



THE SOCIALIST REPUBLIC OF VIETNAM

QCVN 20: 2009/BTNMT

**National Technical Regulation on industrial emission of organic
substances**

(This translation is for reference only)

HANOI – 2009

Foreword

QCVN 20 :2009/BTNMT was prepared by the Committee of National Technical Regulations on atmosphere quality, submitted for approval by the General Department of Environment, Department of Science and Technology, and the Legal Department and promulgated under the Circular No.25/2009/TT-BTNMT dated on November 16th, 2009 of the Minister of Natural Resources and Environment.

National Technical Regulation on Industrial Emission of Organic Substances

1. GENERAL REGULATIONS

1.1 Scope of regulation

This technical regulation specifies maximum allowable concentration of organic substances in industrial emission when emitting into air environment

1.2. Subject of application

This Technical regulation is applicable to organizations and individuals related to the operation of industrial emission which contain organic substances into the air environment

1.3. Explanation of terms

In this Regulation, the following terms can be expressed as follows:

1.3.1. Industrial emissions are a mixture of material compositions which emitting into the air environment from smokestacks, exhaust pipe of the production facilities, processing, trading and industrial services

1.3.2. Standard Emission cubic meters (Nm³) is a cubic meter of emission at a temperature of 25⁰C and a absolute pressure of 760 mm of mercury

2. TECHNICAL REGULATIONS

2.1. Maximum allowable concentration of organic substances in industrial emission which emit into air environment are specified in table 1 as follows:

Table 1: Maximum allowable concentration of Organic substances in industrial emission which emit into air environment

Number	Name	CAS number	Chemical formula	Maximum concentration (mg/Nm ³)
1	Acetylene tetrabromoethylene	79-27-6	CHBr ₂ CHBr ₂	14
2	Acetaldehyde	75-07-0	CH ₃ CHO	270
3	Acrolein	107-02-8	CH ₂ =CHCHO	2.5
4	Amyl acetate	628-63-7	CH ₃ COOC ₅ H ₁₁	525
5	Aniline	62-53-3	C ₆ H ₅ NH ₂	19
6	Benzidine	92-87-5	NH ₂ C ₆ H ₄ C ₆ H ₄ NH ₂	KPHD
7	Benzene	71-43-2	C ₆ H ₆	5
8	Benzyl chloride	100-44-7	C ₆ H ₅ CH ₂ Cl	5
9	1,3-Butadiene	106-99-0	C ₄ H ₆	2200
10	n-Butyl acetate	123-86-4	CH ₃ COOC ₄ H ₉	950
11	Butylamine	109-73-9	CH ₃ (CH ₂) ₂ CH ₂ NH ₂	15
12	Cresol	1319-77-3	CH ₃ C ₆ H ₄ OH	22
13	Chlorobenzene	108-90-7	C ₆ H ₅ Cl	350
14	Chloroform	67-66-3	CHCl ₃	240
15	β-chloroprene	126-99-8	CH ₂ =CClCH=CH ₂	90
16	Chloropicrin	76-06-2	CCl ₃ NO ₂	0,7
17	Cyclohexane	110-82-7	C ₆ H ₁₂	1300
18	Cyclohexanol	108-93-0	C ₆ H ₁₁ OH	410
19	Cyclohexanone	108-94-1	C ₆ H ₁₀ O	400
20	Cyclohexene	110-83-8	C ₆ H ₁₀	1350
21	Diethylamine	109-89-7	(C ₂ H ₅) ₂ NH	75
22	Diflodibrommetan	75-61-6	CF ₂ Br ₂	860
23	o-dichlobenzene	95-50-1	C ₆ H ₄ Cl ₂	300
24	1,1-Dichloroethane	75-34-3	CHCl ₂ CH ₃	400
25	1,2-Dichloethylene	540-59-0	ClCH=CHCl	790
26	1,4-Dioxane	123-91-1	C ₄ H ₈ O ₂	360

Number	Name	CAS number	Chemical formula	Maximum concentration (mg/Nm ³)
27	Dimetylaniline	121-69-7	C ₆ H ₅ N(CH ₃) ₂	25
28	Dichloethyl ether	111-44-4	(ClCH ₂ CH ₂) ₂ O	90
29	Dimetylfomamide	68-12-2	(CH ₃) ₂ NOCH	60
30	Dimetylsunfate	77-78-1	(CH ₃) ₂ SO ₄	0.5
31	Dimethylhydrazine	57-14-7	(CH ₃) ₂ NNH ₂	1
32	Dinitrobenzene	25154-54-5	C ₆ H ₄ (NO ₂) ₂	1
33	Etyl acetate	141-78-6	CH ₃ COOC ₂ H ₅	1400
34	Ethylamine	75-04-7	CH ₃ CH ₂ NH ₂	45
35	Ethylbenzene	100-41-4	CH ₃ CH ₂ C ₆ H ₅	870
36	Etylbromua	74-96-4	C ₂ H ₅ Br	890
37	Etylendiamine	107-15-3	NH ₂ CH ₂ CH ₂ NH ₂	30
38	Etylendibromua	106-93-4	CHBr=CHBr	190
39	Etyl acrylate	140-88-5	CH ₂ =CHCOOC ₂ H ₅	100
40	Ethylene chlorohydrin	107-07-3	CH ₂ ClCH ₂ OH	16
41	Ethylene oxide	75-21-8	CH ₂ OCH ₂	20
42	Etyl ester	60-29-7	C ₂ H ₅ OC ₂ H ₅	1200
43	Etyl chloride	75-00-3	CH ₃ CH ₂ Cl	2600
44	Etyl silicate	78-10-4	(C ₂ H ₅) ₄ SiO ₄	850
45	Ethanolamine	141-43-5	NH ₂ CH ₂ CH ₂ OH	45
46	Furfural	98-01-1	C ₄ H ₃ OCHO	20
47	Formaldehyde	50-00-0	HCHO	20
48	Furfuryl (2-Furylmethanol)	98-00-0	C ₄ H ₃ OCH ₂ OH	120
49	Flotriclometane	75-69-4	CCl ₃ F	5600
50	n-Heptane	142-82-5	C ₇ H ₁₆	2000
51	n-Hexane	110-54-3	C ₆ H ₁₄	450
52	Isopropylamine	75-31-0	(CH ₃) ₂ CHNH ₂	12
53	n-butanol	71-36-3	CH ₃ (CH ₂) ₃ OH	360
54	Methyl mercaptan	74-93-1	CH ₃ SH	15
55	Methylacetate	79-20-9	CH ₃ COOCH ₃	610
56	Methyl acrylate	96-33-3	CH ₂ =CHCOOCH ₃	35

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Number	Name	CAS number	Chemical formula	Maximum concentration (mg/Nm ³)
57	Methanol	67-56-1	CH ₃ OH	260
58	Methylacetylene	74-99-7	CH ₃ C=CH	1650
59	Methylbromua	74-83-9	CH ₃ Br	80
60	Methylcyclohexan	108-87-2	CH ₃ C ₆ H ₁₁	2000
61	Methylcyclohexanol	25639-42-3	CH ₃ C ₆ H ₁₀ OH	470
62	Metylcylohexanon	1331-22-2	CH ₃ C ₆ H ₉ O	460
63	Methyl chloride	74-87-3	CH ₃ Cl	210
64	Methylene chloride	75-09-2	CH ₂ Cl ₂	1750
65	Methyl chlorofrom	71-55-6	CH ₃ CCl ₃	2700
66	Monomethylaniline	100-61-8	C ₆ H ₅ NHCH ₃	9
67	Methanolamine	3088-27-5	HOCH ₂ NH ₂	31
68	Naphthalene	91-20-3	C ₁₀ H ₈	150
69	Nitrobenzene	98-95-3	C ₆ H ₅ NO ₂	5
70	Nitroetan	79-24-3	CH ₃ CH ₂ NO ₂	310
71	Nitroglycerin	55-63-0	C ₃ H ₅ (ONO ₂) ₃	5
72	Nitromethane	75-52-5	CH ₃ NO ₂	250
73	2-Nitropropane	79-46-9	CH ₃ CH(NO ₂)CH ₃	1800
74	Nitrotoluene	1321-12-6	NO ₂ C ₆ H ₄ CH ₃	30
75	2-Pentanone	107-87-9	CH ₃ CO(CH ₂) ₂ CH ₃	700
76	Phenol	108-95-2	C ₆ H ₅ OH	19
77	Phenylhydrazine	100-63-0	C ₆ H ₅ NHNH ₂	22
78	n-Propanol	71-23-8	CH ₃ CH ₂ CH ₂ OH	980
79	n-Propylacetate	109-60-4	CH ₃ -COO-C ₃ H ₇	840
80	Propylenedichloride	78-87-5	CH ₃ -CHCl-CH ₂ Cl	350
81	Propylenoxide	75-56-9	C ₃ H ₆ O	240
82	Pyridine	110-86-1	C ₅ H ₅ N	30
83	Pyrene	129-00-0	C ₁₆ H ₁₀	15
84	p-Quinone	106-51-4	C ₆ H ₄ O ₂	0,4
85	Styrene	100-42-5	C ₆ H ₅ CH=CH ₂	100
86	Tetrahydrofuran	109-99-9	C ₄ H ₈ O	590
87	1,1,2,2-Tetracløetan	79-34-5	Cl ₂ HCCHCl ₂	35

Number	Name	CAS number	Chemical formula	Maximum concentration (mg/Nm ³)
88	Tetraclöetylen	127-18-4	CCl ₂ =CCl ₂	670
89	Tetraclömetan	56-23-5	CCl ₄	65
90	Tetranitrometan	509-14-8	C(NO ₂) ₄	8
91	Toluen	108-88-3	C ₆ H ₅ CH ₃	750
92	0-Toluidin	95-53-4	CH ₃ C ₆ H ₄ NH ₂	22
93	Toluene-2,4-diisocyanate	584-84-9	CH ₃ C ₆ H ₃ (NCO) ₂	0.7
94	Triethylamine	121-44-8	(C ₂ H ₅) ₃ N	100
95	1,1,2-Trichloroethane	79-00-5	CHCl ₂ CH ₂ Cl	1080
96	Trichlorethylene	79-01-6	CICH=CCl ₂	110
97	Xylen	1330-20-7	C ₆ H ₄ (CH ₃) ₂	870
98	Xylidine	1300-73-8	(CH ₃) ₂ C ₆ H ₃ NH ₂	50
99	Vinylchloride	75-01-4	CH ₂ =CHCl	20
100	Vinyltoluene	25013-15-4	CH ₂ =CHC ₆ H ₄ CH ₃	480
Note: - CAS number: Chemical Abstracts Service Registry Number - KPHD is not detected				

3. DETERMINATION METHOD

3.1. Determation methods of the concentrations of organic substances in industrial emission comply with current national standards:

3.2. When there is no national standard for determining the concentrations of the organic substances in industrial emission specified in this regulation, applying to international standards with accuracy equal to or higher.

4. ORGANIZATION OF IMPLEMENTATION

4.1. This regulation is replaced the application of Vietnam National Standard TCVN 5940 :2005: Air quality – Industrial emission standards - Organic substances, which is issued enclosed with Decision No. 22/2006 /QD-BTNMT dated December 18th, 2006 of the Minister of Natural Resources and Environment on the obligatory application of Vietnam standards on environment

4.2. State management agency on environment shall take responsibility to guide, inspect and supervise the implementation of this regulation.