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**DEPARTMENT OF ENVIRONMENTAL AFFAIRS**

NO. 1207

31 OCTOBER 2018

**NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT, 2004  
(ACT NO. 39 OF 2004)****AMENDMENTS TO THE LISTED ACTIVITIES AND ASSOCIATED MINIMUM EMISSION  
STANDARDS IDENTIFIED IN TERMS OF SECTION 21 OF THE NATIONAL ENVIRONMENT  
MANAGEMENT: AIR QUALITY ACT, 2004 (ACT NO. 39 OF 2004)**

I Derek Andre Hanekom, Minister of Environmental Affairs (Acting), hereby, under section 21(1)(b) of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004), amend the list of activities which result in atmospheric emissions, which have or may have a significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage, published under Government Notice No. 893, Gazette No. 37054 on 22 November 2013 as amended, as set out in the Schedule hereto.



**DEREK ANDRE HANEKOM  
MINISTER OF ENVIRONMENTAL AFFAIRS (ACTING)**

## SCHEDULE

### Definition

1. In this notice “the List” means the List of activities and associated minimum emission standards identified in terms of section 21 of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004, published under Government Notice No. 893 of 22 November 2013, as amended by General Notice No. 551 of 12 June 2015).

### Amendment of paragraph (11) of the List

2. Paragraph (11) and the heading above paragraph (11) of the List are hereby amended by the substitution for paragraph (11) and the heading of the following:

“Postponement **or Suspension of compliance time frames**

(11) As contemplated in [the] paragraph 5.4.3.5 of the National Framework for Air Quality Management in the Republic of South Africa, published in terms of Section 7 of this Act, an application may be made to the National Air Quality Officer for the postponement of the compliance time frames in paragraph (9) and (10) for an existing plant.”.

### Insertion of paragraphs (11A), (11B), (11C) and (11D) in the List

3. The following paragraphs are hereby inserted in the List after paragraph (11):

“(11A) An existing plant may apply to the National Air Quality Officer for a once-off postponement with the compliance timeframes for minimum emission standards for new plant as contemplated in paragraph (10). A once-off postponement with the compliance timeframes for minimum emission standards for new plant may not exceed a period of five years from the date of issue. No once-off postponement with the compliance timeframes with minimum emission standards for new plant will be valid beyond 31 March 2025.

(11B) An existing plant to be decommissioned by 31 March 2030 may apply to the National Air Quality Officer before 31 March 2019 for a once-off suspension of compliance timeframes with minimum emission standards for new plant. Such an application must be accompanied by a detailed decommissioning schedule. No such application shall be accepted by the National Air Quality Officer after 31 March 2019.

(11C) An existing plant that has been granted a once-off suspension of the compliance timeframes as contemplated in paragraph (11B) must comply with minimum emission standards for existing plant from the date of granting of the application and during the period of suspension until decommissioning.

(11D) No postponement of compliance timeframes or a suspension of compliance timeframes shall be granted for compliance with minimum emission standards for existing plant.”.

### Amendment of paragraph (12) of the List

3. Paragraph (12) of the List is hereby amended by the substitution for paragraph 12 of the following paragraph:

“(12) The application contemplated in paragraph **[(11)]** (11A) and (11B) must include—

- (a) An air pollution impact assessment compiled in accordance with the regulations prescribing the format of an Atmospheric Impact Report (as contemplated in Section 30 of the **[AQAI Act]**), by a person registered as a professional engineer or as a professional natural scientist in the appropriate category;
- (b) a detailed justification and reasons for the application; and
- (c) a concluded public participation process undertaken as specified in the **[NEMA] National Environmental Management Act** and the Environmental Impact Assessment Regulations made under section 24(5) the aforementioned Act.

#### Insertion of paragraphs (12A) in the List

4. The following paragraph is inserted in the list after paragraph 12:

“(12A) (a) An existing plant may submit an application regarding a new plant standard to the National Air Quality Officer for consideration if the plant is in compliance with other emission standards but cannot comply with a particular pollutant or pollutants.

(b) An application must demonstrate a previous reduction in emissions of the said pollutant or pollutants, measures and direct investments implemented towards compliance with the relevant new plant standards.

(c) The National Air Quality Officer, after consultation with the Licensing Authority, may grant an alternative emission limit or emission load if:

(i) there is material compliance with the national ambient air quality standards in the area for pollutant or pollutants applied for; or

(ii) the Atmospheric Impact Report does not show a material increased health risk where there is no ambient air quality standard.”.

#### Amendment of paragraph (13) of the List

5. Paragraph (13) of the List is hereby amended by the substitution for paragraph (13) of the following paragraph:

“(13) The National Air Quality Officer, with the concurrence of the Licensing Authority as contemplated in section 36 of this Act, may **[grant a postponement of the compliance time frames in paragraphs (9) and (10) for an existing plant for a period, not exceeding 5 years per postponement.]** in respect of an application for a once-off postponement with compliance timeframes with minimum emission standards for new plant as contemplated in paragraph (11A), or a once-off suspension of compliance timeframes with minimum emission standards for new plant as contemplated in paragraph (11B):

(a) grant the application with or without conditions; or

(b) refuse the application with written reasons.”.

### Amendment of Category 1 of the List

6. Subcategory 1.1 of Category 1 of the List is hereby amended by the addition of the following special arrangement under subparagraph (a):

“(iii) Existing plants shall comply with a new plant emission standard of 1000 mg/Nm<sup>3</sup> for sulphur dioxide (SO<sub>2</sub>).”

### Amendment of Category 2 of the List

7. Category 2 of the List is hereby amended by the substitution for subcategory 2.4 of the following subcategory:

#### ***“Subcategory 2.4: Storage and Handling of Petroleum Products***

<b>Description:</b>	Petroleum products storage tanks and product transfer facilities
<b>Application:</b>	All permanent immobile liquid storage tanks larger than 1000 cubic meters cumulative tankage capacity at a site.

(a) The following special arrangement applies for the storage and handling of raw materials, intermediate and final products with a vapour pressure greater than 14kPa at operating temperature—

Leak detection and repair (LDAR) program approved by licensing authority must be instituted.

(b) The following special arrangements apply for control of Total Volatile Organic Compounds (TVOCs) from storage of raw materials, intermediate and final products, except during loading and offloading. (Alternative control measures that can achieve the same or better results may be used)—

(i) Storage vessels for liquids must be of the following type:

True vapour pressure of contents at product storage temperature	Type of tank or vessel
<b>Application</b>	All permanent immobile liquid storage facilities at a single site with a combined storage capacity of greater than 1000 cubic meters
True vapour pressure of contents at product storage temperature	Type of tank or vessel
<b>Type 1:</b> Up to 14 kPa	Fixed-roof tank vented to atmosphere, or as per Type 2 and 3
<b>Type 2:</b> Above 14 kPa and up to 91 kPa with a throughput of less than 50'000 m <sup>3</sup> per annum	Fixed-roof tank with Pressure Vacuum Vents fitted as a minimum, to prevent “breathing” losses, or as per Type 3

<b>Type 3:</b> Above 14 kPa and up to 91 kPa with a throughput greater than 50'000 m <sup>3</sup> per annum	<p>a) External floating-roof tank with primary rim seal and secondary rim seal for tank with a diameter greater than 20m, or</p> <p>b) fixed-roof tank with internal floating deck / roof fitted with primary seal, or</p> <p>c) fixed-roof tank with vapour recovery system.</p>
<b>Type 4:</b> Above 91 kPa	Pressure vessel

- (ii) The roof legs, slotted pipes and/or dipping well on floating roof tanks (except for domed floating roof tanks or internal floating roof tanks) must have sleeves fitted to minimise emissions.
- (ii) Relief valves on pressurised storage must undergo periodic checks for internal leaks. This can be carried out using portable acoustic monitors or if venting to atmosphere with an accessible open end, tested with a hydrocarbon analyser as part of an LDAR programme.
- (c) The following special arrangements apply for control of TVOCs from the loading and unloading (excluding ships) of raw materials, intermediate and final products with a vapour pressure of greater than 14kPa at handling temperature. Alternative control measures that can achieve the same or better results may be used:
- (i) All installations with a throughput of greater than 50'000 m<sup>3</sup> per annum of products with a vapour pressure greater than 14 kPa, must be fitted with vapour recovery / destruction units. Emission limits are set out in the table below—

<b>Description:</b>	Vapour Recovery Units		
<b>Application:</b>	All loading/ offloading facilities with a throughput greater than 50 000 m <sup>3</sup> per annum		
Substance or mixture of substances		Plant status	mg/Nm <sup>3</sup> under normal conditions of 273 Kelvin and 101.3 kPa.
Common name	Chemical symbol		
Total volatile organic compounds from vapour recovery/ destruction units using thermal treatment.	N/A	New	150
		Existing	150
Total volatile organic compounds from vapour recovery/ destruction units using non-thermal treatment.	N/A	New	40 000
		Existing	40 000

- (ii) For road tanker and rail car loading / offloading facilities where the throughput is less than 50'000 m<sup>3</sup> per annum, and where ambient air quality is, or is likely to be impacted, all liquid products must be loaded using bottom loading, or equivalent, with the venting pipe connected to a vapour balancing system.

Where vapour balancing and / or bottom loading is not possible, a recovery system utilizing adsorption, absorption, condensation or incineration of the remaining VOC's, with a collection efficiency of at least 95%, must be fitted."

### **Amendment of Category 5 of the List**

8. Category 5 of the List is hereby amended—

(a) by the substitution for the special arrangement under subcategory 5.4, paragraph (b) of the following special arrangements:

"(a) (i) Emissions from cooling, grinding and fugitive dust capture processes are not subject to the oxygen content reference condition.

(ii) For an existing plant using pyritic limestone, the minimum emission standard for existing plant for sulphur dioxide (SO<sub>2</sub>) is 400 mg/Nm<sup>3</sup>.

(iii) For an existing plant using pyritic limestone, the minimum emission standard for new plant for sulphur dioxide (SO<sub>2</sub>) is 400 mg/Nm<sup>3</sup>.

(b) by the addition in paragraph (a) of subcategory 5.5 of the following special arrangements under subcategory 5.5:

"(xix) For an existing plant using pyritic limestone, the minimum emission standard for existing plant for sulphur dioxide (SO<sub>2</sub>) is 400 mg/Nm<sup>3</sup>.

(xx) For an existing plant using pyritic limestone, the minimum emission standard for new plant for sulphur dioxide (SO<sub>2</sub>) is 400 mg/Nm<sup>3</sup>."; and

(c) by the addition in subcategory 5.9 of the following paragraph:

"The following special arrangement shall apply:

(i) Where co-feeding with waste materials with calorific value allowed in terms of the National Norms and Standards for Disposal of Waste Disposal to Landfill published in terms of the National Environmental Management: Waste Act, 2008 (Act No.59 of 2008) as amended, occurs, additional requirements under subcategory 1.6 shall apply.

(ii) The applicable minimum emission standard for Total Flourides shall be as set out in this subcategory above.

(iii) Additional requirements under subcategory 1.6 shall continue to apply even after the waste ceases to be waste in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)."

### **Amendment of Category 9 of the List**

9. Category 9 of the List is hereby amended—

(a) by the substitution for subcategory 9.2 of the following subcategory:

**"Subcategory 9.2: Chemical Recovery Furnaces**

<b>Description:</b>	The recovery of chemicals from the thermal treatment of spent liquor using furnaces.		
<b>Application:</b>	All installations producing more than 1 ton per month.		
Substance or mixture of substances		Plant status	mg/Nm <sup>3</sup> under normal conditions of 273 Kelvin and 101.3 kPa, and specific reference oxygen conditions specified under the special arrangements.
Common name	Chemical symbol		
Particulate matter	N/A	New	50
		Existing	100
Hydrogen sulphide	H <sub>2</sub> S	New	15
		Existing	15
Sulphur dioxide	SO <sub>2</sub>	New <u>Kraft Process</u>	50
		Existing <u>Kraft Process</u>	300
		New <u>Bisulphite Process</u>	300
		Existing <u>Bisulphite Process</u>	450
Oxides of nitrogen	NO <sub>x</sub> expressed as NO <sub>2</sub>	New <u>Kraft Process</u>	300
		Existing <u>Kraft Process</u>	300
		New <u>Bisulphite Process</u>	300
		Existing <u>Bisulphite Process</u>	400

(a) The following special arrangements shall apply:

(i) An existing plant must comply with the minimum emission standards set out in the table at 10% oxygen reference condition.

(ii) A new plant must comply with the minimum emission standards set out in the table at 6% oxygen reference condition.;" and

(b) by the substitution for subcategory 9.5 of the following subcategory:

**"Subcategory 9.5: Wood Drying and the Manufacture of Wood Products**

<b>Description:</b>	The drying of wood; and the manufacture of laminated and compressed wood products.		
<b>Application:</b>	All installations producing more than 10 tons per month.		
Substance or mixture of substances		Plant status	mg/Nm <sup>3</sup> under normal conditions of [10% O <sub>2</sub> ] 273 Kelvin and 101.3 kPa.
Common name	Chemical symbol		
Particulate matter	N/A	New	150
		Existing	200

Oxides of nitrogen	NO <sub>x</sub> expressed as NO <sub>2</sub>	New	500
		Existing	700

(a) The following special arrangements shall apply:

Where an external source of heat is used for drying of wood and in manufacturing of wood products, such source of heat must comply with—

- (i) the relevant emission standards for controlled emitters declared in terms of section 23 of the Act, if it is a declared controlled emitter; or
- (ii) the municipal by-laws for fuel burning appliance or equipment, if it has been designated as a fuel burning appliance or equipment under the municipal by-laws."

### **Substitution of Annexure A**

10. Annexure A is hereby amended by the substitution for Annexure A of the following Schedule:



## SCHEDULE A - METHODS FOR SAMPLING AND ANALYSIS

The following referenced documents are indispensable for the application of the Notice. For undated references, the latest edition of the referenced document (including any amendments) applies. Information on currently valid national and international standards can be obtained from South African Bureau of Standards. The classification of the methods is not intended to be exclusive to a substance group.

Substance group	Parameter	Methods for Sampling and Analysis of Pollutants	
		Standard Reference Method	Title
Measurement Planning	Measurement planning and measurement sites selection	BS EN 15259	Requirements for the measurement sections and sites and for the measurement objective, plan and report.
	Traverse Points	USEPA Method 1	Sample and velocity traverses for stationary sources
	Traverse Points (Small Ducts)	USEPA Method 1A	Sample and velocity traverses for stationary sources with small stacks or ducts
	Method selection	DD CEN/TS 15674	Air quality. Measurement of stationary source emissions. Guidelines for the elaboration of standardised methods.
	Method selection	BS EN 14793	Stationary source emissions. Demonstration of equivalence of an alternative method with a reference method
	Competence of testing and calibration laboratories	ISO 17025	General requirements for the competence of testing and calibration laboratories.
Quality Assurance		DD CEN/TS 15675	Air quality. Measurement of stationary source emissions. Application of EN ISO/IEC 17025:2005 to periodic measurements.
	Continuous Emission Monitoring Systems (Includes portable analysers)	BS EN 14181	Stationary Source Emissions – Quality assurance of automated measurement systems.
		BS EN 15267-2	Air quality. Certification of automated measuring systems. Initial assessment of the AMS manufacturer's quality management

			<p>system and post certification surveillance for the manufacturing process.</p>
<p>Secondary Parameters</p>	<p>Determination of gas velocity and flow rate</p>	<p>Portable analysers</p>	<p>BS EN 15267-3 Air quality. Certification of automated measuring systems. Performance criteria and test procedures for automated measuring systems for monitoring emissions from stationary sources.</p>
			<p>BS EN 50379-1 Specification for portable electrical apparatus designed to measure combustion flue gas parameters of heating appliances. General requirements and test methods.</p>
			<p>BS EN 50379-2 Specification for portable electrical apparatus designed to measure combustion flue gas parameters of heating appliances. Performance requirements for apparatus used in statutory inspections and assessment.</p>
			<p>ISO 10780 Stationary Source Emissions - Measurement of velocity and volume flow rate of gas streams in ducts</p>
			<p>ISO 14164 Stationary Source Emissions - Determination of the volume flow rate of gas streams in ducts - Automated method</p>
			<p>BS EN ISO 16911 Stationary source emissions. Manual and automatic determination of velocity and volume flow rate in ducts. Automated measuring systems</p>
			<p>BS EN ISO 16911-1 Stationary source emissions. Manual and automatic determination of velocity and volume flow rate in ducts. Manual reference method</p>
			<p>BS EN ISO 16911-2 Stationary source emissions. Manual and automatic determination of velocity and volume flow rate in ducts. Automated measuring systems.</p>
			<p>USEPA Method 2 Determination of stack gas velocity and volumetric flow rate (Type S Pitot Tube)</p>
			<p>USEPA Method 2A Direct measurement of gas volume through pipes and small ducts</p>

		USEPA Method 2B	Determination of exhaust gas volume flow rate from gasoline vapour incinerators
		USEPA Method 2C	Determination of gas velocity and volumetric flow rate in small stacks or ducts (standard pitot tube)
		USEPA Method 2D	Measurement of gas volume flow rates in small pipes and ducts
		USEPA Method 2F	Determination of stack gas velocity and volumetric flow rate with three dimensional probes
		USEPA Method 2G	Determination of stack gas velocity and volumetric flow rate with two dimensional probes.
		USEPA Method 2H	Determination of stack gas velocity taking into account velocity decay near the stack wall
		BS EN 14790	Stationary Source Emissions - Determination of the water vapour in ducts
		USEPA Method 4	Determination of moisture content in stack gases
		BS EN 14789	Stationary source emissions - Determination of volume concentration of oxygen (O <sub>2</sub> ) - Reference method - Paramagnetism.
		USEPA Method 3	Gas analysis for the determination of dry molecular weight
		USEPA Method 3A	Determination of oxygen and carbon dioxide concentrations in emissions from stationary sources - (Instrumental Analyzer Procedure).
		USEPA Method 3B	Gas analysis for the determination of emission rate correction factor or excess air
		USEPA Method 3C	Determination of carbon dioxide, methane, nitrogen, and oxygen from stationary sources
		USEPA Method 10	Determination of carbon monoxide emissions from stationary sources (Instrumental Analyzer Procedure)
		USEPA Method 10A	Determination of carbon monoxide emissions in certifying continuous emission monitoring systems at petroleum refineries
	Moisture Content		
	Oxygen; Carbon monoxide; and Carbon dioxide		

		<p>USEPA Method 10B</p> <p>ISO 12039</p> <p>ISO 10396</p> <p>BS EN 15058</p> <p>BS EN 50379-2</p> <p>BS EN 50379-3</p> <p>ASTM D6348</p> <p>BS EN 13284-1</p> <p>BS EN 13284-2</p> <p>ISO 9096</p>	<p>Determination of carbon monoxide emissions from stationary sources</p> <p>Stationary Source Emissions - Determination of carbon monoxide, carbon dioxide and oxygen. Performance characteristics and calibration of automated measuring systems</p> <p>Stationary source emissions — Sampling for the automated determination of gas emission concentrations for permanently-installed monitoring systems.</p> <p>Stationary Source Emissions - Determination of the mass concentration of carbon monoxide (CO). Reference Method: Non-Dispersive Infrared Spectrometry</p> <p>Specification for portable electrical apparatus designed to measure combustion flue gas parameters of heating appliances. Performance requirements for apparatus used in statutory inspections and assessment</p> <p>Specification for portable electrical apparatus designed to measure combustion flue gas parameters of heating appliances. Performance requirements for apparatus used in non-statutory servicing of gas fired heating appliances</p> <p>Standard test method for determination of gaseous compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy</p> <p>Stationary Source Emissions - Determination of low range mass concentration of dust: manual gravimetric method</p> <p>Stationary source emissions. Determination of low range mass concentration of dust. Quality assurance of automated measuring systems</p> <p>Stationary Source Emissions - Manual determination of mass concentration of particulate matter</p>
<p>Dust</p>	<p>Particulate Matter</p>		

ISO 12141	Stationary Source Emissions - Determination of mass concentration of particulate matter (dust) at low concentrations - Manual gravimetric method
ISO 10155	Stationary Source Emissions - Automated monitoring of mass concentrations of particles. Performance characteristics, test methods and specifications.
USEPA Method 5	Determination of particulate matter emissions from stationary sources.
USEPA Method 5D	Determination of particulate matter emissions from positive pressure fabric filters
USEPA Method 5E	Determination of particulate matter emissions from the wool fiberglass insulation manufacturing industry
USEPA Method 5F	Determination of nonsulfate particulate matter emissions from stationary sources
USEPA Method 5I	Determination of low level particulate matter emissions from stationary sources
USEPA Method 17	Determination of particulate matter emissions from stationary sources
USEPA Method 201	Determination of PM <sub>10</sub> emissions (exhaust gas recycle procedure)
USEPA Method 201A	Determination of PM <sub>10</sub> and PM <sub>2.5</sub> emissions from stationary sources (constant sampling rate procedure)
USEPA Method 202	Dry impinger method for determining condensable particulate emissions from stationary sources
ISO 23210	Stationary source emissions -- Determination of PM <sub>10</sub> /PM <sub>2.5</sub> mass concentration in flue gas -- Measurement at low concentrations by use of impactors
ISO 25597	Stationary source emissions -- Test method for determining PM <sub>2.5</sub> and PM <sub>10</sub> mass in stack gases using cyclone samplers and sample dilution

	Dust fallout	SANS 1137/ASTM D1739	Standard Test Method for Collection and Measurement of Dustfall (Settleable Particulate Matter).
Opacity	Opacity	USEPA Method 9	Visual determination of the opacity of emissions from stationary sources
		USEPA Method 22	Visual determination of fugitive emissions from material sources and smoke emissions from flares
		USEPA Method 203A	Visual determination of opacity of emissions from stationary sources for time-averaged regulations
		USEPA Method 203B	Visual determination of opacity of emissions from stationary sources for time-exception regulations
		USEPA Method 203C	Visual determination of opacity of emissions from stationary sources for instantaneous limitation regulations
		BS EN 14385	Stationary Source Emissions - Determination of the total emission of As, Cd, Cr, Co, Cu, Mn, Ni, Pb, Sb, Tl and V
Metals	Arsenic Antimony Chromium Cobalt Copper Manganese Nickel Cadmium Thallium Vanadium Lead	USEPA Method 29	Determination of metals emissions from stationary sources
		BS EN 14884	Stationary Source Emissions - Determination of total mercury: automated measuring systems
		BS EN 13211	Stationary Source Emissions - Manual method of determination of the concentration of total mercury
		USEPA Method 30A	Determination of total vapor phase mercury emissions from stationary sources (instrumental analyzer procedure)

		USEPA Method 30B	Determination of total vapour phase mercury emissions from coal-fired combustion sources using carbon sorbent traps
Chromium		USEPA Method 306	Determination of chromium emissions from decorative and hard chromium electroplating and chromium anodising operations – Isokinetic Method
Lead		USEPA Method 12	Determination of inorganic lead emissions from stationary sources
Arsenic		USEPA Method 108	Determination of particulate and gaseous arsenic emissions
		USEPA Method 108A	Determination of arsenic content in ore samples from nonferrous smelters
		USEPA Method 108B	Determination of arsenic content in ore samples from nonferrous smelters
		USEPA Method 108C	Determination of arsenic content in ore samples from nonferrous smelters - molybdenum blue photometric procedure
Organic Compounds	Polychlorinated Dioxins/Furans	BS EN 1948	Stationary Source Emissions – Determination of the mass concentration of PCBBS/PCDFs and Dioxin-like PCBs
		BS EN 1948-1	Stationary source emissions. Determination of the mass concentration of PCDDs/PCDFs and dioxin-like PCBs. Sampling of PCDDs/PCDFs
		BS EN 1948-2	Stationary source emissions. Determination of the mass concentration of PCDDs/PCDFs and dioxin-like PCBs. Extraction and clean-up of PCDDs/PCDFs
		BS EN 1948-3	Stationary source emissions. Determination of the mass concentration of PCDDs/PCDFs and dioxin-like PCBs. Identification and quantification of PCDDs/PCDFs
		BS EN 1948-4:2010+A1:2013	Stationary source emissions. Determination of the mass concentration of PCDDs/PCDFs and dioxin-like PCBs. Sampling and analysis of dioxin-like PCBs
		USEPA Method 23	Determination of Polychlorinated Dibenzofurans from stationary sources
			Determination of Polychlorinated Dibenzo-P-Dioxins and Polychlorinated Dibenzofurans from stationary sources

Acrylonitrile	USEPA Method 0031	Sampling method for volatile organic compounds
Methylamines	PD CEN/TS 13649	Stationary source emissions. Determination of the mass concentration of individual gaseous organic compounds. Sorptive sampling method followed by solvent extraction or thermal desorption
	OSHA Method 40	Methylamines
Polycyclic Hydrocarbons	ISO 11338-1	Stationary Source Emissions - Determination of gas and particle-phase polycyclic aromatic hydrocarbons. Part 1: Sampling
	ISO 11338-2	Stationary Source Emissions - Determination of gas and particle-phase polycyclic aromatic hydrocarbons. Part 2: Sample preparation, clean-up and determination.
	CARB Method 429	Determination of Polycyclic Aromatic Hydrocarbon (PAH) Emissions from Stationary Sources
Total Volatile Organic Compounds	BS EN 12619	Stationary Source Emissions - Determination of the mass concentration of total gaseous organic carbon. Continuous Flame Ionisation Detector Method
	BS EN 13526	Stationary Source Emissions - Determination of the mass concentration of total gaseous organic carbon in flue gases from solvent using processes. Continuous Flame Ionisation Detector Method
	PD CEN/TS 13649	Stationary source emissions. Determination of the mass concentration of individual gaseous organic compounds. Sorptive sampling method followed by solvent extraction or thermal desorption (Use NIOSH 1600 for analysis)
	ISO 13199	Stationary source emissions — Determination of total volatile organic compounds (TVOCs) in waste gases from non-combustion processes — Non-dispersive infrared analyser equipped with catalytic converter
	BS EN 13649	Stationary Source Emissions - Determination of the mass concentration of individual gaseous organic compounds. Activated Carbon and Solvent Desorption Method



			<p>Measurement of gaseous organic compound emissions by gas chromatography</p> <p>Determination of total gaseous nonmethane organic emissions as carbon</p> <p>Determination of total gaseous organic concentration using a flame ionization analyzer</p> <p>Determination of total gaseous organic concentration using a nondispersive infrared analyzer</p> <p>Determination of volatile organic compound leaks</p> <p>Fugitive and diffuse emissions of common concern to industry sectors. Measurement of fugitive emission of vapours generating from equipment and piping leaks</p>
	USEPA Method 18		
	USEPA Method 25		
	USEPA Method 25A		
	USEPA Method 25B		
	USEPA Method 21		
	BS EN 15446		
	USEPA Method 11		Determination of hydrogen sulfide content of fuel gas streams in petroleum refineries
	USEPA Method 15		Determination of hydrogen sulfide, carbonyl sulfide, and carbon disulfide emissions from stationary sources
	USEPA Method 15A		Determination of total reduced sulfur emissions from sulfur recovery plants in petroleum refineries
	USEPA Method 16		Semicontinuous determination of sulfur emissions from stationary sources
	USEPA Method 16A		Determination of Total Reduced Sulfur Emissions from Stationary Sources (Impinger Technique)
	USEPA Method 16B		Determination of Total Reduced Sulfur Emissions from Stationary Sources (Gas Chromatograph Analysis)
	USEPA Method 16C		Determination of Total Reduced Sulfur Emissions from Stationary Sources (Real Time Data)
	BS EN 1911		Stationary source emissions. Determination of mass concentration of gaseous chlorides expressed as HCl. Standard reference method
Inorganic Compounds		Hydrogen Sulphide	
		Chlorine /Hydrogen Chloride	

	Stationary source emissions. Sampling and determination of hydrogen chloride content in ducts and stacks. Infrared analytical technique	PD CEN/TS 16429
	Determination of hydrogen halide and halogen emissions from stationary sources non-isokinetic method	USEPA Method 26
	Determination of hydrogen halide and halogen emissions from stationary sources isokinetic method	USEPA Method 26A
	Measurement of gaseous hydrogen chloride emissions at portland cement kilns by Fourier Transform Infrared (FTIR) Spectroscopy	USEPA Method 321
Hydrogen Cyanide	Sampling and analysis for hydrogen cyanide emissions from stationary sources	USEPA OT Method 29
	Determination of cyanide emissions from stationary sources	CARB Method 426
	Standard Practice for Sampling Combustion Effluents and Other Stationary Sources for the Subsequent Determination of Hydrogen Cyanide	ASTM D7295
Total Flourides/ Hydrogen Flouride	Determination of total fluoride emissions from stationary sources (SPADNS Zirconium Lake Method)	USEPA Method 13A
	Determination of total fluoride emissions from stationary sources (Specific Ion Electrode Method)	USEPA Method 13B
	Determination of fluoride emissions from potroom roof monitors for primary aluminum plants	USEPA Method 14
	Determination of total fluoride emissions from selected sources at primary aluminum production facilities	USEPA Method 14A
	Determination of hydrogen halide and halogen emissions from stationary sources non-isokinetic method	USEPA Method 26
	Determination of hydrogen halide and halogen emissions from stationary sources non-isokinetic method	USEPA Method 26A
	Stationary Source Emissions - Sampling and determination of gaseous fluoride content	ISO 15713

Oxides of Sulphur	ISO 7935	Stationary Source Emissions - Determination of the mass concentration of sulphur dioxide. Performance characteristics of automated measuring methods
	ISO 10396	Stationary source emissions — Sampling for the automated determination of gas emission concentrations for permanently-installed monitoring systems.
	ISO 11632	Stationary source emissions – Determination of mass concentration of sulfur dioxide – Ion Chromatography Method
	BS EN 14791	Stationary Source Emissions - Determination of mass concentration of sulphur dioxide. Reference method
	USEPA Method 6	Determination of sulfur dioxide emissions from stationary sources
	USEPA Method 6A	Determination of Sulfur Dioxide, Moisture, and Carbon Dioxide From Fossil Fuel Combustion Sources
	USEPA Method 6B	Determination of sulfur dioxide and carbon dioxide daily average emissions from fossil fuel combustion sources
	USEPA Method 6C	Determination of sulfur dioxide emissions from stationary sources (instrumental analyzer procedure)
	USEPA Method 8	Determination of sulfuric acid and sulfur dioxide emissions from stationary sources
	USEPA Method 19	Determination of sulfur dioxide removal efficiency and particulate matter, sulfur dioxide, and nitrogen oxide emission rates
Oxides of Nitrogen	ISO 10849	Stationary Source Emissions - Determination of the mass concentration of nitrogen oxides. Performance characteristics of automated measuring systems
	ISO 10396	Stationary source emissions — Sampling for the automated determination of gas emission concentrations for permanently-installed monitoring systems.
	BS EN 14792	Stationary Source Emissions - Determination of mass concentration of nitrogen oxides (NO <sub>x</sub> ). Reference Method: Chemiluminescence

<p>Standard test method for determination of gaseous compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy</p>	<p>ASTM D6348</p>	
<p>Determination of nitrogen oxide emissions from stationary sources</p>	<p>USEPA Method 7</p>	
<p>Determination of nitrogen oxide emissions from stationary sources (ion chromatographic method)</p>	<p>USEPA Method 7A</p>	
<p>Determination of Nitrogen Oxide Emissions From Stationary Sources (Ultraviolet Spectrophotometric Method)</p>	<p>USEPA Method 7B</p>	
<p>Determination of nitrogen oxide emissions from stationary sources (Alkaline Permanganate/Colorimetric Method)</p>	<p>USEPA Method 7C</p>	
<p>Determination of Nitrogen Oxide Emissions from Stationary Sources (Alkaline-Permanganate/Ion Chromatographic Method)</p>	<p>USEPA Method 7D</p>	
<p>Determination of nitrogen oxides emissions from stationary sources (Instrumental Analyzer Procedure)</p>	<p>USEPA Method 7E</p>	
<p>Determination of nitrogen oxides, sulfur dioxide, and diluent emissions from stationary gas turbines</p>	<p>USEPA Method 20</p>	
<p>Stationary source emissions – Determination of the mass concentration of ammonia in flue gas – Performance characteristics of automated measuring systems</p>	<p>ISO 17179</p>	<p>Ammonia</p>
<p>Ammonia Analysis</p>	<p>EPA C TM 027</p>	
<p>Standard test method for determination of gaseous compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy</p>	<p>ASTM D6348</p>	

