

**THE MINISTRY OF NATURAL
RESOURCES AND ENVIRONMENT**

**Circular No. 04/2012/TT-BTNMT of
May 8, 2012, stipulating criteria for
identification of establishments
causing environmental pollution or
serious environmental pollution**

*Pursuant to the November 29, 2005 Law
on Environmental Protection;*

*Pursuant to the Government's Decree No.
117/2009/ND-CP of December 31, 2009, on
the sanctioning of administrative violations
in the field of environmental protection;*

*Pursuant to the Government's Decree No.
25/2008/ND-CP of March 4, 2008, defining*

the functions, tasks, powers and organizational structure of the Ministry of Natural Resources and Environment, which was amended and supplemented by the Government's Decree No. 19/2010/ND-CP of March 5, 2010, and Decree No. 89/2010/ND-CP of August 16, 2010;

At the proposal of the director of the Vietnam Environment Administration and the director of the Legal Department;

The Minister of Natural Resources and Environment promulgates this Circular to stipulate criteria for identification of establishments causing environmental pollution or serious environmental pollution.

Article 1. Scope of regulation and subjects of application

1. This Circular stipulates identification criteria to serve as a basis for classifying establishments causing environmental pollution or serious environmental pollution.

2. This Circular applies to production, business and service establishments engaged in waste-generating activities in the territory of the Socialist Republic of Vietnam (below collectively referred to as establishments) and agencies and institutions involved in identifying establishments causing environmental pollution or serious environmental pollution.

Article 2. Principles of and bases for identification of establishments causing

environmental pollution or serious environmental pollution

1. The identification of establishments causing environmental pollution or serious environmental pollution must be conducted in an objective and fair manner and in accordance with the environmental law and environmental standards and technical regulations; and must determine the severity of environmental pollution violations, including:

a/ Discharging wastewater or emitting exhaust or dust in excess of the limits set out in technical regulations on environment;

b/ Causing noise or vibration in excess of the limits set out in technical regulations on environment;

c/ Burying or discharging into the soil or water environment solid or muddy pollutants, polluting the soil, water or air environment, in excess of the limits set out in technical regulations on environment.

2. Determination of the severity of environmental pollution violations

a/ The severity of the acts specified at Point a, Clause 1 of this Article shall be determined on the basis of discharged wastewater volume, exhaust flow and the number of times specific environmental parameters of wastewater, exhaust or dust of establishments exceed limits set out in technical regulations on environment;

b/ The severity of the acts specified at Point

b, Clause 1 of this Article shall be determined on the basis of the number of times of excess of noise and vibration limits set out in technical regulations, affected subjects and the time when these acts occur;

c/ The severity of the acts of specified at Point c, Clause 1 of this Article shall be determined on the basis of the number of times of excess of limits set out in technical regulations on quality of surface water, ground water, surrounding air and soil environment by environmental parameters caused by these acts.

3. Environmental parameters in excess of limits set out in environmental regulations shall be determined on the basis of results of observation and monitoring of such environmental parameters against relevant technical regulations on environment.

Article 3. Specific environmental parameters of wastewater, exhaust, dust, noise and vibration

1. Characteristic environmental parameters of wastewater, exhaust, dust, noise and vibration of an establishment are determined as follows:

a/ Environmental parameters of wastewater, exhaust, dust, noise and vibration which are required to be periodically observed or surveyed and presented in the environmental impact assessment report, environmental standard conformity registration, environmental protection written commitment, environmental protection scheme, detailed environmental protection

scheme, simple environmental protection scheme of the establishment, which are approved or certified by competent state agencies,

b/ For an establishment having no environmental parameters specified at Point a of this Clause, competent state agencies shall base on the characteristics and types of operation of that establishment or each of its sections to decide on its specific environmental parameters of wastewater and exhaust in accordance with the Appendix to this Circular.

2. Competent state agencies defined at Point b, Clause 1 of this Article and Clause 3, Article 9 of this Circular are agencies and institutions tasked to identify and classify establishments causing environmental pollution or serious environmental pollution.

Article 4. Criteria for identification of establishments causing environmental pollution

An establishment causing environmental pollution is an establishment having 1 (one) or more than 1 environmental parameter of wastewater, exhaust, dust, noise or vibration exceeding the limits set out in technical regulations on environment but is not a subject defined in Article 5, 6, 7, 8 or 9 of this Circular.

Article 5. Criteria for identification of establishments causing serious environmental pollution with wastewater

An establishment is regarded as causing serious environmental pollution if having any of

the following criteria:

1. Discharging wastewater in excess of the limits set out in technical regulations on environment by between two and under five times and having:

a/ Two or three parameters exceeding the limits set out in technical regulations on waste with a waste volume of 500 m³/day (24 hours) or more in case wastewater contains hazardous substances or with a waste volume of 1,000 m³/day (24 hours) or more in case wastewater contains no hazardous substance;

b/ Four or five parameters exceeding the limits set out in technical regulations on waste with a waste volume of 200 m³/day (24 hours) or more in case wastewater contains hazardous substances or with a waste volume of 500 m³/day (24 hours) or more in case wastewater contains no hazardous substance;

c/ Six or more parameters exceeding the limits set out in technical regulations on waste with a waste volume of 100 m³/day (24 hours) or more in case wastewater contains hazardous substances or with a waste volume of 200 m³/day (24 hours) or more in case wastewater contains no hazardous substance.

2. Discharging wastewater in excess of the limits set out in technical regulations on environment by between five and under ten times and having:

a/ Two or three parameters exceeding the limits set out in technical regulations on waste with a waste volume of 200 m³/day (24 hours)

or more in case wastewater contains hazardous substances or with a waste volume of 500 m³/day (24 hours) or more in case wastewater contains no hazardous substance;

b/ Four or five parameters exceeding the limits set out in technical regulations on waste with a waste volume of 100 m³/day (24 hours) or more in case wastewater contains hazardous substances or with a waste volume of 200 m³/day (24 hours) or more in case wastewater contains no hazardous substance;

c/ Six or more parameters exceeding the limits set out in technical regulations on waste with a waste volume of 50 m³/day (24 hours) or more in case wastewater contains hazardous substances or with a waste volume of 100 m³/day (24 hours) or more in case wastewater contains no hazardous substance.

3. Discharging wastewater in excess of the limits set out in technical regulations on environment by between ten and under fifty times and having:

a/ Two or three parameters exceeding the limits set out in technical regulations on waste with a waste volume of 100 m³/day (24 hours) or more in case wastewater contains hazardous substances or with a waste volume of 200 m³/day (24 hours) or more in case wastewater contains no hazardous substance;

b/ Four or five parameters exceeding the limits set out in technical regulations on waste with a waste volume of 50 m³/day (24 hours) or more in case wastewater contains

hazardous substances or with a waste volume of 100 m³/day (24 hours) or more in case wastewater contains no hazardous substance;

c/ Six or more parameters exceeding the limits set out in technical regulations on waste with a waste volume of 10 m³/day (24 hours) or more in case wastewater contains hazardous substances or with a waste volume of 50 m³/day (24 hours) or more in case wastewater contains no hazardous substance.

4. Discharging wastewater in excess of the limits set out in technical regulations on environment by fifty times or more and having:

a/ Between one and three parameters exceeding the limits set out in technical regulations on waste with a waste volume of 50 m³/day (24 hours) or more in case wastewater contains hazardous substances or with a waste volume of 100 m³/day (24 hours) or more in case wastewater contains no hazardous substance;

b/ Four or five parameters exceeding the limits set out in technical regulations on waste with a waste volume of 10 m³/day (24 hours) or more in case wastewater contains hazardous substances or with a waste volume of 50 m³/day (24 hours) or more in case wastewater contains no hazardous substance;

c/ Six or more parameters exceeding the limits set out in technical regulations on waste.

5. Discharging wastewater containing radioactive substances which cause

environmental radioactivity contamination in excess of the limits set out in standards and technical regulations.

6. Discharging wastewater with pH value equal to or lower than 2 (two) or higher than 12.5 (twelve point five).

Article 6. Criteria for identification of establishments causing serious environmental pollution with exhausts and dust

An establishment is regarded as causing serious environmental pollution if having any of the following criteria:

1. Emitting exhaust and dust in excess of the limits set out in technical regulations on environment by between two and under five times and having:

a/ One or two parameters exceeding the limits set out in technical regulations on waste with an exhaust flow of 2,000 m³/hour or more;

b/ Three parameters exceeding the limits set out in technical regulations on waste with an exhaust flow of 1,000 m³/hour or more;

c/ Four or more parameters exceeding the limits set out in technical regulations on waste with an exhaust flow of 500 m³/hour or more.

2. Emitting exhaust and dust in excess of the limits set out in technical regulations on environment by between five and under ten times and having:

a/ One or two parameters exceeding the limits set out in technical regulations on waste with an

exhaust flow of 1,000 m³/hour or more;

b/ Three parameters exceeding the limits set out in technical regulations on waste with an exhaust flow of 500 m³/hour or more;

c/ Four or more parameters exceeding the limits set out in technical regulations on waste with an exhaust flow of 100 m³/hour or more.

3. Emitting exhaust and dust in excess of the limits set out in technical regulations on environment by between ten and under fifty times and having:

a/ One or two parameters exceeding the limits set out in technical regulations on waste with an exhaust flow of 500 m³/hour or more;

b/ Three parameters exceeding the limits set out in technical regulations on waste with an exhaust flow of 100 m³/hour or more;

c/ Four or more parameters exceeding the limits set out in technical regulations on waste with an exhaust flow of 50 m³/hour or more.

4. Emitting exhaust and dust in excess of the limits set out in technical regulations on environment by fifty times or more and having:

a/ One or two parameters exceeding the limits set out in technical regulations on waste with an exhaust flow of 100 m³/hour or more;

b/ Three parameters exceeding the limits set out in technical regulations on waste with an exhaust flow of 50 m³/hour or more;

c/ Four or more parameters exceeding

the limits set out in technical regulations on waste with an exhaust flow of 10 m³/hour or more.

5. Emitting exhaust and dust containing radioactive substances which cause environmental radioactivity contamination in excess of standards and technical regulations.

Article 7. Criteria for identification of establishments causing serious environmental pollution with noise

An establishment is regarded as causing serious environmental pollution if regularly and continuously causing noise pollution in any of the following cases:

1. Causing noise of 65 dBA or more in an area requiring special quietness or a hospital, library or convalescent home or noise of 80 dBA in a residential area, hotel, house or administrative agency and during the period from 21 hours to 6 hours (of the next day).

2. Causing noise of 75 dBA or more in an area requiring special quietness or a hospital, library, convalescent home, kindergarten or school or noise of 90 dBA or more in a residential area, hotel, or administrative agency and during the period from 6 hours to 21 hours.

Article 8. Criteria for identification of establishments causing serious environmental pollution with vibration

An establishment is regarded as causing

serious environmental pollution if regularly and continuously generating polluting vibration in any of the following cases:

1. Generating a vibration in excess of the limit set out in technical regulations on vibration by 1.5 times or more and during the period from 21 hours to 6 hours (of the next day) in an area requiring special quietness or a residential area, hotel, guest house or residential area intermingled with a commercial, service or production area.

2. Generating a vibration in excess of the limit set out in technical regulations on vibration by 2 times or more and during the period from 6 hours to 21 hours in an area requiring special quietness or a residential area, hotel, guest house or administrative agency intermingled with a commercial, service or production area.

Article 9. Criteria for identification of establishments causing serious environmental pollution with solid waste

1. An establishment is regarded as causing serious environmental pollution with solid waste if burying or discharging into the soil or water environment solid or muddy pollutants, making at least 1 (one) environmental parameter (soil, water or air environment) of the area receiving solid wastes of chemicals or heavy metals exceed the limit set out in technical regulations on environment by 3 times or more or making at least 1 (one) of other environmental parameters of the area

receiving solid wastes exceed the limit set out in technical regulations on environment by 5 times or more.

2. Technical regulations on environment mentioned in Clause 1 of this Article comply with Point c, Clause 2, Article 2 of this Circular.

3. Competent state agencies shall base themselves on the characteristics and ingredients of solid and muddy pollutants to determine environmental parameters of areas receiving solid waste in order to identify and classify establishments causing serious environmental pollution mentioned in Clause 1 of this Article.

Article 10. Implementation provisions

1. This Circular takes effect on June 25, 2012. The provisions of Sections I and II of the Ministry of Natural Resources and Environment's Circular No. 07/2007/TT-BTNMT of July 3, 2007, guiding the classification and decision on lists of establishments causing environmental pollution which need to be handled, cease to be effective on the effective date of this Circular.

2. Any problems arising in the course of implementation should be reported to the Ministry of Natural Resources and Environment for consideration and settlement.

For the Minister of
Natural Resources and Environment
Deputy Minister
BUI CACH TUYEN

**APPENDIX ON SPECIFIC ENVIRONMENTAL PARAMETERS OF WASTEWATER,
EXHAUSTS, DUST, NOISE AND VIBRATION OF ESTABLISHMENTS**

*(To the Minister of Natural Resources and Environment's Circular
No. 04/2012/TT-BTNMT of May 8, 2012)*

No.	Types of establishment	Specific environmental parameters		Noise, vibration
		Wastewater pH, TSS, color, BOD ₅ , COD, total N, total P and	Exhaust, dust Total dust, CO, NO _x , SO ₂ and	
01	Textile, dyeing or garment establishments			
	- Textile and dyeing establishments	QCVN ¹ (Vietnam Regulation) 13:2008/BTNMT and temperature, mineral oil and grease, Cr ⁶⁺ , Cr ³⁺ , Fe, Cu, residual chlorine	Aniline, Cl, H ₂ S	Noise ² , vibration ³
	- Garment establishments	QCVN ¹ 13:2008/BTNMT and temperature, mineral oil and grease, Cr ⁶⁺ , Cr ³⁺ , Fe, Cu, residual chlorine		Noise ² , vibration ³
	- Silkworm fiber and artificial fiber production establishments	QCVN ¹ 13:2008/BTNMT and temperature, mineral oil and grease, Cr ⁶⁺ , Cr ³⁺ , Fe, Cu, residual chlorine		
	- Laundry and bleaching establishments; industrial laundry and ironing establishments	QCVN ¹ 13:2008/BTNMT and temperature, mineral oil and grease, Cr ⁶⁺ , Cr ³⁺ , Fe, Cu, residual chlorine	Chlorine	
02	Food and beverage production establishments			
	- Confectionery production establishments	Coliform		
	- Liquor and beer production establishments	Coliform		
	- Dairy production establishments	Ammonium, coliform		

¹ QCVN 13: 2008/BTNMT - National technical regulation on wastewater of textile and garment industry

² QCVN 26: 2010/BTNMT - National technical regulation on noise

³ QCVN 27: 2010/BTNMT - National technical regulation on vibration

	- Canned food production establishments	Animal and plant oil and fat, sulfur, chloride, ammonium	H ₂ S, methyl mercaptan	
	- Beverage, functional food and purified bottled water production establishments	Ammonium, chloride, animal and plant oil and fat, sulfur		
	- Edible oil production establishments	Ammonium, chloride, animal and plant oil and fat, sulfur		
03	Mining establishments			
	- Construction material exploitation establishments	Total radioactivity α , total radioactivity β	Dust containing silicon (Si)	Noise ² , vibration ³
	- Metal mineral mining establishments	As, Cd, Cr ⁶⁺ , Cr ³⁺ , Cu, Fe, Hg, Mn, Ni, Pb, Sn, Zn, mineral oil and grease, cyanide		Noise ² , vibration ³
	- Coal mining establishments	As, Cd, Cr ⁶⁺ , Cr ³⁺ , Cu, Fe, Hg, Mn, Ni, Pb, Sn, Zn, mineral oil and grease, cyanide, phenol	H ₂ S, sulfur	Noise ² , vibration ³
	- Crude oil and natural gas exploitation establishments	QCVN ⁴ 35:2010/BTNMT and oil content		Noise ² , vibration ³
04	Establishments producing metal products			
	- Mechanical engineering and metallurgical establishments	As, Cd, Cr ⁶⁺ , Cr ³⁺ , Cu, Fe, Hg, Mn, Ni, Pb, Sn, Zn, mineral oil and grease, cyanide	As, Cd, Cu, Pb, Zn, dust	Noise ² , vibration ³
	- Establishments manufacturing machines and equipment	As, Cd, Cr ⁶⁺ , Cr ³⁺ , Cu, Fe, Hg, Mn, Ni, Pb, Sn, Zn, mineral oil and grease, cyanide		Noise ² , vibration ³
	- Metal recycling establishments	As, Cd, Cr ⁶⁺ , Cr ³⁺ , Cu, Fe, Hg, Mn, Ni, Pb, Sn, Zn, mineral oil and grease	As, Cd, Cu, Pb, Sb, Zn	
	- Establishments recycling metallurgical scraps and other industrial scraps	As, Cd, Cr ⁶⁺ , Cr ³⁺ , Cu, Fe, Hg, Mn, Ni, Pb, Sn, Zn, mineral oil and grease, phenol, cyanide	As, Cd, Cu, Pb, Sb, Zn	
	- Metal plating establishments	Cu, Cr ⁶⁺ , Cr ³⁺ , Fe, Ni, Zn, ammonium, phenol, cyanide	HCl, HNO ₃ , H ₂ SO ₄	

⁴ QCVN 35: 2010/BTNMT - National technical regulation on water used for exploitation discharged from offshore petroleum works

	- Establishments manufacturing electric and electronic equipment and parts	As, Cd, Cr ⁶⁺ , Cr ³⁺ , Cu, Fe, Hg, Mn, Ni, Pb, Sn, Zn, mineral oil and grease		
	- Steel-rolling and shaped aluminum production establishments	As, Cd, Cr ⁶⁺ , Cr ³⁺ , Cu, Fe, Hg, Mn, Ni, Pb, Sn, Zn	As, Cd, Cu, Pb, Sb, Zn	
05	Mineral processing establishments			
	- Mineral processing establishments using chemicals	As, Cd, Cr ⁶⁺ , Cr ³⁺ , Cu, Fe, Hg, Mn, Ni, Pb, Sn, Zn, ammonium, fluoride, mineral oil and grease, phenol, sulfur, total radioactivity α , total radioactivity β , cyanide	HCl, HNO ₃ , H ₂ SO ₄	
	- Mineral processing establishments using no chemicals	As, Cd, Cr ⁶⁺ , Cr ³⁺ , Cu, Fe, Hg, Mn, Ni, Pb, Sn, Zn, total radioactivity α , total radioactivity β		
06	Leather processing establishments	Cr ⁶⁺ , Cr ³⁺ , animal and plant oil and fat, sulfur	H ₂ S	
07	Paper and pulp production establishments	QCVN ⁵ 12:2008/BTNMT and organic halogen	Chlorine, H ₂ S	Noise ² , vibration ³
08	Chemical production and processing establishments			
	- Chemical production establishments	As, Cd, Cr ⁶⁺ , Cr ³⁺ , Cu, Fe, Hg, Mn, Ni, Pb, Sn, Zn, ammonium, mineral oil and grease, phenol, cyanide	HCl, HNO ₃ , H ₂ S, H ₂ SO ₄	Noise ² , vibration ³
	- Urea fertilizer production establishments	Ammonium, fluoride, phenol, mineral oil and grease	NH ₃	Noise ² , vibration ³
	- Phosphate fertilizer production establishments	Fluoride, total radioactivity α , total radioactivity β	HF, HCl, HNO ₃ , H ₂ SO ₄ , NH ₃	Noise ² , vibration ³
	- Fused phosphate fertilizer production establishments	Fluoride, total radioactivity α , total radioactivity β	HF, HNO ₃ , H ₂ SO ₄	

⁵ QCVN 12: 2008/BTNMT - National technical regulation on wastewater of paper and pulp industry

	- Super-phosphate production establishments	Fluoride, total radioactivity α , total radioactivity β	H ₂ SO ₄	
	- Petrochemical refineries	Phenol, mineral oil and grease		Noise ²
	- Petrol and oil depots	Mineral oil and grease	Benzene, toluene, xylene	
	- Petrol and oil stations in their activities of trading, bottling LPG, preparation of lubricants	Mineral oil and grease	Benzene, toluene, xylene	
	- Establishments producing petrochemical products (surface-active agents, plasticizers, methanol)	Temperature, phenol, cyanide	Benzene, toluene, xylene	Noise ²
	- Plastic production establishments		Acetaldehyde, aniline, n-butyl acetate, ethyl acetate, ethyl ether, phenol	Noise ²
	- Detergent and additive production establishments	Chlorine, phenol, cyanide		Noise ²
	- Pharmaceutical, oriental medicine, chemical and cosmetic production establishments	Chlorine, phenol, cyanide		Noise ²
	- Plastic and plastic waste processing establishments	Chlorine, phenol, cyanide		
09	Rubber and latex production and processing establishments			
	Rubber and latex processing establishments	QCVN ⁶ 01: 2008/BTNMT	Chlorine, ammonium, H ₂ S	
	- Shoe, vulcanized rubber, automobile and tractor tire and tube production establishments	Chlorine, phenol and cyanide	H ₂ S	

⁶ QCVN 01: 2008/BTNMT - National technical regulation on wastewater of natural rubber processing industry

10	Glass production establishments	Chlorine, phenol and cyanide	Dust containing Si, HF	
11	Ceramic and porcelain production establishments		Dust containing Si, HF	
12	Power generation establishments			
	- Thermo-power generation establishments	Temperature	QCVN ⁷ 22:2009/BTNMT	Noise ² , vibration ³
	- Accumulator production establishments	As, Cd, Cr ⁶⁺ , Cr ³⁺ , Cu, Fe, Hg, Mn, Ni, Pb, Sn, Zn, ammonium, mineral oil and grease, phenol, cyanide	As, Cd, Cu, Pb, Sb, Zn	
13	Production establishments using burning fuels			
	- Production establishments using fuel oil	Mineral oil and grease		
	- Production establishments using pit coal or firewood as fuel	Phenol, cyanide		
	- Production establishments using cashew nut shells as fuel	Phenol, cyanide		
14	Agricultural or forest product processing establishments			
	- Sugarcane processing establishments	Coliform, temperature, sulfur	H ₂ S	
	- Coffee processing establishments	Coliform	NH ₃	
	- Cassava starch processing establishments	Ammonium, chlorine, coliform, sulfur, cyanide	H ₂ S, NH ₃	
	- Cashew nut processing establishments	Phenol		

⁷ QCVN 01: 2008/BTNMT - National technical regulation on exhaust of thermo-power industry

	- Vegetable, tuber and nut processing establishments	Chloride		
	- Monosodium glutamate production establishments	Phenol, cyanide		
	- Animal feed processing establishments	Ammonium, coliform, sulfur	H ₂ S, NH ₃ , methyl, mercaptan	
	- Rice milling and processing establishments	Coliform		
	- Tea processing establishments			
	- Rattan and bamboo basketware, chemical-impregnated wood processing establishments	Phenol	n-butyl acetate	
	- Fine-art article production establishments		n-butyl acetate	
15	Organic and micro-organism fertilizer production establishments	Coliform	NH ₃	
16	Animal raising and animal product processing establishments			
	- Animal-raising establishments and concentrated animal farms	QCVN ⁸ 01-14:2010/BNNPTNT, QCVN ⁹ 01-15:2010/BNNPTNT and ammonium, coliform and sulfur	H ₂ S, NH ₃	
	- Cattle and poultry slaughterhouses	Ammonium, coliform, animal and plant oil and fat, sulfur	H ₂ S, NH ₃ , methyl, mercaptan	
17	Plant protection drug storehouses, plant protection drugs			
	Plant protection drug production plants	Organic chlorine, organic phosphorus, phenol	Benzene, methanol, toluene, xylene	

⁸ QCVN 01/14:2010/BNNPTNT - National technical regulation on conditions for bio-safe pig farms

⁹ QCVN 01/15:2010/BNNPTNT - National technical regulation on conditions for bio-safe poultry farms

18	Waste transportation, treatment and processing facilities			
	- Solid waste treatment or processing facilities	As, Cd, Cr ⁶⁺ , Cr ³⁺ , Cu, Fe, Hg, Mn, Ni, Pb, Sn, Zn, ammonium, coliform	Methyl, mercaptan	
	- Establishments recycling or burying industrial, hospital, hazardous or household wastes	As, Cd, Cr ⁶⁺ , Cr ³⁺ , Cu, Fe, Hg, Mn, Ni, Pb, Sn, Zn, ammonium, coliform	H ₂ S, NH ₃ , methyl, mercaptan	
	- Warehouses and storing yards of hazardous waste collectors and transporters	Ammonium, coliform	H ₂ S, NH ₃	
	- Industrial, hospital and hazardous waste incinerators		QCVN ¹⁰ 02:2008/BTNMT, QCVN ¹¹ 30:2010/BTNMT	
	- Concentrated household and industrial wastewater treatment facilities	Coliform	Methyl, mercaptan	Noise ² , vibration ³
19	Construction material production establishments			
	- Brick, tile, cement, flooring and walling tile and ashlar production establishments		HF	
	- Cement concrete and hot bituminous concrete production establishments	Mineral oil and grease		
20	Aquaculture and aquatic product processing establishments			
	- Aquaculture establishments	QCVN ¹² 11:2008/BTNMT and ammonium, coliform		
	- Aquatic product processing establishments	QCVN ¹² 11:2008/BTNMT and ammonium, animal and plant oil and fat, residual chlorine, coliform	Ammonium, H ₂ S, methyl, mercaptan	Noise ²

¹⁰ QCVN 02: 2008/BTNMT - National technical regulation on exhaust of hospital solid waste incinerators¹¹ QCVN 30: 2010/BTNMT - National technical regulation on exhaust of industrial waste incinerators¹² QCVN 11:2008/BTNMT - National technical regulation on wastewater of aquatic product processing industry

	- Aquatic animal feed, aquatic by-product and fish powder processing establishments	QCVN ¹² 11:2008/BTNMT and ammonium, animal and plant oil and fat, residual chlorine, coliform	NH ₃ , H ₂ S, methyl, marcaptan	
21	Medical examination and treatment establishments	QCVN ¹³ 28: 2010/BTNMT and coliform, animal and plant oil and fat, sulfur, ammonium, total radioactivity α , total radioactivity β	QCVN ¹⁰ 02:2008/BTNMT	
22	Establishments repairing and building means of transport			
	- Automobile and motorcycle manufacturing plants	As, Cd, Cr ⁶⁺ , Cr ³⁺ , Cu, Fe, Hg, Mn, Ni, Pb, Sn, Zn, coliform, mineral oil and grease		Noise ² , vibration ³
	- Passenger car terminals, airports, railway stations, metros	Ammonium, coliform, mineral oil and grease		
	- Motorcycle, automobile or locomotive washing, maintenance and repair establishments	Coliform, mineral oil and grease		
	- Ship repair and building establishments	Mineral oil and grease, phenol	HCN, HNO ₃ , SO ₃	Noise ² , vibration ³
	- Ship dismantlement establishments, oil tank cleaning establishments	Coliform, mineral oil and grease		Noise ² , vibration ³
	- Seaports and river ports	Coliform, mineral oil and grease		
23	Tourist and resort service establishments			
	- Restaurants, hotels	QCVN ¹⁴ 14:2008/BTNMT and TDS, sulfur, ammonium, nitrate, animal and plant oil and fat, total of surface-active agents, phosphate, coliform		Noise ²
	- Luxury eco-tourism sites and resorts, golf course projects	QCVN ¹⁴ 14:2008/BTNMT and TDS, sulfur, ammonium, nitrate, animal and plant oil and fat, total of surface-active agents, phosphate, coliform		

¹³ QCVN 28:2008/BTNMT - National technical regulation on hospital wastewater

¹⁴ QCVN 14:2008/BTNMT - National technical regulation on household wastewater

	- Medical treatment establishments with natural mineral or hot water, natural mud bathing services	Animal and plant oil and fat, coliform		
24	Institutes and centers for scientific and technical research and application, laboratories	As, Cd, Cr ⁶⁺ , Cr ³⁺ , Cu, Fe, Hg, Mn, Ni, Pb, Sn, Zn, coliform, mineral oil and grease, phenol, cyanide, total radioactivity α , total radioactivity β	HCl, H ₂ S, HNO ₃ , H ₂ SO ₄ , benzene, chloroform, toluene, xylene	
25	Other establishments not yet included in this list	Relevant QCVNs when these national regulations are issued	Relevant QCVNs when these national regulations are issued	