

[S.I. 8 of 1991.]

under section 40

[15th August, 1991]

[Commencement. ]

**1. Installation of anti-pollution equipment**

(1) Every industry shall install anti-pollution equipment for the detoxification of effluent and chemical discharges emanating from the industry.

(2) An installation made pursuant to paragraph (1) of this regulation shall be based on the Best Available Technology (BAT), the Best Practical Technology (BPT) or the Uniform Effluent Standards (UES).

**2. Waste water parameters**

(1) The selected waste water parameters for the industries specified in column 1 of the First Schedule to these Regulations are set out in columns 2 and 3 respectively of the Schedule.

[First Schedule.]

(2) The parameters shall be continuously monitored to ensure compliance with these Regulations.

**3. Treatment of effluent**

(1) An industry which discharges effluent shall treat the effluent to a uniform level as specified in the Second Schedule to these Regulations to ensure assimilation by the receiving water into which the effluent is discharged.

[Second Schedule.]

(2) The nearest office of the Federal Environmental Protection Agency shall be furnished from time to time with the composition of any effluent treated as specified in paragraph (1) of this regulation.

**4. Additional sectoral effluent limitation treatment**

An industry specified in column 1 of the Third Schedule to these Regulations shall be subject to the additional sectoral effluent limitations set out in columns 2 and 3 respectively of the Schedule.

[Third Schedule.]

5. **Penalty**

A person who contravenes a provision of these Regulations is guilty of an offence and liable on conviction to the penalty specified in section 36 or 37 of the Federal Environmental Protection Agency Act.

6. **Short title**

These Regulations may be cited as the National Environmental (Effluent Limitation) Regulations.

SCHEDULES

FIRST SCHEDULE

[Regulation 2.]

*Important waste water parameters for selected industrial classifications*

<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>
<i>Industry</i>	<i>*Group 1</i>	<i>*Group 11</i>
(A) Aluminium industry	Suspended Solids, Free Chlorine Fluoride, phosphorus, oil and Grease, PH	Total Dissolved phenol, Aluminium
Automobile industry	Suspended Solids, Oil and Crease, BOD <sub>5</sub> Chromium, Tin, Phosphorus, Cyanide, Copper, Nickel, Iron, Zinc and Phenol	COD, Chlorides, Nitrate, Ammonia, Sulphates, Tin, Lead, Cadmium, Total Dissolved Solids
(C) Cane Sugar Processing Industry	BOD <sub>5</sub> , pH, Suspended Solids, Settleable Solids, Total Coliform, Oil and Grease, Toxic Materials	Alkalinity, Nitrogen, Total Temperature, Total Dissolved Solids, Colour, Turbidity, Foam.
(D) Canned and Preserved Fruits and Vegetables Industry	BOD <sub>5</sub> , COD, pH	Colour, Faecal Coliforms, Phosphorus, Total Suspended Solids, Temperature, Total Dissolved Solids, Total Inorganic Carbon.

(E)	Confined Livestock Feeding Industry	BOD <sub>5</sub> COD	Faecal Coliforms, Nitrogen, Total Solids, phosphate, pH, TOC.
(F)	Beverage Industry	BOD <sub>5</sub> pH, Suspended Solids, Settleable Solids, Total Coliform, Oil and Grease, Toxic Materials	Alkalinity, Nitrogen, Phosphorus, Temperature, Total Dissolved Solids, Colour, Turbidity, Foam.
(G)	Dairy Industry	BOD <sub>5</sub> , COD, pH, Suspended Solids	Chlorides, Colour, Nitrogen, Phosphorus, Temperature, Total Organic Carbon, Toxicity, Turbidity.
(H)	Fertilizer Industry: Nitrogen Fertilizer Industry	Ammonia, Chloride, Chromium, Total Dissolved Solids, Nitrate, Sulphate, Suspended Solids, Urea and other	Calcium, COD, Gas Purification Chemicals, Iron, Total Oil and Greases, pH, Phosphate, Sodium, Temperature.
(I)	Phosphate Fertilizer Industry	Organic Nitrogen Compounds, Zinc Calcium, Dissolved Solids, Fluoride, pH, phosphorus Phosphorus, Suspended Solids, Temperature	Acidity, Aluminium, Arsenic, Iron, Mercury, Nitrogen, Sulphate, Uranium.
(J)	Flat Glass, Cement Lime, Sulphate, Gypsum and industries	COD, pH, Phosphorus, Suspended Solids, Temperature	BOD <sub>5</sub> , Chromates, Zinc, Copper, Chromium, Iron, Tin, Silver Nitrate, Organic and Asbestos Inorganic Water Breaking Chemicals, Synthetic Resins, Total Dissolved Solids.
	Cement, Concrete Lime and Gypsum	COD, pH, Suspended Solids, Temperature	Alkalinity, Chromates, Zinc, Sulphite, Total Dissolved Solids.
	Asbestos	COD, pH, TOC, Suspended Solids	Chromates, Phosphates, Zinc, Sulphite, Total Dissolved, Solids.
(J)	Grain Milling Industry	BOD <sub>5</sub> , Suspended Solids, Temperature	COD, pH, TOC, Total Dissolved Solids.
(K)	Inorganic Chemicals; Alkaline and Chlorine Industry	Acidity/Alkalinity, Total Solids, Total Suspended Solids, Chlorides, Sulphates	BOD <sub>5</sub> , COD, TOC, Chlorinated Benzenoids, Polynuclear Aromatics, Phenols, Fluorides, Silicates, Total Phosphorus, Cyanide, Mercury, Chromium, Lead, Titanium, Iron, Aluminium, Boron, Arsenic, Temperature.

(L)	Leather Tanning and Finishing	BOD <sub>5</sub> , COD, Chromium, Oil Grease, PH, Suspended Solids, Total Solids	Alkalinity, Colour, Hardness, Nitrogen Sodium Chloride Industry Temperature Toxicity.
(M)	Meat Product	BOD <sub>5</sub> , pH, Suspended Solids, Settleable Solids, Oil and Grease, Total Coliform, Toxic Materials.	Ammonia, Turbidity, Total Dissolved Solids, Phosphates, Colour. Industry
(N)	Metal Finishing	COD, Oil and Grease, Heavy, Metals, Suspended Solids, Cyanide	None Specified.
(O)	Organic Chemicals Industry	BOD <sub>5</sub> , COD, pH, Total Suspended Solids, Free- Floating Oil	TOC, Organic Chloride, Total I Phosphorus, Heavy Metals, Phenols, Cyanides, Total Nitrogen, Other Pollutants.
(P)	Petroleum Refining Industry	Ammonia, BOD <sub>5</sub> , Chromium, COD, Oil, pH, Phenols, Sulphides Suspended Solids, Temperature Total Dissolved Solids	Chloride, Colour, Copper, Cyanide, , Iron, Lead Mercaptans, Nitrogen, Odour, Total Phosphorus, Sulphate, TOC, Toxicity, Turbidity, Volatile Suspended Solids, Zinc.
(Q)	Plastic Materials and Synthetics Industry	BOD <sub>5</sub> , COD, pH, Total Suspended Solids, Oil and Grease, Phenols	Total Dissolved Solids, Sulphates, Phosphorus, Nitrate, , Organic Nitrogen, Ammonia, Cyanides, Toxic Additives and Materials, Chlorinated Benzenoids and Polynuclear Aromatics, Zinc, Mercaptans.
(R)	Pulp and Paper Industry and Grease	BOD <sub>5</sub> , COD, TOC, pH, Total Suspended Solids, Coliform, Faecal Coliform, Colour, Heavy Metals, Toxic Materials, Turbidity Ammonia, Oil Phenols, Sulphide	Nutrients (Nitrogen and Phosphorus, Total Dissolved Solids.
(S)	Steam Generation and Steam Electric Power Generation	BOD <sub>5</sub> , Chlorine, Chromate Oil, pH, Phosphate, Suspended Solids, Temperature	Boron, Copper, Iron Non- degradable Organics, Total Dissolved Solids, Zinc.
(T)	Steel Industry	Oil and Grease, pH, Chloride, Sulphates, Ammonia, Cyanides, Phenols, Suspended Solids, Iron, Tin, Temperature, Chromium, Zinc	None specified.
(U)	Textile Mill Products Industry	BOD <sub>5</sub> , COD, pH, Suspended Solids, Chromium, Phenolics, Sulphide, Alkalinity	Heavy Metals, Colour, Oil and Grease, Total Dissolved Sulphides, Temperature, Toxic Materials.

\*Group I : Most significant parameters for which effluent limit will most often be set

. \*Group II : Additional parameters.

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SECOND SCHEDULE

[Regulation 3.]

*Effluent limitation guidelines in Nigeria for all categories of industries*

*Units in milligram per litre*

*(mg/l) unless otherwise stated*

<i>Parameters</i>	<i>Limit for discharge into surface water</i>	<i>Limit for land water</i>
<i>Temperature</i>	<i>Less than 40°C within 15 metre of outfall</i>	<i>Less than 40 °C</i>
<i>Colour (Lovibond Units)</i>	7	---
PH .....	6-9	6-9
BOD5 at 20°C .....	30 (30)	50 (50)
Total suspended solids.....	30	----
Total dissolved solids .....	2,000	2,000
Chloride (as Cl) .....	600	600
Sulphate (as SO <sub>4</sub> <sup>2-</sup> ) .....	500	1,000
Sulphide (as S <sup>2-</sup> ).....	0.2	----
Cyanide (as CN-).....	0.1	---
Detergents (Linear alkylate sulphonate as methylene blue active substance) .....	15	15
Oil and grease.....	10	20 (20)
Nitrate (as NO <sub>3</sub> ).....	20	--
Phosphate (as PO <sub>4</sub> <sup>3-</sup> ) .....	5	10
Arsenic (as As).....	0.1	--

Barium (as Ba) .....	5	5
Tin (as Sn) .....	10	10
Iron (as Fe) .....	20	--
Manganese (as Mn) .....	5	--
Phenolic compounds (as phenol) .....	.02	-
Chlorine (free) .....	1.0	-
Cadmium, Cd .....	Less than 1	-
Chromium (trivalent and hexavalent) .....	Less than 1	-
Copper.....	Less than 1	-
Lead .....	Less than 1	-
Mercury.....	0.05	-
Nickel.....	Less than 1	-
Selenium .....	Less than 1	-
Silver .....	0.1	-
Zinc .....	Less than 1	-
Total metals.....	3	-
Calcium (as Ca <sup>2+</sup> ) .....	.200	-
Magnesium (as Mg <sup>2+</sup> ) .....	200	-
Boron (as B) .....	5	5
Alkyl mercury compounds.....	Not detectable	Not detectable
Polychlorinated Biphenyl (PCBs) .....	0.003	0.003
Pesticides (Total).....	Less than 0.01	Less than 0.01
Alpha emitters, uc/ml.....	10 <sup>-7</sup>	-
Beta emitters, uc/ml.....	10 <sup>-6</sup>	-
Coliform (daily average) .....	.400 MPN/100ml	500 MPN/100ml
Suspended fibre .....	-	-

Third Schedule

[Regulation 4.]

NATIONAL EFFLUENT LIMITATIONS AND GASEOUS EMISSIONS GUIDELINES IN NIGERIA FOR SPECIFIC INDUSTRIES

<i>Industry</i>	<i>Problems</i>	<i>Guidelines for concentration charge into</i>	<i>Maximum allowed for dis-inland waters</i>
<i>Agricultural Chemicals</i>	<i>Phosphate Fertilizer</i>		<i>Effluent (mg/l)</i>
(Waste Water).....	Gypsum sludge.....	Suspended solids .....	15
	Acid waste water.....	Phosphate (P043 _).....	3
	High fluoride.....	Fluorides (F-) .....	1
	High phosphate.....	pH .....	8-9

*Nitrogenous Fertilizer*

Similar problem .....	Free Ammonia (as NH <sub>4</sub> <sup>+</sup> ) .....	0.1
	Arsenic (as As) .....	0.1
	PH .....	6-9
	N03 .....	20

*Urea Fertilizer*

Similar problem.....	Ammonia (as N) .....	0.6
	PH .....	6-9
Pesticides	Total Pesticides Less than Emission (mg/m <sup>3</sup> ).....	0.1

<i>Industry</i>	<i>Problems</i>	<i>Guidelines for concertration charge into</i>	<i>Maximum allowed for disland waters</i>
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<i>Agricultural Chemicals</i>	<i>Phosphate Fertilizer</i>		<i>Effluent (mg/l)</i>
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*Brewery*

(Gaseous Emission).....	Particulate matter from blend-ing and mixing .....	Particulate.....	100
	Fluorides .....	Fluoride .....	9.0

Ammonia vapours.....	Ammonia .....	3,600
Pesticide vapours.....	Total Pesticides .....	100

(Solid Wastes)..... High volume gypsum from fertilizer manufacture

*Effluent (mg/l)*

*Automotive Battery*

Total suspended solids

(TSS) ..... 28

(Waste Water)..... Acid Waste Water ..... Oil and grease..... 10

pH ..... 6-9

Iron ..... 0.20

Cadmium ..... 0.01

Nickel ..... 0.05

Copper..... 0.06

Lead ..... 0.01

Cobalt..... 0.5

Arsenic..... 0.1

(Gaseous Emission)..... Lead particulate

(Solid Wastes) ..... Defective battery casing

Defective lead plates Brewery

<i>Industry</i>	<i>Problems</i>	<i>Guidelines for concentration charge into</i>	<i>Maximum allowed for disland waters</i>
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<i>Agricultural Chemicals</i>	<i>Phosphate Fertilizer</i>		<i>Effluent (mg/l)</i>
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*Brewery*



	Alkaline effluent .....	Suspended solids .....	15
	High suspended solids.....	BODs .....	30
(Waste Water) .....	High BOD.....	pH .....	6-9
	High COD .....	COD.....	80

(Solid Wastes)..... Spent grain

Defective packaging materials

and labels

Broken bottles

*Effluent (mg/l)*

*Dyestuffs and Dye Intermediates*

	Coloured effluent .....	Suspended solids .....	5.0
	High suspended solids		
(Waste Water).....	High BOD .....	Zinc (as Zn).....	3.0
	High COD .....	BOD <sub>5</sub> .....	15
		Oil and grease .....	15

(Gaseous Emission)..... Organic vapour

(Solid Wastes)..... Sludge

*Effluent (mg/l)*

*Food Processing*

High BODs .....	BOD <sub>5</sub> .....	15
	Oil and grease .....	15
Oil and grease.....	Suspended solids.....	15

<i>Industry</i>	<i>Problems</i>	<i>Guidelines for concentration charge into</i>	<i>Maximum allowed for disland waters</i>
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<i>Agricultural Chemicals</i>	<i>Phosphate Fertilizer</i>	<i>Effluent (mg/l)</i>
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*Brewery*

(Waste Water) ..... High suspended solids..... Particulate..... 100  
 Particulate matter from  
 grain elevators, starch  
 manufacturing, feed  
 and flour mills.

(Gaseous Emission)..... Odours from meat packing,  
 fish processing coffee roasting,  
 starch manufacturing and rend-  
 ering some solid wastes.

(Solid Wastes)

*Inorganic Chemicals*

Acid waste waters from  
 acid plants..... Suspended solids ..... 15

Gypsum sludge from soda ash  
 plants ..... Chlorides ..... 100  
 Chlorides from soda ash ..... Sulphates ..... 100

Plant and electrolytic Chlorine  
 plant, mercury from electrolytic  
 chlorine plants..... pH ..... 6-9

*Emission (ug/rn<sup>3</sup>)*

Particulate matter from ce-  
 ment, soda ash and brick  
 plants ..... Particulates ..... 100

Fluorides ..... Acetic acid ..... 2,500  
 (Gaseous Emission)..... Acid mist ..... Fluorides..... 100  
 SO<sup>2</sup> ..... Hydrochloric acid..... 100  
 Chlorine (as Cl<sub>2</sub>) ..... Nitric acid ..... 100  
 No<sub>x</sub> from acid plants ..... Hydrogen sulphide ..... 30

<i>Industry</i> <i>Maximum allowed</i> <i>for disland waters</i>	<i>Problems</i>	<i>Guidelines for concerntration</i> <i>charge into</i>
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*Agricultural*  
*Chemicals*

*Phosphate Fertilizer*

*Effluent (mg/l)*

*Brewery*

SO<sub>2</sub>..... 830

No<sub>x</sub> ..... 500

(Solid Wastes).....Sludges

*Effluent (mg/l)*

*Iron and Steel*

(Waste water) ..... High suspended solids..... pH ..... 55-9.0

High phenols..... Suspended solids..... 15

High ammonia..... Ether solubles .....10

High cyanides ..... Phenol..... 0.020

Spent pickle liquors ..... NH<sub>3</sub> as N..... 10

Rolling mill oils .....Cyanide (CN) .....0.1

Oil and grease.....1.5

Fe less than .....1.0.

Suspended particulate ..... Particulate.....100.

Sulphur dioxide fromboilers,  
sinter plant, coke ovens and  
blast furnace..... SO<sub>x</sub> ..... 8.30

(Gaseous Emission)..... Furnace..... NO<sub>x</sub> ..... .500

(Solid Wastes).....Flue dust  
Slag Sludges

*Effluent (mg/l)*

*Metal Working, Plating and Finishing*

Acids ..... Hg .....0.01.

	Cyanides .....	Cu .....	1.0.
(Waste Water) .....	Toxic metals .....	Ni.....	1.0.
	Cutting and machine .....	Cr.....	1.0
		Zn .....	1.0.
		Pb .....	0.01
		Cd .....	0.01
		Sn .....	1.0
		TSS .....	1.5.0
		pH .....	5.5-9.5.

*Emission (ug/m<sup>3</sup>)*

(Gaseous Emission).....	Acid mist.....	Chromic acid .....	30
	Alkaline mist.....	Cyanide .....	1.150.
	Cyanides, fumes from anodizing, rust- proofing, cleaning, strpping, etc., operations.....	Hydrogen chloride .....	100.
		Fluorides.....	806.
		Nitric acid .....	100.
		Phosphoric acid .....	100.

(Solid wastes)..... Sludges containing metals

*Mining and Metallurgy*

(Waste water).....	High volume of suspended solids from milling of ores ( tailing).....	Suspended solids .....	15
wastes.....	Cu.....	pH.....	5.5-9.0 Acid less than .....
			1
	Dissolved metals from high.....	Zn less than.....	1
	Sulphide ores processing.....	Ni less than .....	1
	Radionuc1ide .....	Nd less than .....	1
	Radioactive effluent from .....	Pb less than .....	1

Uranium mining tailings disposal..... Ra<sup>226</sup> ..... 226/3pCiL

*Emission (ug/m<sup>3</sup>)*

Airborne dust crushing, grinding, etc generation of arsine, acid fumes, ammonia vapour radon

gas and radioactivity

during uranium ..... Particulate .....100  
 Silica ..... 15  
 SO<sub>2</sub>..... 830  
 Ni ..... 5  
 Fe ..... 10  
 Cu ..... 100

(Gaseous Emission)..... Milling operations and dust during yellow cake handling  
 SO<sub>2</sub> generation from smelting

operation..... Arsine..... 10.  
 H<sub>2</sub>SO<sub>4</sub>..... 100  
 RNO<sub>3</sub>..... 100  
 NH<sub>3</sub> ..... 600

(Solid Wastes)..... Generation of waste rock and mine/mill waste

*Petroleum Refinery*

(Waste Water) ..... High waste volumes containing:.....

Temperatur (OC).....30.  
 pH ..... 6.5-8.5  
 phenolics..... Oil and grease..... 10  
 sulphides ..... Phenol (Total)..... 0.5  
 oil and oil products ..... Ammonia as NH<sub>4</sub><sup>+</sup>..... 0.20  
 (waste water) Sulphide (as H<sub>2</sub>S) ..... 0.20  
 Total suspended solids..... 30

BOD <sup>5</sup> .....	10
COD .....	40
Total chromium .....	0.3
Chromium (VI) less than.....	0.01
Lead as pb <sup>2+</sup> .....	0.05
Cadmium less than.....	0.01
Cyanide less than .....	0.01

*Emission (ug/m<sup>3</sup>)*

(Gaseous Emission).....	Particulates.....	Particulate.....	500
	Sulphur dioxide (SO <sub>2</sub> ) .....	SO <sub>2</sub> .....	830
	NO <sub>x</sub> .....	NO <sub>x</sub> .....	500
	H <sub>2</sub> S-vapours .....	CO.....	5,000
	NH <sub>3</sub> .....	H <sub>2</sub> S.....	30
	Hydrocarbon vapours .....	Hydrocarbon.....	5,000
		Volatile Organic Carbon(VOC).....	6,000

(Solid Wastes)..... Oily chemical sludges, spent catalyst, discarded packaging materials.

*Effluent (mg/l)*

*Petrochemicals*

(Waste Water).....	High volume waste matter.....	Temperature (OC).....	30
	Storm water.....	pH.....	6.5-8.5
	Cooling water.....	oil and grease .....	1
		Phenol .....	0.5.
		Ammonia (NH <sub>4</sub> <sup>+</sup> ) .....	0.2
		Sulphide as H <sub>2</sub> S .....	0.2
		Total suspended solids .....	30

BOD <sub>5</sub> .....	10
COD .....	40
Lead as Pb <sup>2+</sup> .....	0.05
Chromium (VI) .....	<0.1
Cadmium as Cd <sup>2+</sup> .....	<0.1

*Emission (ug/m<sup>3</sup>)*

(Gaseous Emission).....	Particulate.....	Particulate.....	500.
	Carbon black dusts .....	Hydrocarbon.....	5,000
	SO <sub>x</sub> .....	Volatile organic carbon	
	NO <sub>x</sub> .....	(VOC) .....	6,000
	CO .....	Benzene.....	1,500
	Hydrocarbons (HC).....	Xylene.....	2,300
(Solid Wastes).....	Benzene.....	Toluene.....	2,300

Xylene

Oily chemical sludges Off speck  
products: (carbon black:  
polypropylene chunks)

Spent catalyst

Discarded packaging Material

*Effluent (mg/l)*

*Petroleum Exploration and Production Industry*

(Waste Water.....)	Produced formation .....	Temperature (OC).....	35
	Water.....	pH.....	6.5-8.5
	Oily waste waters .....	Oil and grease.....	10
	Drilling fluids .....	Total suspended solids .....	30
	Accidental spill of oil.....	BOD <sub>5</sub> .....	10
		COD .....	40
		Lead as Pb <sup>2+</sup> .....	0.05

Cr (VI) less than.....	0.1
Zinc as Zn <sup>2+</sup> .....	1.0
Copper as Cu <sup>2+</sup> .....	1.5
Cadmium as Cd <sup>2+</sup> .....	<0.5

*Emission (ug/m<sup>3</sup>)*

(Gaseous Emission)..... Hydrocarbon vapours drilling mud,  
drilling cuttings, produced sand,  
domestic wastes,  
oily sludges..... Hydrocarbon ..... 5,000

(Solid Wastes)

<i>Industry</i>	<i>Problems</i>	<i>Guidelines for concentration charge into</i>	<i>Maximum allowed for disland waters</i>
<i>Agricultural Chemicals</i>	<i>Phosphate Fertilizer</i>		

*Effluent (mg/l)*

*Pharmaceuticals*

(Waste Water) .....	None specified.....	BOD <sub>5</sub> .....	30
		Total suspended solids.....	25
		pH .....	6-9

*Plastic and Synthetics*

(Waste Water).....	High BOD .....	BOD <sub>5</sub> .....	10.
	High COD containing mercury, plasticiser and PCBs.....	Total suspended solids.....	30
		(TSS)	
		COD .....	40



Phenolics less than.....	0.50
Zinc less than.....	1.0
Chromium less than .....	0.10
Oils and grease .....	10.0
Fluoride (F-) less than .....	1.0
Copper (Cu <sup>2+</sup> ) less than .....	0.05

(Gaseous Emission)..... Volatile organic  
Hydrocarbons

(Solid Wastes) ..... Waste plastic products

*Pulp and Paper*

(Waste Water)..... High waste volumes containing:  
suspended bark and fibre from  
debaking and paper operations;  
fibres; spent liquors; wash waters  
from bleaching process; taste and  
odour producing wastes ..... BOD<sub>5</sub> .....15

COD .....100.

Suspended Solids .....30 .

Bleaching agent should not  
be detectable

Settleable matter..... 30.

*Emission (ug/m<sup>3</sup>)*

Particulates..... Particulate ..... 100.

(Gaseous Emission)..... Sulhur dioxide ..... Hydrogen sulphide (H<sub>2</sub>S) ..... 100

NOx from power boilers..... Sulphur dioxide (SO<sub>2</sub>) ..... 830

Calcium oxide, Calcium sulphate

particulate from lime kilns, Foul  
gases from digester blow tanks,

Particulate and sulphur compo  
unds from recovery bodies.....

Nitrogen oxides (No<sub>x</sub>) ..... 500

(Solid Wastes)..... High volume of bark, sawdust and clarifier sludge

*Rubber Manufacturing*

*Effluent (mg/l)*

BOD ..... BOD<sup>5</sup> ..... 15.

Suspended solids

(Waste Water) ..... Toxic metals ..... Total suspended solids ..... 30

pH .....6-9

Lead (Pb) less than ..... 1

Chromium less than .....1.

Zinc (Zn) less than .....0.1.

(Gaseous Emission)..... Foul Gases..... Volatile Organic Carbon (VOC) .....2,000

(Solid wastes).....Waste latex

*Effluent (mg/l)*

*Service Industries*

Oily waste waters from maintainance shops fueling depots and washing platforms..... BOD<sub>5</sub>.....15.

Oil and grease .....10

COD .....40

Lead less than ..... 1.

(Waste Water) ..... High BOD wastes from tank car washing ..... Total Chromium less than..... 0.3

Zinc (Zn) less than ..... 0.1

Emission (ug/m<sup>3</sup>)

(Gaseous Emission).....	Exhaust fumes from idling containing SO <sub>2</sub> , NO <sub>2</sub> par ticulate .....	Particulate .....	100
		Sulphur dioxide (SO <sub>2</sub> ) .....	830
	Exhaust air from maintenance shops containing particulate, welding fumes, solvents, and paint spray booths, etc .....	Nitrogen oxides(NO <sub>x</sub> ).....	500
		Toluene .....	2,000
		Xylene .....	2,300
		VOC .....	6,000
		Benzene .....	1,500
	CO .....		5,000
	(hydrocarbons) .....		500

(Solid Wastes) .....Rags, wood, soil impregnated  
with oil or oily wastes due to  
spills or accidents.

*Effluent (mg/l)*

*Soap and Detergent*

(Waste Water) .....	High pH .....	COD .....	40
	Oil and grease .....	BODs .....	15
		Total suspended solids .....	<10
		Oil and grease .....	<10
		pH .....	6-9

*Emission (ug/m<sup>3</sup>)*

(Gaseous Emission).....	Particulate matter .....	Particulate .....	100
	Sulphur oxide .....	Sulphur dioxide .....	830

(Solid Wastes) ..... Packaging material

*Effluent (mg/l)*

*Sugar Processing*

(Waste Water).....	High BOD <sup>5</sup> .....	BOD <sub>5</sub> .....	30.
		Suspended solids.....	5

pH.....6-9.

*Emission (ug/m<sup>3</sup>)*

(Gaseous Emission)..... Bagasse dust..... Particulate ..... 500.

Press Cake Bagasse Bagasse ash

*Effluent (mg/l)*

*Tannery*

	<i>Parameter</i>	<i>Chrome</i>	<i>Vegetable</i>
(Waste Water)..... High BOD <sub>5</sub>	BOD <sub>5</sub> .....	50 (15)*	100 (30)
	COD .....	164(40)*	80(19)
Suspended solid wastes from hide washing .....	Suspended Solids.....	30 (10)	40 (19)

\*Discharge into small streams High PHTotal..... Total..... 6-9. .... 6-9

High sulphide Solid wastes from lime sulphide treatment of Spent vegetable and chrome tanning liquors Grease from rendering operations

Chromium..... (iii) 0.3 2.0

Chromium..... (vi) .. 0.1 0.1

Floating matter ..... Not to be visible to naked eye.

Oil and grease ..... 10

Chlorides (as Cl-) ..... 50.

pH ..... 6-9.

Sulphide ..... 1.

Odour None None

Colour None None

*Emission (ug/m<sup>3</sup>)*

(Gaseous Emission).....Particulate odour in  
 boiler emissions ..... Particulate..... 100  
 Odour from plant process..... Hydrogen Sulphide..... 30  
 (Solid Wastes) ..... Solids from screening, sludge

*Effluent (mg/l)*

*Textile Mills*

(Waste Water)..... High pH.....PH.....69  
 High suspended solids..... BOD<sub>5</sub> ..... 20.  
 Colour ..... COD ..... 8.  
 Suspended solids ..... 30  
 Chromium (vi) ..... <0.10  
 Phenols..... 0.01  
 Sulphide ..... 0.20  
 Coliform 400MPN/..... 100ml  
 Colour ..... None  
 Odour ..... None

*Emission (ug/m<sup>3</sup>)*

(Gaseous Emission).....Particulate matter..... Particulate..... 100.  
 (Solid Wastes) .....Sludge

Textile wastes

\*For discharge into small streams.

