

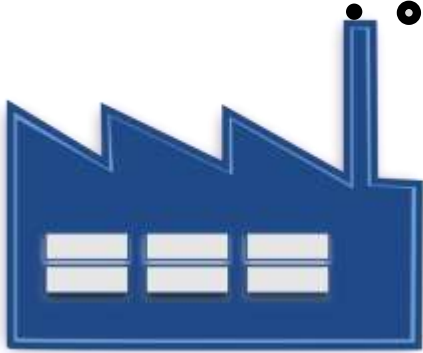


ENVIRONMENTAL QUALITY ACT 1974 (ACT 127) ENFORCEMENT AND AIR POLLUTION CONTROL FROM POINT AND NON-POINT SOURCE IN MALAYSIA

PRESENTED BY :

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AIR POLLUTIONS



DEFINITION :

The presence in or introduction into the air of a substance which has harmful or poisonous effects

A I R P O L L U T A N T S

- Carbon Monoxide (CO)
- Carbon Dioxide (CO₂)
- Chlorofluorocarbon (CFC)
- Odor
- Toxic metal
- Radioactive waste
- Dust/ particulates

SOURCE OF AIR POLLUTANTS

- VOLCANIC ERUPTIONS
- POLLEN
- LAND CLEARING
- SEA SPLASH

- MINING ACTIVITY
- CEMENT PLANT
- MOTOR VEHICLES
- INDUSTRIAL
- CONSTRUCTIONS



REGULATIONS RELATED TO AIR POLLUTION CONTROL UNDER EQA 1974

- 1 SECTION 22 :RESTIRICTION ON POLLUTION OF THE ATMOSPHERE
- 2 EQR (CLEAN AIR) REGULATIONS 2014
- 3 EQR (MOTOR VEHICLES NOISE) 1987
- 4 EQR (CONTROL EMISSION FROM DIESEL ENGINES) 1996
- 5 EQR (CONTROL EMISSION FROM PETROL ENGINES) 1996
- 6 EQR (CONTROL EMISSION FROM MOTORCYCLES) 2003
- 7 EQR (CONTROL PROPERTIES OF PETROL AND DIESEL)(AMMENDMENT) 2015

CLEAN AIR REGULATIONS 2014

This regulations shall apply to :

- 1) Any premise that carry out burning process for industrial and trade purposes including burning of waste;
- 2) Any premise or process that discharges air pollutants into open air;
- 3) Any industrial plant; and
- 4) Any fuel burning equipment

Regulation 13 is referring to 3 schedules which are :

- 1) First Schedule - ACTIVITIES AND INDUSTRIES SUBJECT TO THE **BEST AVAILABLE TECHNIQUES ECONOMICALLY ACHIEVABLE (BAT)**
- 2) Second Schedule - LIMIT VALUES AND TECHNICAL STANDARDS
- 3) Third Schedule - LIMIT VALUES AND TECHNICAL STANDARDS (BY ACTIVITY OR INDUSTRY)

WHAT IS BAT?



Number of BATs available are : 9

CLEAN AIR REGULATIONS 2014

This regulations stipulate key requirements which are summarized as below :

Obligations to notify on the installation of Air Pollution Control system

Requirement to install Air Pollution Control Systems

Compliance to the limit values and technical standards

Regulation 4

Regulation 7

Regulation 12




**BORANG AS/PUB/N-SCRUBBER
FORM AS/PUB/N-SCRUBBER**

PEMBERITAHUAN BERTULIS PUNCA PENCEMARAN UDARA (SISTEM KAWALAN PENCEMARAN UDARA (PENGGAHARI)) DI BAWAH PERATURAN 5, PERATURAN-PERATURAN KUALITI ALAM BEKELILING (UDARA BERSIH), 2014

WRITTEN NOTIFICATION ON AIR EMISSION SOURCES (AIR POLLUTION CONTROL SYSTEM (SCRUBBER)) UNDER REGULATIONS 5 OF THE ENVIRONMENTAL QUALITY (CLEAN AIR) REGULATION, 2014

Sila kemukakan borang yang telah lengkap diisi ke pejabat Jabatan Alam Sekitar Negara di mana projek/ premis ini ditempatkan.
Please submit the completed form to the Department of Environment State Office where the project/premise is located.

JABATAN ALAM SEKITAR
KEMENTERIAN SUMBER ASLI DAN ALAM SEKITAR
DEPARTMENT OF ENVIRONMENT
MINISTRY OF NATURAL RESOURCES AND ENVIRONMENT



Limit values are specified in Second Schedule and Third Schedule

I. CHEMICAL AND PETROCHEMICAL INDUSTRY IN ALL SIZES

Pollutant	Limit value	Monitoring
Hydrogen chloride (HCl)	200 mg/m ³	Periodic
Sum of NO and NO ₂ expressed as NO ₂	700 mg/m ³	Periodic
Ammonia (NH ₃)	76 mg/m ³	Periodic
Chlorine (Cl)	32 mg/m ³	Periodic
Sum of SO ₂ and SO ₃ , expressed as SO ₂	100 mg/m ³	Periodic
Mercury (Hg)	0.05 mg/m ³	Periodic
Hydrogen sulphide (H ₂ S)	7.5 mg/m ³	Periodic
Total PM	50 mg/m ³	Periodic

AIR POLLUTION CONTROL SYSTEMS



SUCTION HOOD



DUCTING



AIR POLLUTION CONTROL SYSTEM






CHIMNEY





CENTRIFUGAL FAN

TYPE OF AIR POLLUTION CONTROL EQUIPMENTS

NO	TYPE OF APCE	FUNCTIONS AND DISCRPTIONS
1.	 <p data-bbox="285 505 467 545">CYCLONE</p>	<ul data-bbox="614 205 1613 502" style="list-style-type: none">➤ To collect coarse dusts and not efficient to trap fine dusts➤ Act as a pre-cleaner before bag filters system➤ Simple construction➤ Wide application at palm oil mill (multicyclone), quarry
2.	 <p data-bbox="266 882 486 922">BAG FILTER</p>	<ul data-bbox="614 584 1646 922" style="list-style-type: none">➤ To collect fine dust and almost 99% collection efficiency➤ Comprising numbers of filter bags in the compartment that function to filter dust in the flue gas➤ Wide applications at cement plant; food industry , chemical industry
3.	 <p data-bbox="239 1260 513 1343">ELECTROSTATIC PRECIPITATOR</p>	<ul data-bbox="614 962 1646 1343" style="list-style-type: none">➤ To collect fine dust but limited to certain type of dust only➤ Using the force of an induced electrostatic charge towards the incoming dust➤ Requires large area for installation➤ High maintenance➤ Wide applications at power generation plant, cement plant

TYPE OF AIR POLLUTION CONTROL EQUIPMENTS

NO	TYPE OF APCE	FUNCTIONS AND DISCRPTIONS
1.	 <p data-bbox="278 558 479 596">SCRUBBER</p>	<ul style="list-style-type: none"><li data-bbox="614 254 1586 344">➤ To treat acidic/ alkaline gas from the incoming flue gas<li data-bbox="614 354 1638 444">➤ Can opt for wet or dry scrubber depending on the type application and flue gas characteristics<li data-bbox="614 454 1541 544">➤ Using scrubbing liquid such as water to scrub gases (wet type)<li data-bbox="614 554 1514 644">➤ Using chemical powder to neutralize the acidic/alkaline gas to be treated (dry type)<li data-bbox="614 654 1553 743">➤ Wide applications at chemical industry, semi-conductor industry; water treatment plant
2.	 <p data-bbox="195 1136 562 1175">THERMAL OXIDIZER</p>	<ul style="list-style-type: none"><li data-bbox="614 832 1576 922">➤ To hazardous gases at a high temperature and releases them into the atmosphere.<li data-bbox="614 932 1354 971">➤ Wide application at chemical plant

TYPE OF AIR EMISSION MONITORING

Air emission monitoring need to be conducted either on periodically basis or continuous basis based on requirements mentioned in the CAR 2014

STACK SAMPLING



- Regulation 16 - Periodic Monitoring
- Conducted once a year unless otherwise directed by the DG

CONTINUOUS MONITORING



- Regulation 17 - Continuous Emission Monitoring System

INCOMPLIANCE TO THE EMISSION LIMIT VALUES

SECOND SCHEDULE : COMBUSTIONS EMISSION FROM FUEL BURNING EQUIPMENTS AND INCINERATORS NOT COVERED BY THE FIRST SCHEDULE



Type of pollutants :

- Total Particulate Matters
- Black Smoke

Multi cyclone to collect coarse dusts

Example :

Concentration of TPM emitted from the stack is 400 mg/m³.

LIMIT VALUE FOR TPM

Solid	Total particulate matter (PM) Where dust load emitted:	150 mg/m ³	Once/year 2 times/year 3 times/year 4 times/year Continuous*
	(a) > 0.44 < 1.0 kg/h		
	(b) ≥ 1.0 < 1.5 kg/h		
	(c) ≥ 1.5 < 2.0 kg/h		
	(d) ≥ 2.0 < 2.5 kg/h		
(e) ≥ 2.5 kg/h			
	Carbon monoxide (CO)	1000 mg/m ³	Periodic

*Averaging time for continuous monitoring is 30 minutes

TPM concentration emitted exceeds the limit value.



INCOMPLIANCE TO THE EMISSION LIMIT VALUES

THIRD SCHEDULE : ACTIVITY (K) WASTE INCINERATORS IN ALL SIZES



Type of pollutants :

- Total Particulate Matters
- Non Methane Volatile Organic Compound
- Acid Gaseous (i.e : Hydrogen Chloride, Sulfur Dioxide etc.)

Wet Scrubber To Scrub pollutants generated from the incineration process

Example :

Concentration of NO₂ emitted from the stack is 200 mg/m³.

LIMIT VALUE FOR NO₂

Pollutant	Limit value	Monitoring
Total PM	100 mg/m ³	Continuous*
NMVOc as total organic carbon	10 mg/m ³	Continuous*
Hydrogen chloride (HCl)	40 mg/m ³	Continuous*
Hydrogen fluoride (HF)	1 mg/m ³	Continuous*
Sum of SO ₂ and SO ₃ expressed as SO ₂	50 mg/m ³	Continuous*
Sum of NO and NO ₂ expressed as NO ₂	200 mg/m ³	Continuous*
Carbon monoxide (CO)	50 mg/m ³	Continuous*

NO₂ concentration emitted exceeds the limit value.



CAR 2014 RELATED INCOMPLIANCE CASES (COURT CASES) - EQR (CLEAN AIR) 1978

YEAR OF OFFENSE	PREMIS NAME	TYPE OF OFFENSE
2012	EVERGREEN FIBREBOARD BERHAD , JOHOR	Regulations 25 - Solid particles concentration in other operations
2012	HI-EX FABRICATOR ENGINEERING SDN BHD, JOHOR	Regulation 38 - Erection etc. of chimney.
2013	TBH TIMBER SDN BHD , KELANTAN	Regulation 40 - Control equipment to be in operation

LEGISLATION TO CONTROL THE POLLUTION FROM MOTOR VEHICLES

ENVIRONMENTAL QUALITY ACT 1974

EQR (Motor Vehicles Noise) 1987

EQR (Control Emission from Diesel Engines) 1996

EQR (Control Emission from Petrol Engines) 1996

EQR (Control Emission from Motorcycles) 2003

EQR (Control Properties of Petrol and Diesel) 2007

EQR (Control Properties of Petrol and Diesel) (Amendment) 2015

MEASURES TAKEN TO CONTROL POLLUTION FROM MOTOR VEHICLES

New & exiting model

- Emission standards for:
 - New models;
 - In-use vehicles;

Regulated communities

- Integrated operation with other agencies;
- Road side camera video surveillance on smoky motor vehicles;
- Fleet Operator;
- Approved Facilities/ Emission Test Center;

Fuel Properties

- Improve fuel quality;
- Introduce cleaner fuel;

COURT CASES 2007-2017 ON EQR (CONTROL EMISSION FROM DIESEL ENGINES) 1996



STATES	NUMBER OF CASES
MELAKA	47
KEDAH	32
W.P KUALA LUMPUR	12
SELANGOR	11
PERAK	10
TERENGGANU	9
NEGERI SEMBILAN	2
JOHOR	1
PULAU PINANG	1
KELANTAN	0
PAHANG	0
PERLIS	0
SARAWAK	0
W.P LABUAN	0
W.P PUTRAJAYA	0
SABAH	0
TOTAL	125

FAILED COURT CASES RELATED TO EQR (CONTROL EMISSION FROM DIESEL ENGINES) 1996

YEAR OF OFFENCE	PREMIS NAME	TYPE OF OFFENSE	COURT DECISION
2009	ATLAS EDIBLE ICE [UTARA] SDN BHD	Emitted black smoke with 83.4% opacity	Prosecution failed to prove a prima facie against OKS
2008	ATLAS EDIBLE ICE [UTARA] SDN BHD	Emitted black smoke with 93.1% opacity	Prosecution failed to prove a prima facie against OKS

Main reason of failed to prove prima facie:

Regulation 17. Approved Facility to carry out any smoke test required.

(1) Where a motor vehicles is required to undergo a smoke test under section 48A of the Act such smoke test shall only be carried out at an approved facility.

In this case, DOE could not prove that the curb site operation by DOE's enforcer is an Approved Facility under regulation 17 of the regulations.



THANK YOU