrial waste waters directly into recipient environment will not apply. If deep sea discharging into semi closed bays and gulfs will be deemed necessary due to geographical needs, when proved through an environmental impact assessment work that the discharge will not deteriorate the ecological equilibrium at the recipient environment and especially will not lead to accumulation of heavy metals, nutrients and other materials which will be specified in the "Communiqué on Dangerous and Harmful Materials", then permission will be granted under article 42 of this Regulation.

### **Particularities of Waste Waters for Granting Deep Sea Discharging**

**Article 34-** Waste water Infrastructure Facility Managements, industries, institutions, agencies and enterprises and holiday sites, excluding Metropolitan Municipalities (Metropolitan municipalities should also obtain consideration of the General Directorate of Provincial Bank and agreeable consideration of the General Directorate of Environment) should obtain deep sea discharging permission certificate under article 42 of this Regulation. Since limited purification are performed before such discharging, the waste water particularities that will be dumped into recipient environment through deep sea discharging are restricted. These restrictions are given below:

- A) For deep sea discharging, the materials within the waste waters indicated in "Communiqué on Dangerous and Harmful Materials" should not exceed the levels given in the aforesaid Communiqué.
- B) The particularities of waste waters of which permission could be granted for deep sea discharging are given in Table 22. Dumping waters containing pollutants exceeding the limit values given in this Table or containing pollutant particularities other than the given parameters into the sea will not be permitted.

### **Criteria for Deep Sea Discharging**

**Article 35-** In case for waste waters being eliminated through deep sea discharging, the deep sea discharging criteria that will be applied for recipient environment are given in Table 23. Furthermore, the following points should be taken into consideration for designing the discharging systems:

- A) The first thinning  $S_1$  value in the project should be below 40 and preferable be  $S_1 = 100$  for waste waters to be dumped into sea under this Regulation. Necessary information on determination of this thinning will be given in the "Technical Procedures Communiqué".
- B) Minimum discharge depth should be 20 m, if diving to 20 m depth is economically not viable then the discharge pipe length, excluding diffuser, should not be less than the figures given in Table 24. The length of the discharge pipe for those classified as "Significant Pollutant Source" among settlements, activities and industrial establishments which are larger than the population values given in the Table, will be determined by considering preliminary and full purification alternatives.

C)  $T_{90}$  value can be taken as minimum 1.5 hours in summer time for Aegean coast and Mediterranean and 2 hours for Blacksea. It should be considered that in winter time  $T_{90}$  value will be more and be 3-5 hours in average.

### **Exception Clauses**

**Article 36-** The deep sea discharging projects prepared under the basic criteria which are explained above, will be licensed by the Metropolitan Municipalities within the boundaries of Metropolitan area and by the highest Government authority of the district in elsewhere after taking the considerations of the General Directorate of Provincial Bank and agreeable consideration of the General Directorate of Environment. However if the maximum waste water to be discharged is lower than  $50 \text{ m}^3/\text{day}$  permission is not necessary following the application with the project. In such cases only the limit values given in Table 22 should be complied. However discharges that are less than this  $50 \text{ m}^3/\text{day}$  may also be licensed if the corresponding Administration considers that together with other waste water sources discharging collectively into specific sea environment cause negative impact on the sea water quality. For permission, if necessary implementation of more firm criteria and measures may be required by the corresponding Administration.

The obligation of requiring permission from the Administration is also applicable for projects of  $50 \text{ m}^3/\text{day}$  for deep sea discharging into semi closed bays, gulf, estuary, lagoon and similar environments where sea movements are limited. On the other hand, even if certified that technical conditions foreseen in this Regulation will be complied, when the General Directorate of Environment finds it inconvenient with respect to recipient environment, deep sea discharging permission will not be granted.

## **SECTION SIX BASIS OF DUMPING PERMISSION**

### **Permission for Waste Water Discharge into Recipient Environment**

**Article 37-** Taking permission from the Administration for direct discharging of all kinds of household and/or industrial waste waters by conforming with the basis of this Regulation is compulsory. Ensuring discharge water quality and other conditions required by the Administration under this Regulation for all waste water discharges are necessary. In metropolitan areas the Metropolitan Municipalities and in elsewhere the highest Government authority of the district is authorized for all kinds of waste water discharge permissions within the scope of the decisions and considerations of Local Environmental Boards. In regions where the recipient water environment is heavily polluted the discharge permit for direct discharging will be granted after having the agreeable consideration of the General Directorate of Environment. The locations and boundaries concerning these regions and other procedures to be implemented will be specified by the General Directorate of Environment.

The principles of discharge permit are given below:

A) The permission granted by the Administration for waste water discharge is for a period of 3 (three) years.

B) The corresponding Administration has the right to refrain from granting permission or impose more restrictions beyond the limits foreseen in this Regulation in order to prevent any possible negative impact on the present utilization objectives or improve the quality of a recipient environment.

### **Continuation of Obligations for Measures Against Pollution**

**Article 38-** Waste water infrastructure facility managements and institutions, agencies and facilities which have been granted discharge permits and have commenced operation, are obliged by law to continue to avoid dumping pollutants other than the foreseen at the permit certificate and avoid exceeding waste water discharge standards. Having the permit does not avoid of facing legal and penal provisions.

### **Restricting and Annuling Discharge Permit**

**Article 39-** Waste water discharge permits can be restricted or annulled under the following circumstances.

A) When determined that the discharge operation have negative impacts on the existing or future utilization of the recipient water environment during application for permit objectives,

B) When inappropriate discharge operations are applied against the provisions imposed by the Administration during granting the discharge permit.

#### **Discharge Permit Procedure**

**Article 40-** The sample format and explanations for discharge applications are given in "Communiqué on Administrative Procedures". Individuals or establishments requiring the permit are obliged to fill these forms correctly.

#### **Objection Against Discharge Permit**

**Article 41-** Third parties have the right to object discharge permits if they determine some negative impacts on the recipient environment due to waste water discharging or if they face an injury or the possibility of an injury due to this discharge, by applying to the Administration accompanied with the evidences. If those objections which are to be made through legal procedures are accepted then the discharging parties should take necessary improvement measures.

#### **Deep Sea Discharge Permits**

**Article 42-** Deep sea discharge permits are granted with following principles:

A) The deep sea discharge permits are granted latest within six months by the Metropolitan Municipalities within the boundaries of Metropolitan area and by the highest Government authority of the district in elsewhere after taking the considerations of the General Directorate of Provincial Bank and agreeable consideration of the General Directorate of Environment. In application a copy of the deep sea discharging project, the particularities of the intended sea quality, the economic, topographic, bathymetric, water products and similar particularities on utilization and measures foreseen for emergency cases and power failure, future development, expansion and project amendment estimations will be included. The sample format and explanations for discharge applications and permits are given in "Administrative Procedures Communiqué".

B) The permit is valid for three (3) years. During this period if the obligations are not fulfilled then the previously granted deep sea discharge permit will be annulled by the corresponding Administration either directly or on request by the General Directorate of Environment. The managements of waste water infrastructure facilities and institutions, agencies and facilities which have been granted discharge permits and have commenced operation, are obliged to avoid dumping pollutants other than the foreseen at the permit certificate and avoid exceeding waste water discharge standards.

### **SECTION SEVEN**

#### **Implementations at Waste Water Infrastructure Facilities**

##### **Principles of Waste Water Collection and Disposal**

**Article 43-** The managements of waste water infrastructure facilities accomplish the collection, transportation and disposal activities within their areas of responsibility under para 3 of Article 11 of the Environment Law. These managements are obliged to eliminate the collected waste waters within the framework of principles specified in this Regulation.

For proprietors of the immovable properties within the mandate of these managements, connecting their waste waters to these common waste water infrastructure facilities and utilize these facilities is a right and obligation.

The arrangements and obligations on connections to waste water collection systems and disposal facilities and the utilization of these facilities will be given in details in "Communiqué on Waste Water Infrastructure".

##### **Waste Water Connection Permit and Certificate**

**Article 44-** In an urban and/or industrial area connecting waste waters of plots, institutions, agencies and establishments to waste water infrastructure facilities are subject to waste water connection permit which will be granted by the management of these facilities. The waste water connection permit is the permit which will be granted against a written certificate for household waste waters and against a permit which will be granted by the waste water managements for industrial and miscellaneous waste waters, provided that it

should meet the requirements indicated in the connection quality control certificate. The connection quality control permit will be granted with the connection quality control certificate specifying the connection provisions of industrial waste waters into sewer systems. These permits and documents are granted under "Communiqué on Waste Water Infrastructure Facilities" and by complying with the provisions indicated in articles 45,46,47 and 48.

#### **Restrictions for Connection to Sewer Systems**

**Article 45-** The connections to the sewer system which have been constructed and operated under waste water infrastructure facilities are subject to the following restrictions:

A) If the sewerage are under a separate system then rain waters and other nonpolluted drainage waters will not be connected to the sewerage.

B) In united and separate systems the quantities and particularities of waste water will be determined under dry weathers.

C) Establishments operating on discontinuous time frame are obliged to set up balancing pools prior to connection with the sewer system, regardless to any need of preliminary purification. The capacities of the balancing pools will be specified in "Communiqué on Waste Water Infrastructure Facilities". The waste water flow rates and qualities of these establishments are determined at the outlet of the balancing pool. For establishments not having balancing pools, the waste water volume and pollution loads which will be taken as the basis for permit are determined by considering maximum volume and quality of waste water leaving the facility.

D) Connecting cooling waters not containing pollutants to sewer system without having special approval from the authorized waste water infrastructure facility management is prohibited.

E) Industrial waste waters can not be discharged into sewer system by thinning with unpolluted water for removing the necessity of preliminary purification.

F) Waste waters discharged into waste water infrastructure facilities can not be used for any purpose until a written permit is obtained from the waste water infrastructure facility managements.

#### **Materials That Cannot be Dumped into Waste Water Collection System**

**Article 46-** Dumping the materials that effect the purification productivity of the purification facility, operation of sludge facilities, sludge disposal or sludge treatment; damaging, hindering, making difficult, endangering the functions and maintenance waste water facilities or causing injuries to the facility staff is prohibited. Using garbage grinders for grinding garbage and solid materials prior to dumping into sewerage at industrial facilities is prohibited. These materials will be given in details in the "Communiqué on Waste Water Infrastructure Facilities".

#### **Particularities of Waste Waters for Connection to Waste Water Infrastructure Facilities**

**Article 47-** Industrial waste waters defined as "Significant pollutant waste water source" should comply with the values given in Table 25 for access to waste water infrastructure facilities.

If waste water infrastructure managements wish to avert the waste waters collected by the sewer systems under their mandate without purification until the necessary waste water purification and disposal facilities are established, they should inform the General Directorate of Environment and request for agreeable consideration. The application will be made through government authority.

#### **Preliminary Purification Facilities**

**Article 48-** The industries of which direct connection to waste water infrastructures are not found convenient by the waste water infrastructure managements due to the particularities of their waste waters, are obliged to establish and operate a preliminary purification system which has been defined in this Regulation, with the costs of establishment, operation, maintenance, inspection and documenting be borne by themselves.

Furthermore, the concerned parties are obliged to establish and operate a special preliminary purification facility of which the technical specifications are given in connection quality control permit certificate and defined in article 11 of the Environment Law, No 2872, for the waste water sources in any waste water collecting catchment which the waste water flow rate or pollution load with respect to each parameter given at group standards in Tables 5 to Table 20 for corresponding industry is more than the total flow rate of that sewer system and pollution load. In such cases the principle of direct discharge into recipient environment and waste water standards are valid and in addition, the proprietor of the immovable property shall request permission from the corresponding Administration under Article 37 of this Regulation.

#### **Control Arrangements of Connection and Discharging into Sewer System**

**Article 49-** An easily accessible and convenient controlling chimney will be installed at the waste water connection section or at outlet of the preliminary purification facility of the sewer system of the institutions, agencies and establishments producing waste water. The project and type of the controlling chimney will be shown on a plan and advised to the concerned waste water infrastructure facility management. Determination of the particularities of waste waters of the institutions, agencies and establishments deemed necessary by the management will be conducted as defined in article 29 of this Regulation at the connection point or preliminary purification facility outlet. For sources where there can be sudden spills and dischargings which the control arrangement could not detect, the waste water infrastructure management will specify additional measures. Detailed information on these measures are indicated in "Connection Quality Control Permit Certificate".

#### **Actions under the "Violation of the Regulation" within the Framework of Utilization of Waste Water Infrastructure Facilities**

**Article 50-** Actions under the "violation of the regulation" within the framework of utilization of waste water infrastructure facilities are defined below:

A) If the proprietor of the immovable property, in spite of his/her obligations under article 43 on provisions of utilization from waste water infrastructure facilities do not execute the connection to the urban waste water system in the given time,

B) If the waste waters or materials under connection prohibition are dumped into the waste water system or the limit values foreseen in the waste water connection quality control permit certificate are exceeded contrary to articles 44,45 and 46 on restriction regarding the connection and corresponding prohibitions,

C) If waste water are discharged into waste water infrastructure without preliminary purification, contrary to article 47 and 48 on connection restriction,

D) If underground waters and waters that are not necessary and compulsory to be purified are discharged to waste water infrastructure facility without approval, contrary to para D of article 45 indicating restrictions on connections,

E) If the necessary measurement devices and controlling chimneys are not installed to the facility outlet, not placed in a convenient location or appropriately operated, if there is no maintenance, if there is no appropriate and responsible staff appointed or if the record book has not been kept for 3 years or not submitted after the demand made by the individual who is officially assigned for inspection, contrary to article 49 on controlling and documenting obligation,

F) If inspection of the plot waste water system or waste water is not allowed on the contrary to article 49 on controlling arrangements.

Following the above actions the concerned real and legal persons will be penalized under articles 20,21,22 and 23 of the Environment Law No 2872, amended by Law No 3301 with respect to the proceedings prepared by the corresponding waste water infrastructure facilities.

### **SECTION EIGHT Various Provisions**

## **Communiqués**

**Article 51-** The corresponding communiqués on implementation of this Regulation of which the names are given below will be issued within 3 (three) months by General Directorate of Environment of the Prime Ministry following the publishing date of this Regulation:

- Communiqué on Sampling and Analysis Methods
- Communiqué on Technical Procedures
- Communiqué on Administrative Procedures
- Communiqué on Dangerous and Harmful Materials
- Communiqué on Waste Water Infrastructure Facilities
- Communiqué on Minimum Pollution Concentrations for Waste Water Discharging

Until the publishing date of these communiqués general technical and administrative provisions will apply for the subject. When necessary the General Directorate of Environment of the Prime Ministry can issue technical and administrative communiqués other than those listed above and can make amendments in the above mentioned communiqués.

## **Inspection**

**Article 52-** The principles of the inspections to be done under this Regulation are given below:

A) Inspection of all kinds of waste water discharging into sewer systems and recipient environments under this Regulation will be conducted by the General Directorate of Environment under article 12 of the Environment Law, No 2872, amended by Law No 3416. However, civil authorities, the Ministry of Health and Social Relief, Metropolitan and provincial municipalities and Port Administrations can execute inspection functions within the mandates given by General Hygiene Law, No 1593, Provincial Administration Law, No 5442, Law on Municipalities, No 1580, Law on Metropolitan Municipalities, No 3030 and Law on Ports, No 618. Following these inspections parties violating the prohibitions in the Environment Law, No 2872, and fail to accomplish the obligations indicated in this Law will be granted an additional time and if obligations are not fulfilled after this period, necessary procedures will be followed by the bodies defined in articles 15 and 16 of the said law for partial or complete ceasing of the activities. The administrative penalties indicated in articles 20,21,22 and 23 of the said law, amended by Law No 3301 will be given by the authorized bodies again indicated in article 24 of the said law, amended by Law No 3301.

B) The proprietors and tenants of the establishments and the proprietors and tenants of the immovable property on which the establishment is erected;

a) are obliged to allow the individuals assigned by the authorized body or individuals representing the authorized body to enter into the facilities,

b) are obliged to allow for assigned individuals for taking samples and conduct on-site measurements for determination of the pollution and water quality in order for public health and to prevent serious risks that could be imposed on nearby people,

c) are obliged to provide the documents and information requested by the assigned individuals.

C) The institutions, agencies and establishments are obliged to employ one or more "Environmental Pollution Supervisor" depending on their scale.

D) During the work which will be accomplished under above para B, the establishments which have assigned "Environmental Pollution Supervisors" will assign these personnel for the said work. In order for conducting these work, the tenants and proprietors of these establishments will provide necessary equipment, especially vehicles and/or petrol of these vehicles.

E) The proprietors and tenants of the institutions, agencies and establishments are obliged to allow for assigned individuals for taking samples and conduct on-site measurements.

F) The costs of experiments and measurements concerning permits or inspections will be borne by the polluting agency and establishments.

G) In order for accomplishing the provisions of this Regulation, the proprietors and tenants of the immovable property on which there is no establishment will also allow the individuals assigned by the authorized body or individuals representing them to enter into the aforesaid locations and conduct tests. Care will be given to protect the interest of the proprietors and tenants of the immovable property and any caused injuries will be compensated by the inspection body.

H) Information and documents obtained from the institutions, agencies and establishments during the inspection can not be used for other purposes.

### **Prosecution**

**Article 53-** The corresponding provisions of the Environment Law, No 2872, will be applied to those violating the provisions of this Regulation.

### **Exceptional Circumstance**

#### **PROVISIONAL ARTICLE 1-**

A) The discharge limits given to the institutions, agencies and establishments by the General Directorate of Environment prior to this Regulation will be valid for 3 (three) years following the effectiveness of this Regulation. Complying with the limits in this Regulation is compulsory after this period.

B) Validity of the quality criteria indicated in "discharge quality control license" given to the institutions, agencies and establishments by the Metropolitan Municipalities within the mandate area prior to this Regulation is extended for 3 (three) years following the effectiveness of this Regulation.

### **Implementation in Transition Period**

**PROVISIONAL ARTICLE 2-** Present institutions, agencies and establishments producing and discharging waste water and do not have "Discharge Permit" and "Connection Quality Control Permit" are obliged to apply to the corresponding Administration and obtain the aforesaid certificates within 6 (six) months following the effectiveness date of this Regulation. The corresponding Administration shall evaluate these applications and resolve within maximum 1 (one) year following the application date. In case of not granting the permit the Administration so informs the applicant in writing with the rationale. If permission for existing or newly established facilities will be subject to taking purification measures, transition period for project designing of waste water infrastructure facility, connection, construction of purification facility and putting into operation will be specified. These transition periods cannot be longer than the following for various implementations:

A) Among the institutions, agencies and establishments within the boundaries of waste water infrastructure facility management where there is a sewer network, regardless of it being ends up with a purification facility, those who can make connection with this network should accomplish their preliminary purification requirements within 1,5 (oneandhalf) years following the date of the "Connection Quality Control Permit".

B) Waste waters of the institutions, agencies and establishments within the boundaries of waste water infrastructure facility management where the sewer system is under construction or where the sewerage project exists though the construction not being commenced, will be discharged into recipient environment under articles 47 and 48 in conformity with the final disposal methods foreseen in the projects of the channels, regardless of the existence of any channels for connection, with the mandates indicated in para B of article 37 are reserved. These clients are obliged to take purification measures within 1,5 (oneandhalf) years following the date of the "Connection Quality Control Permit" given by waste water infrastructure facility management.

C) The institutions, agencies and establishments within the boundaries of waste water infrastructure facility management where there are no sewer system and its project, are obliged to conduct purification with respect to standards of discharging into recipient environment or realize the required modification on their production technologies within 2,5 (twoandhalf) years following the date of the "Discharge Permit" obtained from the Administration.

D) The institutions, agencies and establishments outside the region where waste waters can be collectively disposed and where there is no sewer system, are obliged to conduct purification with respect to standards of discharging into recipient environment or realize the required modification on their production technologies within 2 (two) years following the date of the "Discharge Permit" obtained from the Administration.

E) The Administration is authorized to decrease the transition periods indicated in provisional articles 1 and 2 after having the agreeable consideration of the General Directorate of Environment when there is a risk for environmental pollution.

F) The institutions, agencies and establishments which have been warned by the corresponding Administration by granting a certain period of time to take the necessary measures, are obliged to take the measures indicated in the said article within the period left after deducting the periods granted by Law No 2872 and other legislation prior to this Regulation from the periods mentioned in above paras. If the periods indicated in above paras have been exceeded prior to this Regulation an additional period determined by the Administration may be granted.

### **Implementation During the Transition Period**

**PROVISIONAL ARTICLE 3-** Granting periods by provisional articles 1 and 2 for facilities and establishments making direct discharge into recipient environments do not hinder the application of legal and penal provisions foreseen in Environment Law, No 2872 and its amendments and supplements.

### **Validity**

**Article 54-** This Regulation shall be effective from the publishing date

### **Implementation**

**Article 55-** This Regulation shall be implemented by the State Minister of which the General Directorate of Environment is attached to.

Table 1: Quality criteria of in-land water resources with respect to their classification

WATER QUALITY PARAMETERS	WATER QUALITY CLASSES			
	I	II	III	IV

<b>A) <u>Physical and Inorganic-chemical parameters</u></b>				
	25	25	30	>30
1. Heat (°C)	6.5-8.5	6.5-8.5	6.0-9.0	other than 6.0-
2. pH	8	5	3	9.0
3. Dissolved oxygen (mg O <sub>2</sub> /l) <sup>a</sup>	90	70	40	<3
4. Oxygen saturation (%) <sup>a</sup>	25	200	400 <sup>b</sup>	<40
5. Chloride ion (mg Cl <sup>-</sup> /l)	200	200	400	>400
6. Sulphate ion (mg SO <sub>4</sub> /l)	0.2 <sup>c</sup>	1 <sup>c</sup>	2 <sup>c</sup>	>400
7. Ammonium nitrogen (mg NH <sub>4</sub> -N/l)	0.002	0.01	0.05	>2
8. Nitrate nitrogen (mg NO <sub>2</sub> -N/l)	5	10	20	>0.05
9. Nitrate nitrogen (mg NO <sub>3</sub> -N/l)	0.02	0.16	0.65	>20
10. Total phosphor (mg PO <sub>4</sub> /l)	500	1500	5000	>0.65
11. Total dissolved materials (mg/l)	5	50	300	5000
12. Color (Pt-Co unit)	125	125	250	>300
13. Sodium (mg Na <sup>+</sup> /l)				>250
<b>B) <u>Organic parameters</u></b>				
	25	50	70	
1. COR (mg/l)	4	8	20	>70
2. BOR (mg/l)	5	8	12	>20
3. Organic carbon (mg/l)	0.5	1.5	5	>12
4. Total Kjaldahl nitrogen (mg/l)	0.02	0.3	0.5	>5
5. Emulsified oil and grease (mg/l)	0.05	0.2	1	>0.5
6. Methylene blue active materials (mg/l)	0.002	0.01	0.1	>1.5
7. Phenolic materials (volatile) (mg/l)	0.02	0.1	0.5	>0.1
8. Mineral oil and derivatives (mg/l)	0.001	0.01	0.1	>0.5
9. Total pesticides (mg/l)				>0.1
<b>C) <u>Inorganic pollution parameters</u><sup>d</sup></b>				
	0.1	0.5	2	
1. Mercury (µg Hg/l)	3	5	10	>2
2. Cadmium (µg Cd/l)	10	20	50	>10
3. Lead (µg Pb/l)	20	50	100	>50
4. Arsenic (µg As/l)	20	50	200	>100
5. Copper (µg Cu/l)	20	50	200	>200
6. Chromium (Total) (µg Cr/l)	measurement	20	50	>200
7. Chromium (µg CR <sup>+6</sup> )	so	20	200	>50
little to neglect	10	50	200	>200
8. Kobalt (µg Co/l)	20	500	2000	>200
9. Nickel (µg Ni/l)	200	50	100	>2000
10. Zinc (µg Zn/l)	10	1500	2000	>100
11. Cyanide (µgCN/l)	1000	10	50	>2000
12. Floride (µg F <sup>-</sup> /l)	10	2	10	>50
13. Free chlorine (µg Cl <sub>2</sub> /l)	2	1000	5000	>10
14. Total Sulphur (µg S <sup>2-</sup> /l)	300	500	3000	>5000
15. Iron (µg Fe/l)	100	1000 <sup>e</sup>	1000 <sup>e</sup>	>3000
16. Manganese (µg Mn/l)	1000 <sup>e</sup>	10	20	>1000
17. Boron (µg B/l)	10	2000	2000	>20
18. Selenium (µg Se/l)	1000	0.3	1	>2000
19. Barium (µg Ba/l)	0.3			>1
20. Aluminium (µg Al/l)		10	10	
21. Radioactivity (pCi/l)	1	100	100	>10
alfa-activity	10			>100
beta-activity				
<b>D) <u>Bacteriological parameters</u></b>				
	10	200	2000	>2000
1. Fecal coliform (EMS/100ml)	100	20000	100000	>100000
2. Total coliform (EMS/100 ml)				

- (a) Meeting one of the concentration or saturation rate is sufficient
- (b) For irrigation of plants vulnerable against chloride this concentration limit should be lowered
- (c) Depending on pH value, free ammonium nitrogen concentration should not exceed 0.02 mg  $\text{NH}_3$ -M/l
- (d) The criteria in this group give total concentrations of chemical derivatives constituting the parameters
- (e) For irrigation of plants vulnerable against boron, reducing the criterion to 300 mg/l may be necessary

Table 2: Earthification control limit values of lakes, ponds, swamps and dam reservoirs

Required particularities	Utilization area	
	Natural protection area and recreation	For various uses (including natural saline, hard and soda lakes)
pH	6.5-8.5	6-10.5
KOI (mg/l)	3	8
CO (mg/l)	7.5	5
AKM (mg/l)	5	15
Total number of coliform (EMS) / 100 ml	1000	1000
Total nitrogen (mg/l)	0.1	1
Total phosphor (mg/l)	0.005	0.1

Table 3: Standard values of which coastal and sea waters used for recreational purposes should meet

Parameter	Standard	Remarks
Color	Natural	Esthetically should not differ from natural color of the sea
Odor and taste	Natural	Cannot be other than natural odor and taste
Light transparency	More than 2 meters	Esthetically should not differ from natural turbidity of the sea. This value cannot be lower than 2 meters by Secchi disk measurement
pH	6-9	
Oil and greese (mg/l)		Esthetically should not differ from natural oil and grease content of the sea
Total coliform (EMS/100 ml)	1000	Regularly once every 15 days, on request by the Administration under doubtful circumstances; with multi tube fermentation or membrane filter technique
Fecal coliform (EMS/100 ml)	200	
Surface active materials reacting with methylene blue (mg/l)	Will be in the level of not forming lasting foam. Furthermore should be below 0.3 mg/l lauril sulphate equivalent.	mg/l lauril sulphate equivalent on analysis conducted upon request from corresponding Administration for any doubtful condition
Phenol (mg/l)	Phenol odor should be so little to be recognized but should be below 0.005 mg/l	Phenol analysis should be made upon request from corresponding Administration for any doubtful condition and given value should not be exceeded.
Dissolved oxygen	Saturation will not be below 80%.	
Tar residue and floating materials	No	

Table 4: General quality criteria of sea water

Parameter	Criteria	Remarks
pH	6.0-9.0	-

Color and turbidity	Natural	The photosynthesis activity required for natural water survival should be so that it must not influence the normal value at measurement depth by more than 90%.
Floating material		No floating fluids such as oil, tar, etc and solid materials such as garbage, etc.
Suspending solid material (mg/l)	30	-
Dissolved oxygen (mg/l)	more than 90% of saturation	Dissolved oxygen values should be monitored along depthness
Fragmented organic pollutants	-	Should not be in quantity endangering dissolved oxygen existence more than the above foreseen value after thinning
Crude oil and oil derivatives (mg/l)	0.003	Water should be seperately evaluated in biota and sedimentation and preferably should not contain any at all.
Radioactivity	-	Natural radioactivity types and levels of the mentioned sea environment will not be exceeded. Artificial radioactivity will be present in such a level that could not be measured
Productivity	-	Seasonal productivity levels for mentioned sea environment will be protected
Toxication	No	
Phenols (mg/l)	0.001	
Various heavy metals		
Copper, (mg/l)	0.01	
Cadmium, (mg/l)	0.1	
Chromium, (mg/l)	0.1	
Lead, (mg/l)	0.1	
Nickel, (mg/l)	0.1	
Zinc, (mg/l)	0.004	
Mercury, (mg/l)	0.1	
Arsenic, (mg/l)	0.02	
Ammonium, (mg/l)		

TABLE 5: DISCHARGE STANDARDS OF FOOD INDUSTRY WASTE WATER INTO RECIPIENT ENVIRONMENT

TABLE 5.1: SECTOR: FOOD INDUSTRY (FLOUR AND PASTA PRODUCTION)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	60	50
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	250	200
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	120	100
pH		6-9	6-9

TABLE 5.2: SECTOR: FOOD INDUSTRY (YEAST PRODUCTION)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	100	80
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	400	300
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	200	100
OIL AND GREASE	(mg/l)	60	30
pH		6-9	6-9

TABLE 5.3: SECTOR: FOOD INDUSTRY (DAIRY AND DAIRY PRODUCTS)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	50	40
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	170	160
OIL AND GREASE	(mg/l)	60	30
pH		6-9	6-9

TABLE 5.4: SECTOR: FOOD INDUSTRY (OIL EXTRACTION FROM OIL SEEDS AND LIQUID OIL REFINING - EXCLUDING OLIVE OIL)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	200	170
OIL AND GREASE	(mg/l)	60	30
pH		6-9	6-9

TABLE 5.5: SECTOR: FOOD INDUSTRY (OLIVE OIL AND SOAP PRODUCTION, SOLID OIL REFINING)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	250	230
OIL AND GREASE	(mg/l)	60	40
pH		6-9	6-9

TABLE 5.6: SECTOR: FOOD INDUSTRY (SLAUGHTER HOUSES AND INTEGRATED MEAT FACILITIES)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)		40
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	250	160
OIL AND GREASE	(mg/l)	30	20
pH		6-9	6-9

TABLE 5.7: SECTOR: FOOD INDUSTRY (FISH AND BONE FLOUR PRODUCTION)

PARAMETER	UNIT	INSTANTANEOUS SAMPLE	COMPOSITE SAMPLE 2 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)		25
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)		140
PRECIPITABLE SOLID MATERIAL	(ml/l)	0.5	

TABLE 5.8: SECTOR: FOOD INDUSTRY (ANIMAL BY-PRODUCTS PROCESSING AND SIMILAR FACILITIES)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)		40
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	200	160
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	100	60
OIL AND GREASE	(mg/l)	30	20
pH		6-9	6-9

TABLE 5.9: SECTOR: FOOD INDUSTRY (VEGETABLE AND FRUIT WASHING AND PROCESSING FACILITIES)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	60	45
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	200	100
pH		6-9	6-9

TABLE 5.10: SECTOR: FOOD INDUSTRY (VEGETABLE PROCESSING FACILITIES AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	60	50
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	200	150
FISH BIO-EXPERIMENT (ZSF)		4	3
pH		6-9	6-9

TABLE 5.11: SECTOR: FOOD INDUSTRY (SUGAR PRODUCTION AND ALIKE)

TABLE 5.11.a: IF NO THINNING BY CONDENSATION WATERS

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	50	40
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	500	450
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	100	80
FISH BIO-EXPERIMENT (ZSF)		4	

TABLE 5.11.b: IF THINNING BY CONDENSATION WATERS

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	30	
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	60	
FISH BIO-EXPERIMENT (ZSF)		4	

TABLE 5.12: SECTOR: FOOD INDUSTRY (SALT ENTERPRISES)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	200	100
pH		6-9	6-9

TABLE 5.13: SECTOR: FOOD INDUSTRY (FIELD FISHERY)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	20	10
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	50	30

TABLE 5.14: SECTOR: FOOD INDUSTRY (WATER PRODUCTS ASSESSMENTS)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	35	25
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	300	250
OIL AND GREASE	(mg/l)	30	20
pH		6-9	6-9

TABLE 6: DISCHARGE STANDARDS OF BEVERAGE INDUSTRY WASTE WATERS INTO RECIPIENT ENVIRONMENT

TABLE 6.1: SECTOR: BEVERAGE INDUSTRY (SOFT DRINK PRODUCTION AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	50	40
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	160	110
pH		6-9	6-9

TABLE 6.2: SECTOR: BEVERAGE INDUSTRY (ALCOHOL, LIQUOR PRODUCTION AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)		40
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	300	200
pH		6-9	6-9

TABLE 6.3: SECTOR: BEVERAGE INDUSTRY (MALT PRODUCTION, BREWERY AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	50	40
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	120	100
pH		6-9	6-9

TABLE 6.4: SECTOR: BEVERAGE INDUSTRY (ALCOHOL PRODUCTION FROM MOLASSES)

PARAMETER	UNIT	INSTANTANEOUS SAMPLE	COMPOSITE SAMPLE 2 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)		80
	(kg/t)		25
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)		150
	(kg/t)		45
PRECIPITABLE SOLID MATERIAL	(ml/l)	0.3	

TABLE 7: DISCHARGE STANDARDS OF MINING INDUSTRY WASTE WATERS INTO RECIPIENT ENVIRONMENT

TABLE 7.1: SECTOR: MINING INDUSTRY (IRON AND NON-IRON METAL ORE, PREPERATION OF CALCIUM FLORIDE, GRAPHITE AND SIMILAR ORES) (\*)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	60	60
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	70	50
LEAD (Pb)	(mg/l)	0.5	
TOTAL CYANIDE (CN)	(mg/l)	0.1	
IRON (Fe)	(mg/l)	3	
ZINC (Zn)	(mg/l)	3	
FREE SULPHUR (S)	(mg/l)	15	10
FISH BIO-EXPERIMENT (ZSF)		4	
MERCURY (Hg)	(mg/l)		0.05
CADMIUM (Cd)	(mg/l)	0.1	
COPPER (Cu)	(mg/l)	5	3
TOTAL CHROMIUM		2	1
pH		6-9	6-9

(\*) For deep sea or hydrothermal originated ores, 150 mg/l value is allowed for COR. COR concentration is accepted as 65 mg/l and iron concentration as 10 mg/l for preperation of graphite ore

TABLE 7.2: SECTOR: MINING INDUSTRY (COAL PRODUCTION AND ITS TRANSPORTATION)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	50	30
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	160	110
pH		6-9	6-9

TABLE 7.3: SECTOR: NON-METALLIC MINING INDUSTRY (BORON ORE,)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
-----------	------	--------------------------	---------------------------

CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	100	
BORON (B)	(mg/l)	500	
FISH BIO-EXPERIMENT (ZSF)		8	
pH		6-9	6-9

TABLE 7.4: SECTOR: MINING INDUSTRY (POTS AND KETTLES PRODUCTION FROM CERAMIC AND ALIKE,)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	80	
SUSPENDING SOLID MATERIAL (SSM)	(mg/l)	100	
LEAD (Pb)	(mg/l)	1	
CADMIUM (Cd)	(mg/l)	0.1	
pH		6-9	6-9

TABLE 7.5: SECTOR: MINING INDUSTRY (CEMENT, STONE CRUSHING, SOIL INDUSTRY AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	100	
CHROMIUM (Cr <sup>+6</sup> )	(mg/l)	0.3	
OIL AND GREASE	(mg/l)	10	
pH		6-9	6-9

TABLE 8: DISCHARGE STANDARDS OF MINING INDUSTRY WASTE WATERS INTO RECIPIENT ENVIRONMENT

PARAMETER	UNIT	INSTANTANEOUS SAMPLE	COMPOSITE SAMPLE 2 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)		160**-250*
FLORIDE (F)	(mg/l)		30
NICKEL (Ni)	(mg/l)		3
SILVER (Ag)	(mg/l)		1
LEAD (Pb)	(mg/l)		1.0
SULPHATE (SO <sub>4</sub> <sup>-2</sup> )	(mg/l)		3000
pH		6-9	6-9

(\*) If the pollution load of the facility is smaller than 1000 kg COR/yr, in silver plated mirror manufacturing COR=250 mg/l and in mirror manufacturing without silver COR=200 mg/l

(\*\*) If the pollution load of the facility is greater than 1000 kg COR/yr, in silver plated mirror manufacturing COR=200 mg/l and in mirror manufacturing without silver COR=160 mg/l

TABLE 9: DISCHARGE STANDARDS OF COAL PREPERATION, PROCESSING AND ENERGY PRODUCTION FACILITY WASTE WATERS INTO RECIPIENT ENVIRONMENT

TABLE 9.1: SECTOR: COAL PREPERATION, PROCESSING AND ENERGY PRODUCTION FACILITIES

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
-----------	------	--------------------------	---------------------------

CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	200	100
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	50	100
OIL AND GREASE	(mg/l)	20	10
TOTAL CYANIDE (CN)	(mg/l)		0.5
HEAT	(°C)	35	30
pH		6-9	6-9

TABLE 9.2: SECTOR: COAL PREPERATION, PROCESSING AND ENERGY PRODUCTION FACILITIES

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	150	100
OIL AND GREASE	(mg/l)	20	10
TOTAL CYANIDE (CN)	(mg/l)		0.5
PHENOL	(mg/l)	1.0	0.5
HEAT	(°C)	35	30
pH		6-9	6-9

TABLE 9.3: SECTOR: COAL PREPERATION, PROCESSING AND ENERGY PRODUCTION FACILITIES (THERMAL POWER GENERATORS AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	60	30
TOTAL SUSPENDED SOLID MATERIALS	(mg/l)	150	100
OIL AND GREASE	(mg/l)	20	10
TOTAL PHOSPHOR	(mg/l)	8	
TOTAL CYANIDE (CN)	(mg/l)		0.5
HEAT	(°C)		35
pH		6-9	6-9

TABLE 9.4: SECTOR: COAL PREPERATION, PROCESSING AND ENERGY PRODUCTION FACILITIES (NUCLEAR POWER GENERATORS)(\*)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
HEAT	(°C)	35	30

(\*) The authority given to the Institute of Turkish Atomic Energy by Law No 2690 on restricting values to be used for protecting human health and environment from radiation of nuclear fuel and other radioactive maerials are not within the scope of this regulation.

TABLE 9.5: SECTOR: COAL PREPERATION, PROCESSING AND ENERGY PRODUCTION FACILITIES (GEOTHERMAL RESOURCES)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
-----------	------	--------------------------	---------------------------

CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	60	30
OIL AND GREASE	(mg/l)	20	10
TOTAL CYANIDE (CN)	(mg/l)		0.5
HEAT	(°C)		35
pH		6-9	6-9

TABLE 9.6: SECTOR: COAL PREPERATION, PROCESSING AND ENERGY PRODUCTION FACILITIES (COOLING WATER AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
OIL AND GREASE	(mg/l)	20	10
TOTAL SUSPENDING SOLID MATERIALS	(mg/l)	150	100
HEAT	(°C)	35	30
pH		6-9	6-9

TABLE 9.7: SECTOR: COAL PREPERATION, PROCESSING AND ENERGY PRODUCTION FACILITIES (CLOSED CIRCUIT INDUSTRIAL COOLING WATER )

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	40	
TOTAL SUSPENDING SOLID MATERIALS	(mg/l)	100	
FREE CHLORINE	(mg/l)	0.3	
TOTAL PHOSPHOR	(mg/l)	5.0	
ZINC (Zn)	(mg/l)	4.0	

TABLE 9.8: SECTOR: COAL PREPERATION, PROCESSING AND ENERGY PRODUCTION FACILITIES (COOLING WATERS OF STEAM BOLILERS OPERATING WITH FUEL OIL AND COAL )

PARAMETER	UNIT	INSTANTANEO US SAMPLE	COMPOSITE SAMPLE 2 HOURS
PRECITIPATIABLE SOLID MATERIAL	(mg/l)	0.3	
HYDRAZIN	(mg/l)	5	
TOTAL PHOSPHOR	(mg/l)		8*
VANADIUM	(mg/l)		3**
IRON	(mg/l)		7***

(\*): Only to be accomplished in bluff waters of the boilers

(\*\*): To be accomplished in washing waters of residual gases of steam bolilers operating with fuel oil

(\*\*\*): To be accomplished in washing waters of residual gases of steam bolilers operating with coal and residual gases of facilities with air pre-heating.

TABLE 10: DISCHARGE STANDARDS OF TEXTILE INDUSTRY WASTE WATERS INTO RECIPIENT ENVIRONMENT

TABLE 10.1: SECTOR: TEXTILE INDUSTRY (OPEN FIBRES, THREAD PRODUCTION AND TREATMENT)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
-----------	------	--------------------------	---------------------------

BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	80	60
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	350	240
AMMONIUM NITROGEN (NH <sub>4</sub> -N)	(mg/l)	5	
FREE CHLORINE	(mg/l)	0.3	
TOTAL CHROMIUM	(mg/l)	2	1
SULPHUR (S <sup>-2</sup> )	(mg/l)	0.1	
SULPHIDE	(mg/l)	1	
OIL AND GREASE	(mg/l)	10	
FISH BIO-EXPERIMENT (ZSF)		4	3
pH		6-9	6-9

TABLE 10.2: SECTOR: TEXTILE INDUSTRY (WOVEN FABRIC TREATMENT AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	90	70
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	400	300
TOTAL SUSPENDING SOLID MATERIALS	(mg/l)	140	100
AMMONIUM NITROGEN (NH <sub>4</sub> -N)	(mg/l)	5	
FREE CHLORINE	(mg/l)	0.3	
TOTAL CHROMIUM	(mg/l)	2	1
SULPHUR (S <sup>-2</sup> )	(mg/l)	0.1	
SULPHIDE	(mg/l)	1	0.5
PHENOL	(mg/l)	1	
FISH BIO-EXPERIMENT (ZSF)		4	3
pH		6-9	6-9

TABLE 10.3: SECTOR: TEXTILE INDUSTRY (COTTON TEXTILE AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	90	60
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	250	200
TOTAL SUSPENDING SOLID MATERIALS	(mg/l)	160	120
AMMONIUM NITROGEN (NH <sub>4</sub> -N)	(mg/l)	5	
FREE CHLORINE	(mg/l)	0.3	
TOTAL CHROMIUM	(mg/l)	2	1
SULPHUR (S <sup>-2</sup> )	(mg/l)	0.1	
SULPHIDE	(mg/l)	1	
OIL AND GREASE	(mg/l)	10	
FISH BIO-EXPERIMENT (ZSF)		4	3
pH		6-9	6-9

TABLE 10.4: SECTOR: TEXTILE INDUSTRY (WOOL WASHING, TREATMENT, WEAVING AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	200	100
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	400	300
TOTAL SUSPENDING SOLID MATERIALS	(mg/l)	??	300
AMMONIUM NITROGEN (NH <sub>4</sub> -N)	(mg/l)	0.3	
FREE CHLORINE	(mg/l)	200	100
OIL AND GREASE	(mg/l)	2	1
TOTAL CHROMIUM	(mg/l)	0.1	
SULPHUR (S <sup>-2</sup> )	(mg/l)	1	
SULPHIDE		6-9	6-9
pH			

TABLE 10.5: SECTOR: TEXTILE INDUSTRY (KNITTED FABRIC, TREATMENT AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	60	40
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	300	200
AMMONIUM NITROGEN (NH <sub>4</sub> -N)	(mg/l)	5	
FREE CHLORINE	(mg/l)	0.3	
OIL AND GREASE	(mg/l)	10	
TOTAL CHROMIUM	(mg/l)	2	1
SULPHUR (S <sup>-2</sup> )	(mg/l)	0.1	
SULPHIDE	(mg/l)	1	
PHENOL		1	0.5
FISH BIO-EXPERIMENT (ZSF)		4	3
pH		6-9	6-9

TABLE 10.6: SECTOR: TEXTILE INDUSTRY (CARPET TREATMENT AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	120	100
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	300	200
TOTAL SUSPENDING SOLID MATERIALS	(mg/l)	160	120
AMMONIUM NITROGEN (NH <sub>4</sub> -N)	(mg/l)	5	
FREE CHLORINE	(mg/l)	0.3	
OIL AND GREASE	(mg/l)	10	
TOTAL CHROMIUM	(mg/l)	2	1
SULPHUR (S <sup>-2</sup> )	(mg/l)	0.1	
SULPHIDE	(mg/l)	1	
PHENOL		1	0.5
pH		6-9	6-9

TABLE 10.7: SECTOR: TEXTILE INDUSTRY (SYNTHETIC TEXTILE TREATMENT AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
-----------	------	--------------------------	---------------------------

BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	100	80
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	400	300
SULPHUR (S <sup>-2</sup> )	(mg/l)	0.1	
PHENOL	(mg/l)	1	0.5
ZINC (Zn)	(mg/l)	12	10
FISH BIO-EXPERIMENT (ZSF)		3	2
pH		6-9	6-9

TABLE 11: DISCHARGE STANDARDS OF OIL INDUSTRY WASTE WATERS INTO RECIPIENT ENVIRONMENT

TABLE 11.1: SECTOR: OIL INDUSTRY (OIL REFINERIES AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	100	50
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	120	60
OIL AND GREASE	(mg/l)	20	10
AMMONIUM NITROGEN (NH <sub>4</sub> -N)	(mg/l)	40	20
HYDROCARBONS	(mg/l)	15	10
SULPHUR (S <sup>-2</sup> )	(mg/l)	2	1
PHENOL	(mg/l)	2	1
CHROMIUM (Cr <sup>+6</sup> )	(mg/l)	0.2	0.1
TOTAL CYANIDE	(mg/l)	2	1
pH		6-9	6-9

TABLE 11.2: SECTOR: OIL INDUSTRY (OIL LOADING FACILITIES AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	100	50
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	400	200
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	60	30
OIL AND GREASE	(mg/l)	40	20
HYDROCARBONS	(mg/l)	6	5
PHENOL	(mg/l)	2	1
TOTAL CYANIDE	(mg/l)	0.5	0.2
SULPHUR (S <sup>-2</sup> )	(mg/l)	2	1
pH		6-9	6-9

TABLE 12: DISCHARGE STANDARDS OF LEATHER, LEATHER PRODUCTS AND SIMILAR INDUSTRY WASTE WATERS INTO RECIPIENT ENVIRONMENT

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
-----------	------	--------------------------	---------------------------

BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	150	100
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	250	200
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	200	150
OIL AND GREASE	(mg/l)	30	20
SULPHUR (S <sup>-2</sup> )	(mg/l)	2	1
CHROMIUM (Cr <sup>+6</sup> )	(mg/l)	0.5	0.3
TOTAL CHROMIUM	(mg/l)	3	2
FISH BIO-EXPERIMENT (ZSF)	(mg/l)	4	4
pH		6-9	6-9

TABLE 13: DISCHARGE STANDARDS OF CELLULOSE, PAPER, CARDBOARD AND SIMILAR INDUSTRY WASTE WATERS INTO RECIPIENT ENVIRONMENT

TABLE 13.1: SECTOR: CELLULOSE, PAPER, CARDBOARD AND SIMILAR INDUSTRIES

PARAMETER	UNIT	INSTANTANEO US SAMPLE	COMPOSITE SAMPLE 24 HOURS
FLOW RATE	(m <sup>3</sup> /t)		100
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l) (kg/t)		300 30
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l) (kg/t)		800 80
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)		80
PRECIPITABLE SOLID MATERIAL	(ml/l)	2	5
FISH BIO-EXPERIMENT (ZSF)			8

TABLE 13.2: SECTOR: CELLULOSE, PAPER, CARDBOARD AND SIMILAR INDUSTRIES (SCRAP PAPER, UNBLEACHED CELLULOSE PRODUCTION FROM STRAW AND PAPER)

PARAMETER	UNIT	INSTANTANEO US SAMPLE	COMPOSITE SAMPLE 24 HOURS
FLOW RATE	(m <sup>3</sup> /t)		150
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l) (kg/t)		270 40
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l) (kg/t)		870 130
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)		80
PRECIPITABLE SOLID MATERIAL	(ml/l)	4.5	12
FISH BIO-EXPERIMENT (ZSF)			8

TABLE 13.3: SECTOR: CELLULOSE, PAPER, CARDBOARD AND SIMILAR INDUSTRIES (BLEACHED CELLULOSE PRODUCTION)

PARAMETER	UNIT	INSTANTANEO US SAMPLE	COMPOSITE SAMPLE 24 HOURS
-----------	------	--------------------------	---------------------------------

FLOW RATE	(m <sup>3</sup> /t)		200
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l) (kg/t)		350 70
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l) (kg/t)		1000 220
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)		50
PRECIPITABLE SOLID MATERIAL	(ml/l)	6	10
FISH BIO-EXPERIMENT (ZSF)			8

TABLE 13.4: SECTOR: CELLULOSE, PAPER, CARDBOARD AND SIMILAR INDUSTRIES (PURE CELLULOSE PRODUCTION)

PARAMETER	UNIT	INSTANTANEO US SAMPLE	COMPOSITE SAMPLE 24 HOURS
FLOW RATE	(m <sup>3</sup> /t)		230
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l) (kg/t)		500 120
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l) (kg/t)		1500 350
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)		50
PRECIPITABLE SOLID MATERIAL	(ml/l)	7	11.8
FISH BIO-EXPERIMENT (ZSF)			8

TABLE 13.5: SECTOR: CELLULOSE, PAPER, CARDBOARD AND SIMILAR INDUSTRIES (PAPER WITHOUT STARCH ADDITIVE)

PARAMETER	UNIT	INSTANTANEO US SAMPLE	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l) (kg/t)		40 3
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l) (kg/t)		100 6
PRECIPITABLE SOLID MATERIAL	(ml/l)	0.5	

TABLE 13.6: SECTOR: CELLULOSE, PAPER, CARDBOARD AND SIMILAR INDUSTRIES (PAPER WITH STARCH ADDITIVE)

PARAMETER	UNIT	INSTANTANEO US SAMPLE	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l) (kg/t)		40 3
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l) (kg/t)		100 8
PRECIPITABLE SOLID MATERIAL	(ml/l)	0.5	

TABLE 13.7: SECTOR: CELLULOSE, PAPER, CARDBOARD AND SIMILAR INDUSTRIES (EXTREMELY THIN TISSUED PAPER ACQUIRED FROM PURE CELLULOSE)

PARAMETER	UNIT	INSTANTANEO US SAMPLE	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l) (kg/t)		40 6
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l) (kg/t)	0.5	120 15
PRECIPITABLE SOLID MATERIAL	(ml/l)		

TABLE 13.8: SECTOR: CELLULOSE, PAPER, CARDBOARD AND SIMILAR INDUSTRIES  
(SURFACE PLATED, STUFFEDPAPER )

PARAMETER	UNIT	INSTANTANEO US SAMPLE	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l) (kg/t)		35 0.7
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l) (kg/t)	0.5	75 2 *
PRECIPITABLE SOLID MATERIAL	(ml/l)		

(\*) If more than 50% is of thermomechanical pulp this value will be 5

TABLE 13.9: SECTOR: CELLULOSE, PAPER, CARDBOARD AND SIMILAR INDUSTRIES  
(PAPER CONTAINING MORE THAN 5% WOOD FIBRES BUT LOW RATE  
CLIPPING CONTENT )

PARAMETER	UNIT	INSTANTANEO US SAMPLE	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l) (kg/t) (mg/l)	0.5	35 0.8 100
CHEMICAL OXYGEN REQUIREMENT (COR)	(kg/t) (ml/l)		5
PRECIPITABLE SOLID MATERIAL			

TABLE 13.10: SECTOR: CELLULOSE, PAPER, CARDBOARD AND SIMILAR INDUSTRIES  
(PAPER PRODUCED FROM CLIPPINGS )

PARAMETER	UNIT	INSTANTANEO US SAMPLE	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l) (kg/t) (mg/l)	0.5	45 1.2 120
CHEMICAL OXYGEN REQUIREMENT (COR)	(kg/t) (ml/l)		6 -
PRECIPITABLE SOLID MATERIAL			

TABLE 13.11: SECTOR: CELLULOSE, PAPER, CARDBOARD AND SIMILAR INDUSTRIES  
(VELLUM )

PARAMETER	UNIT	INSTANTANEO US SAMPLE	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l) (kg/t) (mg/l)	0.5	40 6 100
CHEMICAL OXYGEN REQUIREMENT (COR)	(kg/t) (ml/l)		12
PRECIPITABLE SOLID MATERIAL			

TABLE 14: DISCHARGE STANDARDS OF CHEMICAL INDUSTRY WASTE WATERS  
INTO RECIPIENT ENVIRONMENT

TABLE 14.1: SECTOR: CHEMICAL INDUSTRY (CHLORINE-ALKALI PRODUCTION)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	80	50
MERCURY (Hg)	(mg/l)		0.05
ACTIVE CHLORINE	(ml/l)	5	
FISH BIO-EXPERIMENT (ZSF)		5	
PH		6-9	6-9

TABLE 14.2: SECTOR: CHEMICAL INDUSTRY (PERBORADE AND OTHER BORON PRODUCTS)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	100	
BORON (B)	(mg/l)	500	
FISH BIO-EXPERIMENT (ZSF)		8	
PH		6-9	6-9

TABLE 14.3: SECTOR: CHEMICAL INDUSTRY (ORPIMENT PRODUCTION AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	200	150
SULPHUR (S <sup>-2</sup> )	(mg/l)	2.0	1.0
OIL AND GREASE	(mg/l)	20	10
FISH BIO-EXPERIMENT (ZSF)		4	4
pH		6-9	6-9

TABLE 14.4: SECTOR: CHEMICAL INDUSTRY (PAINT PRODUCTION AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	50	30
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	200	150
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	60	40
FISH BIO-EXPERIMENT (ZSF)		3	
pH		6-9	6-9

TABLE 14.5: SECTOR: CHEMICAL INDUSTRY (PAINT RAW MATERIALS AND AUXILLIARY MATERIALS PRODUCTION AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	200	150
CHROMIUM (Cr <sup>+6</sup> )	(mg/l)	0.5	0.3
CADMIUM (Cd)	(mg/l)	0.15	0.1
ZINC (Zn)	(mg/l)	4	3
TOTAL CHROMIUM	(mg/l)	2	1
LEAD (Pb)	(mg/l)	2	1
IRON (Fe)	(mg/l)	30	
TOTAL CYANIDE (CN)	(mg/l)	2	1
FISH BIO-EXPERIMENT (ZSF)		6	3
pH		6-9	6-9

TABLE 14.6: SECTOR: CHEMICAL INDUSTRY (MEDICINE PRODUCTION AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> ) FISH BIO-EXPERIMENT (ZSF) pH	(mg/l)	50 6 6-9	6-9

TABLE 14.7: SECTOR: CHEMICAL INDUSTRY (FERTILIZER PRODUCTION AND ALIKE)

TABLE 14.7.a. PRODUCTION OF COMPOSED FERTILIZER COMPRISING NITROGEN AND OTHER MATERIALS

PARAMETER	UNIT	INSTANTANEO US SAMPLE	COMPOSITE SAMPLE 2 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)		200
	(kg/t)		3
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)		100
TOTAL CADMIUM	(mg/l)		0.5
	(g/t)		0.5/1 *
AMMONIUM NITROGEN (NH <sub>4</sub> -N)	(mg/l)		50
	(kg/t)		14
NITRATE NITROGEN (NO <sub>3</sub> -N)	(mg/l)		50
	(kg/t)		14
PHOSPHATE PHOSPHOR (PO <sub>4</sub> -P)	(mg/l)		35
	(kg/t)		3
FLORIDE (F <sup>-</sup> )	(mg/l)		15
	(kg/t)		3.5
pH		6-9	6-9

(\*): Up to 50 g cadmium the standard value will be accepted as 0.5 g/t  
 For 50-100 g cadmium standard value will be accepted as 1.0 g/t

TABLE 14.7.b. PRODUCTION OF FERTILIZER ONLY COMPRISING NITROGEN)

PARAMETER	UNIT	INSTANTANEO US SAMPLE	COMPOSITE SAMPLE 2 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)		150
	(kg/t)		2
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)		100
AMMONIUM NITROGEN (NH <sub>4</sub> -N)	(mg/l)		50
	(kg/t)		4
NITRATE NITROGEN (NO <sub>3</sub> -N)	(mg/l)		50
	(kg/t)		4
pH		6-9	6-9

TABLE 14.7.C. PRODUCTION OF PHOSPHATE FERTILIZER AND PHOSPHORIC ACID)

PARAMETER	UNIT	INSTANTANEO US SAMPLE	COMPOSITE SAMPLE 2 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)		200
	(kg/t)		3
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)		100
TOTAL CADMIUM	(mg/l)		0.5
	(g/t)		0.5/1 *
PHOSPHATE PHOSPHOR (PO <sub>4</sub> -P)	(mg/l)		35
	(kg/t)		3
FLORIDE (F <sup>-</sup> )	(mg/l)		15
	(kg/t)		3
pH		6-9	6-9

(\*): Up to 50 g cadmium the standard value will be accepted as 0.5 g/t  
 For 50-100 g cadmium standard value will be accepted as 1.0 g/t

TABLE 14.8: SECTOR: CHEMICAL INDUSTRY (PROCESSING OF PLASTIC MATERIALS AND PRODUCTION OF PLASTIC EQUIPMENT)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	50	30
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	200	100
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	??	45
OIL AND GREASE	(mg/l)	25	10
TOTAL PHOSPHOR	(mg/l)	2.5	1
FISH BIO-EXPERIMENT (ZSF)		5	3
pH		6-9	6-9

TABLE 14.9: SECTOR: CHEMICAL INDUSTRY (MEDICAL AND AGRICULTURAL PREPERATIONS AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	50	
FISH BIO-EXPERIMENT (ZSF)		10	
pH		6-9	

TABLE 14.10: SECTOR: CHEMICAL INDUSTRY (DETERGENT PRODUCTION AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	200	100
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	150	100
SURFACE ACTIVE MATERIAL	(mg/l)	10	5
TOTAL PHOSPHOR (P)	(mg/l)	2	1
pH		6-9	6-9

TABLE 14.11: SECTOR: CHEMICAL INDUSTRY (RUBBER PRODUCTION AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	60	50
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	200	100
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	65	45
pH		6-9	6-9

TABLE 14.12: SECTOR: CHEMICAL INDUSTRY (PETROCHEMICALS AND HYDROCARBONS PRODUCTION FACILITIES)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	100	50
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	300	250
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	200	100
OIL AND GREASE	(mg/l)	20	10
HYDROCARBONS	(mg/l)	15	10
AMMONIUM NITROGEN (NH <sub>4</sub> -N)	(mg/l)	20	10
PHENOL	(mg/l)	2	1
TOTAL CYANIDE (CN)	(mg/l)	1	0.5
SULPHUR (S <sup>-2</sup> )	(mg/l)	2	1
MERCURY (Hg)	(mg/l)	0.15	0.05
CADMIUM (Cd)	(mg/l)	1	0.5
ZINC (ZN)	(mg/l)	1	0.5
LEAD (Pb)	(mg/l)	0.5	0.2
CHROMIUM (Cr <sup>+6</sup> )	(mg/l)	1	??
COPPER (Cu)		6	4
FISH BIO-EXPERIMENT (ZSF)		6-9	6-9
pH			

TABLE 14.13. SECTOR: CHEMICAL INDUSTRY (SODA PRODUCTION)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	1500	
CHLORIDE *	(kg/t)	190	
FISH BIO-EXPERIMENT (ZSF) *	(mg/l)	15000	
pH	(kg/t)	1200	
		32	
		6-9	

(\*): If discharged into sea recipient environment, compliance with these parameter restrictions are not necessary.

TABLE 14.14. SECTOR: CHEMICAL INDUSTRY (CARBIDE PRODUCTION)

PARAMETER	UNIT	INSTANTANEO US SAMPLE	COMPOSITE SAMPLE 2 HOURS
PRECIPITABLE SOLID MATERIALS	(ml/l)	0.3	
FREE CHLORINE *	(mg/t)	0.5	
FREE CYANIDE	(mg/l)		0.5
	(g/t)		4
SUSPENDING SOLID MATERIALS	(mg/l)		100
FISH BIO-EXPERIMENT (ZSF)			2
pH		6-9	6-9

(\*) Means free chlorine in the water when Cyanide is removed with Hypochlorite

TABLE 14.15: SECTOR: CHEMICAL INDUSTRY (BARIUM COMPOSITION PRODUCTION)

PARAMETER	UNIT	INSTANTENEO US SAMPLE	COMPOSITE SAMPLE 2 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)		100
PRECIPITABLE SOLID MATERIALS	(mg/l)	0.5	
SULPHUR (S <sup>-2</sup> )	(mg/l)		1
BARIUM (Ba)	(mg/l)		5
FISH BIO-EXPERIMENT (ZSF)			3
pH		6-9	6-9

TABLE 14.16: SECTOR: CHEMICAL INDUSTRY (DISPERSING OXIDES PRODUCTION)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
FREE CHLORINE	(mg/l)		4
	(kg/l)		0.6
CHLORIDE	(mg/l)		3100
	(kg/l)		470
FISH BIO-EXPERIMENT (ZSF)		16	

TABLE 15: DISCHARGE STANDARDS OF METAL INDUSTRY WASTE WATERS INTO RECIPIENT ENVIRONMENT

TABLE 15.1 SECTOR: METAL INDUSTRY (IRON AND STEEL PRODUCTION)

TABLE 15.1.a. IRON AND STEEL PRODUCTION IN GENERAL

PARAMETER	UNIT	INSTANTENOUS SAMPLE 2 HOURS	COMPOSITE SAMPLE 2 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)		100
OIL AND GREASE	(mg/l)		20
PRECIPITABLE SOLID MATERIALS	(ml/l)	0.5	
LEAD (Pb)	(mg/l)		0.5
IRON (Fe)	(mg/l)		20
ZINC (Zn)	(mg/l)		4
pH		6-9	6-9

TABLE 14.1.b: IRON AND STEEL PROCESSING FACILITIES

PARAMETER	UNIT	INSTANTENOUS SAMPLE 2 HOURS	COMPOSITE SAMPLE 2 HOURS
LOADING FACILITIES			
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)		200
PRECIPITABLE SOLID MATERIALS	(ml/l)	0.8	
PIPE PRODUCTION			
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)		200
TIN PRODUCTION			
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)		200
LEADING AND PATENTING UNITS			
LEAD (Pb)	(mg/l)		2

TABLE 15.2: SECTOR: METAL INDUSTRY (METAL PREPERATION AND PROCESSING IN GENERAL)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
-----------	------	-----------------------------	------------------------------

CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	200	100
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	125	50
OIL AND GREASE	(mg/l)	20	10
AMMONIUM NITROGEN (NH <sub>4</sub> -N)	(mg/l)	100	
NITRATE NITROGEN (NO <sub>2</sub> -N)	(mg/l)	10	5
ACTIVE CHLORINE	(mg/l)	0.5	
SULPHUR (S <sup>-2</sup> )	(mg/l)	2	
TOTAL CHROMIUM *	(mg/l)	2	-
CHROMIUM (Cr <sup>+6</sup> ) *	(mg/l)	0.5	0.5
LEAD (Pb) *	(mg/l)	2	1
TOTAL CYANIDE (CN) *	(mg/l)	0.5	0.1
MERCURY (Hg) *	(mg/l)	0.05	0.01
CADMIUM (Cd) *	(mg/l)	0.5	0.1
ALUMINIUM (Al) *	(mg/l)	3	2
IRON (Fe) *	(mg/l)	3	
FLORIDE (F) *	(mg/l)	50	30
COPPER (Cu) *	(mg/l)	3	1
NICKEL (Ni) *	(mg/l)	3	2
ZINC (ZN) *	(mg/l)	5	3
SILVER (Ag) *	(mg/l)	0.1	
FISH BIO-EXPERIMENT (ZSF)		10	
pH		6-9	6-9

(\*) From those parameters the ones whichever is expected to be in waste water should be analysed.

Otherwise, parameters other than those should be analysed and compliance with the values given in the table be checked.

TABLE 15.3: SECTOR: METAL INDUSTRY (GALVANIZING)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	600	
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	125	
OIL AND GREASE	(mg/l)	20	
AMMONIUM NITROGEN (NH <sub>4</sub> -N)	(mg/l)	100	
ACTIVE CHLORINE	(mg/l)	0.5	
TOTAL CHROMIUM	(mg/l)	2	
CHROMIUM (Cr <sup>+6</sup> )	(mg/l)	0.5	
LEAD (Pb)	(mg/l)	1	
TOTAL CYANIDE (CN)	(mg/l)	0.2	
CADMIUM (Cd)	(mg/l)	0.5	
ALUMINIUM (Al)	(mg/l)	3	
IRON (Fe)	(mg/l)	3	
FLORIDE (F)	(mg/l)	50	
COPPER (Cu)	(mg/l)	2	
NICKEL (Ni)	(mg/l)	3	
ZINC (ZN)	(mg/l)	5	
SILVER (Ag)	(mg/l)	0.1	
FISH BIO-EXPERIMENT (ZSF)	(mg/l)	8	
pH		6-9	

TABLE 15.4: SECTOR: METAL INDUSTRY (ETCHING TREATMENT)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	100	
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	125	
OIL AND GREASE	(mg/l)	20	
AMMONIUM NITROGEN (NH <sub>4</sub> -N)	(mg/l)	10	
ACTIVE CHLORINE	(mg/l)	0.5	
TOTAL CHROMIUM	(mg/l)	1	
CHROMIUM (Cr <sup>+6</sup> )	(mg/l)	0.5	
ALUMINIUM (Al)	(mg/l)	3	
IRON (Fe)	(mg/l)	3	
FLORIDE (F)	(mg/l)	20	
COPPER (Cu)	(mg/l)	2	
NICKEL (Ni)	(mg/l)	2	
ZINC (ZN)	(mg/l)	5	
FISH BIO-EXPERIMENT (ZSF)		5	
pH		6-9	

TABLE 15.5: SECTOR: METAL INDUSTRY (ELECTROLYTIC COATING)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	100	
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	125	
OIL AND GREASE	(mg/l)	20	
NITRATE NITROGEN (NO <sub>2</sub> -N)	(mg/l)	5	
ACTIVE CHLORINE	(mg/l)	0.5	
TOTAL CHROMIUM	(mg/l)	1	
CHROMIUM (Cr <sup>+6</sup> )	(mg/l)	0.5	
ALUMINIUM (Al)	(mg/l)	3	
FLORIDE (F)	(mg/l)	50	
ZINC (ZN)	(mg/l)	3	
FISH BIO-EXPERIMENT (ZSF)		2	
pH		6-9	

TABLE 15.6: SECTOR: METAL INDUSTRY (METAL COLORING)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	200	
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	125	
OIL AND GREASE	(mg/l)	20	
NITRATE NITROGEN (NO <sub>2</sub> -N)	(mg/l)	10	
ACTIVE CHLORINE	(mg/l)	0.5	
TOTAL CHROMIUM *	(mg/l)	1	
CHROMIUM (Cr <sup>+6</sup> ) *	(mg/l)	0.5	
IRON (Fe) *	(mg/l)	3	
NICKEL (Ni) *	(mg/l)	2	
FISH BIO-EXPERIMENT (ZSF)		8	
pH		6-9	

TABLE 15.7: SECTOR: METAL INDUSTRY (HOT GALVANIZING (ZINC COATING) FACILITIES)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	200	
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	125	
OIL AND GREASE	(mg/l)	20	
AMMONIUM NITROGEN (NH <sub>4</sub> -N)	(mg/l)	400	
CADMIUM (Cd)	(mg/l)	0.1	
IRON (Fe)	(mg/l)	3	
FLORIDE (F)	(mg/l)	50	
ZINC (ZN)	(mg/l)	5	
FISH BIO-EXPERIMENT (ZSF)		10	
pH		6-9	

TABLE 15.8: SECTOR: METAL INDUSTRY (WATERING, HARDENING FACILITIES)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	1000	
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	125	
OIL AND GREASE	(mg/l)	20	
NITRATE NITROGEN (NO <sub>2</sub> -N)	(mg/l)	5	
ACTIVE CHLORINE	(mg/l)	0.5	
TOTAL CYANIDE (CN)	(mg/l)	1	
FISH BIO-EXPERIMENT (ZSF)		40	
pH		6-9	

TABLE 15.9: SECTOR: METAL INDUSTRY (CONDUCTIVE PLATE PRODUCTION)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
-----------	------	--------------------------------	---------------------------------

CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	2500	
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	125	
OIL AND GREASE	(mg/l)	20	
AMMONIUM NITROGEN (NH <sub>4</sub> -N)	(mg/l)	100	
SULPHUR (S <sup>-2</sup> )	(mg/l)	2	
TOTAL CHROMIUM	(mg/l)	1	
CHROMIUM (Cr <sup>+6</sup> )	(mg/l)	0.5	
LEAD (Pb)	(mg/l)	1	
TOTAL CYANIDE (CN)	(mg/l)	0.2	
IRON (Fe)	(mg/l)	3	
FLORIDE (F)	(mg/l)	50	
COPPER (Cu)	(mg/l)	2	
NICKEL (Ni)	(mg/l)	3	
SILVER (Ag)	(mg/l)	0.1	
FISH BIO-EXPERIMENT (ZSF)		10	
pH		6-9	

TABLE 15.10: SECTOR: METAL INDUSTRY (BATTERY PRODUCTION)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	250	
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	125	
OIL AND GREASE	(mg/l)	20	
AMMONIUM NITROGEN (NH <sub>4</sub> -N)	(mg/l)	150	
SULPHUR (S <sup>-2</sup> )	(mg/l)	2	
CYANIDE (CN)	(mg/l)	2	
CADMIUM (Cd)	(mg/l)	0.05	
IRON (Fe)	(mg/l)	0.5	
MERCURY (Hg)	(mg/l)	3	
COPPER (Cu)	(mg/l)	2	
NICKEL (Ni)	(mg/l)	3	
ZINC (ZN)	(mg/l)	5	
SILVER (Ag)	(mg/l)	0.1	
FISH BIO-EXPERIMENT (ZSF)		8	
pH		6-9	

TABLE 15.11: SECTOR: METAL INDUSTRY (GLAZING, ENAMELING FACILITIES)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
-----------	------	--------------------------------	---------------------------------

CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	100	
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	125	
OIL AND GREASE	(mg/l)	20	
AMMONIUM NITROGEN (NH <sub>4</sub> -N)	(mg/l)	20	
NITRATE NITROGEN (NO <sub>2</sub> -N)	(mg/l)	5	
TOTAL CHROMIUM	(mg/l)	2	
CHROMIUM (Cr <sup>+6</sup> )	(mg/l)	0.5	
LEAD (Pb)	(mg/l)	1	
CADMIUM (Cd)	(mg/l)	0.2	
ALUMINIUM (Al)	(mg/l)	2	
IRON (Fe)	(mg/l)	3	
FLORIDE (F)	(mg/l)	50	
COPPER (Cu)	(mg/l)	2	
NICKEL (Ni)	(mg/l)	2	
ZINC (ZN)	(mg/l)	2	
FISH BIO-EXPERIMENT (ZSF)		4	
pH		6-9	

TABLE 15.12: SECTOR: METAL INDUSTRY (METAL GRINDING AND EMERY FACILITIES)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	800	
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	125	
OIL AND GREASE	(mg/l)	20	
AMMONIUM NITROGEN (NH <sub>4</sub> -N)	(mg/l)	300	
NITRATE NITROGEN (NO <sub>2</sub> -N)	(mg/l)	10	
TOTAL CHROMIUM	(mg/l)	1	
CHROMIUM (Cr <sup>+6</sup> )	(mg/l)	0.5	
LEAD (Pb)	(mg/l)	1	
TOTAL CYANIDE (CN)	(mg/l)	0.2	
CADMIUM (Cd)	(mg/l)	0.1	
ALUMINIUM (Al)	(mg/l)	3	
IRON (Fe)	(mg/l)	3	
FLORIDE (F)	(mg/l)	30	
COPPER (Cu)	(mg/l)	1	
NICKEL (Ni)	(mg/l)	1	
ZINC (ZN)	(mg/l)	3	
FISH BIO-EXPERIMENT (ZSF)		30	
pH		6-9	

TABLE 15.13: SECTOR: METAL INDUSTRY (METAL POLISHING AND VARNISHING FACILITIES)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	1500	
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	125	
OIL AND GREASE	(mg/l)	20	
ALUMINIUM (Al)	(mg/l)	3	
IRON (Fe)	(mg/l)	3	
COPPER (Cu)	(mg/l)	2	
ZINC (ZN)	(mg/l)	3	
FISH BIO-EXPERIMENT (ZSF)		8	
pH		6-9	

TABLE 15.14: SECTOR: METAL INDUSTRY (LAC/PAINTING)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	800	
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	125	
OIL AND GREASE	(mg/l)	20	
TOTAL CHROMIUM *	(mg/l)	1	
CHROMIUM (Cr <sup>+6</sup> ) *	(mg/l)	0.5	
LEAD (Pb) *	(mg/l)	1	
CADMIUM (Cd) *	(mg/l)	0.5	
ALUMINIUM (Al) *	(mg/l)	3	
IRON (Fe) *	(mg/l)	3	
COPPER (Cu) *	(mg/l)	2	
NICKEL (Ni) *	(mg/l)	1	
ZINC (ZN) *	(mg/l)	3	
FISH BIO-EXPERIMENT (ZSF)		10	
pH		6-9	

TABLE 15.15: SECTOR: METAL INDUSTRY (NON-IRON METAL PRODUCTION EXCLUDING ALUMINIUM)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	100	50
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	125	100
CADMIUM (Cd) *	(mg/l)	1	
OIL AND GREASE	(mg/l)	20	
MERCURY (Hg) *	(mg/l)		0.05
ZINC (ZN) *	(mg/l)	5	
LEAD (Pb) *	(mg/l)	2	
COPPER (Cu) *	(mg/l)	2	
IRON (Fe) *	(mg/l)	10	
TOTAL CHROMIUM *	(mg/l)	2	
CHROMIUM (Cr <sup>+6</sup> ) *	(mg/l)	0.5	
ARSENIC *	(mg/l)	0.1	
NICKEL (Ni) *	(mg/l)	3	
TOTAL CYANIDE (CN) *	(mg/l)	0.1	
pH	(mg/l)	6-9	6-9

(\* ) From those parameters the ones whichever is expected to be in waste water should be analysed.

Otherwise, parameters other than those should be analysed and compliance with the values given in the table be checked.

TABLE 15.16: SECTOR: METAL INDUSTRY (ALUMINIUM OXIDE AND ALUMINIUM MELTING)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
-----------	------	--------------------------------	---------------------------------

CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	200	140
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	125	100
OIL AND GREASE	(mg/l)	20	10
ALUMINIUM (Al)	(mg/l)	3	
ACTIVE CHLORINE	(mg/l)	0.5	
FLORIDE (F)	(mg/l)	50	
pH	(mg/l)	6-9	30 6-9

TABLE 15.17: SECTOR: METAL INDUSTRY (IRON AND NON-IRON FOUNDRY AND METAL FORMING)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	200	150
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	150	100
OIL AND GREASE	(mg/l)	20	10
CADMIUM (Cd) *	(mg/l)	1	
MERCURY (Hg) *	(mg/l)		0.05
ZINC (ZN) *	(mg/l)	5	
LEAD (Pb) *	(mg/l)	2	
COPPER (Cu) *	(mg/l)	2	
IRON (Fe) *	(mg/l)	10	
TOTAL CHROMIUM *	(mg/l)	2	
CHROMIUM (Cr <sup>+6</sup> ) *	(mg/l)	0.5	
ARSENIC *	(mg/l)	0.1	
ALUMINIUM (Al)	(mg/l)	3	2
NICKEL (Ni) *	(mg/l)	3	
TOTAL CYANIDE (CN) *	(mg/l)	0.1	
pH		6-9	6-9

(\* ) From those parameters the ones whichever is expected to be in waste water should be analysed.

Otherwise, parameters other than those should be analysed and compliance with the values given in the table be checked.

TABLE 16: DISCHARGE STANDARDS OF WOOD PRODUCTS AND FURNITURE INDUSTRY WASTE WATERS INTO RECIPIENT ENVIRONMENT (FIBERBOARD, DURALITE, TIMBER, WOODWORK, BOX, PACKAGING, ETC.)

PARAMETER	UNIT	INSTANTANEO US SAMPLE	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l) (kg/t)		50 2
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l) (kg/t)		100 8
PRECIPITABLE SOLID MATERIAL	(ml/l)	0.5	
pH		6-9	6-9

TABLE 17: DISCHARGE STANDARDS OF SERIAL MACHINERY PRODUCTION, ELECTRICAL MACHINERY AND EQUIPMENT, SPARE PARTS INDUSTRY WASTE WATERS INTO RECIPIENT ENVIRONMENT

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	250	100
OIL AND GREASE	(mg/l)	20	10
AMMONIUM NITROGEN (NH <sub>4</sub> -N)	(mg/l)	150	100
CHROMIUM (Cr <sup>+6</sup> )	(mg/l)	0.5	0.5
LEAD (Pb)	(mg/l)	2	1
TOTAL CYANIDE (CN)	(mg/l)	0.5	0.1
pH	(mg/l)	6-9	6-9

TABLE 18: DISCHARGE STANDARDS OF VEHICLE PLANT AND REPAIR SHOP WASTE WATERS INTO RECIPIENT ENVIRONMENT

TABLE 18.1: SECTOR: ENGINED AND NON-ENGINED VEHICLE REPAIR SHOPS (CAR AND TRACTOR REPAIR SHOPS AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
OIL AND GREASE	(mg/l)	20	10
AMMONIUM NITROGEN (NH <sub>4</sub> -N)	(mg/l)	100	
TOTAL CYANIDE (CN)	(mg/l)	1	0.2
TOTAL CHROMIUM	(mg/l)	2	1
FISH BIO-EXPERIMENT (ZSF)	(mg/l)	10	
pH		6-9	6-9

TABLE 18.2: SECTOR: VEHICLE PLANTS (PLANTS MANUFACTURING CARS, TRUCKS, TRACTORS, MINIBUSES, BICYCLES, MOTORCYCLES AND SIMILAR VEHICLES)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
-----------	------	--------------------------	---------------------------

CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	400	300
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	80	40
OIL AND GREASE	(mg/l)	20	
AMMONIUM NITROGEN (NH <sub>4</sub> -N)	(mg/l)	100	
NITRATE NITROGEN (NO <sub>2</sub> -N)	(mg/l)	5	
FREE CYANIDE	(mg/l)	0.05	
TOTAL CHROMIUM	(mg/l)	0.5	
CHROMIUM (Cr <sup>+6</sup> )	(mg/l)	0.05	
NICKEL (Ni)	(mg/l)	1	
CADMIUM (Cd)	(mg/l)	0.05	
IRON (Fe)	(mg/l)	3	
ALUMINIUM (Al)	(mg/l)	3	
LEAD (Pb)	(mg/l)	0.3	
COPPER (Cu)	(mg/l)	0.3	
ZINC (ZN)	(mg/l)	2	
MERCURY (Hg)	(mg/l)	0.005	
FLORIDE (F)	(mg/l)	5	
FISH BIO-EXPERIMENT (ZSF)		8	
pH		6-9	6-9

TABLE 18.3: SECTOR: SHIP YARDS AND SHIP DISMANTLING FACILITIES (\*)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	400	200
OIL AND GREASE	(mg/l)	20	10
TOTAL CYANIDE (CN)	(mg/l)	1	0.2
TOTAL CHROMIUM	(mg/l)	2	1
FISH BIO-EXPERIMENT (ZSF)		10	
pH		6-9	6-9

(\*) As well as compliance with the recipient environment standards for sea environment (TABLE 4) if recreational utilization is underway for nearby coastal protection areas, recreational standards in these areas will not be violated.

TABLE 19: DISCHARGE STANDARDS OF MISCELLEANOUS INDUSTRIES WASTE WATERS INTO RECIPIENT ENVIRONMENT (SMALL AND LARGE SCALE ORGANIZED INDUSTRIAL REGIONS AND OTHER INDUSTRIES OF WHICH NO SECTORS ARE BEING SPECIFIED)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
-----------	------	--------------------------------	---------------------------------

BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	100	50
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	160	100
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	200	100
OIL AND GREASE	(mg/l)	20	10
TOTAL PHOSPHOR	(mg/l)	2	1
TOTAL CHROMIUM	(mg/l)	2	1
CHROMIUM (Cr <sup>+6</sup> )	(mg/l)	0.5	0.5
LEAD (Pb)	(mg/l)	2	1
TOTAL CYANIDE (CN)	(mg/l)	1	0.5
CADMIUM (Cd)	(mg/l)	0.1	
IRON (Fe)	(mg/l)	10	
FLORIDE (F)	(mg/l)	15	
COPPER (Cu)	(mg/l)	3	
ZINC (ZN)	(mg/l)	5	
MERCURY (Hg)			0.05
FISH BIO-EXPERIMENT (ZSF)		10	10
pH		6-9	6-9

TABLE 20: DISCHARGE STANDARDS OF INDUSTRIAL NATURED OTHER WASTE WATERS INTO RECIPIENT ENVIRONMENT

TABLE 20.1: SECTOR: INDUSTRIAL NATURED OTHER WASTE WATERS (INDUSTRIAL COOLING WATERS AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	200	150
OIL AND GREASE	(mg/l)	20	10
FISH BIO-EXPERIMENT (ZSF)		5	
HEAT	(°C)	35	30
pH		6-9	6-9

TABLE 20.2: SECTOR: INDUSTRIAL NATURED OTHER WASTE WATERS (DISCHARGE WATERS OF WATER FILTERS USED FOR CONTROLLING AIR POLLUTION AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	250	200
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	150	100
SULPHATE (SO <sup>-2</sup> )	(mg/l)	2500	1500
FISH BIO-EXPERIMENT (ZSF)	(°C)	10	
HEAT		35	30
pH		6-9	6-9

TABLE 20.3: SECTOR: INDUSTRIAL NATURED OTHER WASTE WATERS (PETROL STATIONS, FLOOR AND VEHICLE WASHING WASTE WATERS)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	200	150
OIL AND GREASE	(mg/l)	20	10
FISH BIO-EXPERIMENT (ZSF)		20	
pH		6-9	6-9

TABLE 20.4: SECTOR: INDUSTRIAL NATURED OTHER WASTE WATERS (ADHESIVE PRODUCTION)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	50	30
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	140	120
pH		6-9	6-9

TABLE 20.5: SECTOR: INDUSTRIAL NATURED OTHER WASTE WATERS (WASHING WATERS OF DRINKING WATER FILTERS AND ALIKE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	100	70
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	150	100
pH		6-9	6-9

TABLE 20.6: SECTOR: SOLID WASTE TREATMENT AND DISPOSAL FACILITIES

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	100	50
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	160	100
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	200	100
OIL AND GREASE	(mg/l)	20	10
TOTAL PHOSPHOR (PO <sub>4</sub> -P)	(mg/l)	2	1
TOTAL CHROMIUM	(mg/l)	2	1
CHROMIUM (Cr <sup>+6</sup> )	(mg/l)	0.5	0.5
LEAD (Pb)	(mg/l)	2	1
TOTAL CYANIDE (CN)	(mg/l)	1	0.5
CADMIUM (Cd)	(mg/l)	0.1	
IRON (Fe)	(mg/l)	10	
FLORIDE (F)	(mg/l)	15	
COPPER (Cu)	(mg/l)	3	
ZINC (ZN)	(mg/l)	5	
FISH BIO-EXPERIMENT (ZSF)		10	
pH		6-9	6-9

TABLE 20.7: SECTOR: WATER SOFTENING, DEMINERALIZATION AND REGENERATION, ACTICE CARBON WASHING AND REGENERATION FACILITIES

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
CHLORIDE (Cl)	(mg/l)	2000	1500
SULPHATE (SO <sub>4</sub> )	(mg/l)	3000	2500
IRON /Fe)	(mg/l)	10	
FISH BIO-EXPERIMENT (ZSF)		10	
pH		6-9	6-9

TABLE 21: DISCHARGE STANDARDS OF HOUSEHOLD WASTE WATERS INTO RECIPIENT STANDARDS

TABLE 21.1: SECTOR: HOUSEHOLD WASTE WATERS (CLASS 1: POLLUTION LOAD SMALLER THAN 60 KG/DAY AS RAW BOR; POPULATION < 1000)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	50	45
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	180	120
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	70	45
pH		6-9	6-9

TABLE 21.2: SECTOR: HOUSEHOLD WASTE WATERS (CLASS 2: POLLUTION LOAD IS 60-600 KG/DAY AS RAW BOR; POPULATION = 1000-10000)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	50	45
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	160	110
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	60	30
pH		6-9	6-9

TABLE 21.3: SECTOR: HOUSEHOLD WASTE WATERS (CLASS 3: POLLUTION LOAD LARGER THAN 600 KG/DAY AS RAW BOR; POPULATION >10000)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	??	45
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	??	100
SUSPENDING SOLID MATERIALS (SSM)	(mg/l)	??	30
pH		6-9	6-9

TABLE 21.4: SECTOR: HOUSEHOLD WASTE WATERS (FOR URBAN WASTE WATER PURIFICATION FACILITIES CONDUCTING BIOLOGICAL PURIFICATION BY STABILIZATION POOLS, REGARDLESS OF POPULATION EQUIVALENCE)

PARAMETER	UNIT	COMPOSITE SAMPLE 2 HOURS	COMPOSITE SAMPLE 24 HOURS
-----------	------	--------------------------	---------------------------

BIOCHEMICAL OXYGEN REQUIREMENT (BOR <sub>5</sub> )	(mg/l)	75	50
DISSOLVED	(mg/l)	150	100
CHEMICAL OXYGEN REQUIREMENT (COR)	(mg/l)	200	150
SUSPENDING SOLID MATERIALS (SSM)		6-9	6-9
pH			

Table 22: Particularities of waste water permissible for deep sea discharging

Parameter	Limit	Remarks
pH	6-9	
Heat	35°C	
Suspending solid materials	350	
Oil and grease	10	
Floating materials	No	
5 days biochemical oxygen requirement, BOR <sub>5</sub> (mg/l)	250	
Chemical oxygen requirement, COR (mg/l)	400	
Total nitrogen (mg/l)	40	
Total phosphor (mg/l)	10	
Surface active materials (mg/l)	10	In principle, dumping of materials of which the fragmentation is not adequate under the standards of the Institute of Turkish Standards is prohibited
Other parameters		Should comply with the limit values given for these parameters in the Dangerous and Harmful Materials Directives

Table 23: Criteria to be applied for deep sea discharging

Parameter	Limit
Heat	Regardless of the thinning capacity of the sea water, the heat of the waters to be discharged into the sea can not exceed 35°C. Hot water discharges can not raise the temperature of the sea water by 1°C in summer period covering June-September and by 2°C in other months after being mixed with, following the first thinning (T <sub>1</sub> ) ensured by the diffuser physically.
Total and fecal coliforms as the most possible number (EMS)	The total coliform level in EMS should be less than 1000 TC/100 ml and coliform level should be less than 200 FC 100 ml for 90% of the time in protection areas where there is human contact, following the total thinning acquired by deep sea discharging.
Solid and floating materials	There should not be visible solid and floating materials on the difuser outlet, outside the belt of which the total width is equal to the depth of the sea at that point
Other parameters	Will conform with the limits given in Table 4

Table 24: Minimum discharge pipe length with respect to household waste water flow rates

Population	Flow Rate	Minimum Discharge Pipe Length
< 1000	200 m <sup>3</sup> /day	500 m
1000-10 000	200-2000 m <sup>3</sup> /day	1300 m

Table 25: Waste water standards foreseen for the discharge of waste waters into waste water infrastructure facilities

Parameter	Sewage systems end up with waste water infrastructure facilities for complete purification	Sewage systems end up with waste water infrastructure facilities for deep sea discharging
Heat (°C)	40	40
pH	6.5-10.0	6.0-10.0
Suspending Solid Materials	500	350
Oil And Grease (mg/l)	250	50
Tar and petrol originated oils (mg/l)	50	10
Chemical Oxygen Requirement (COR) (mg/l)	4000	600
Sulphate (SO <sub>4</sub> ) (mg/l)	1000	1000
Total Sulphur (S <sup>-</sup> ) (mg/l)	2	2
Phenol (mg/l)	20	10
Active Chlorine (mg/l)	5	5
Total Nitrogen (N) (mg/l)	-(a)	40
Total Phosphor (P) (mg/l)	-(a)	10
Arsenic (As) (mg/l)	3	10
Total Cyanide (Cn) (mg/l)	10	10
Total Lead (Pb) (mg/l)	3	3
Total Cadmium (Cd) (mg/l)	2	2
Total Chromium (Cr) (mg/l)	5	5
Total Mercury (Hg) (mg/l)	0.2	0.2
Total Copper (Cu) (mg/l)	2	2
Total Nickel (Ni) (mg/l)	5	5
Total Zinc (Zn) (mg/l)	10	10
Total Tin (Sn) (mg/l)	5	5
Silver (Ag) (mg/l)	5	5
Cl (Chloride) (mg/l)	10000	-
Floating active materials	In principle, dumping of materials of which the fragmentation is not adequate under the standards of the Institute of Turkish Standards is prohibited	

(a) These parameters will not apply for waste water evaluation

