

REPUBLIC OF BULGARIA
MINISTRY OF HEALTH

REGULATION No. 2

on the Maximum Admissible Hazardous Contaminant Levels in Communities' Ambient
Air

Promulgated State Gazette No. 16/24.02.1984

Amended SG No. 17/1992 & 43/1994

Article 1

Maximum admissible hazardous contaminant levels in communities ambient air, registered during a certain period of time, should have neither direct nor indirect harmful effect on human organism, remote consequences for the present and future generations included, should not decrease man's capacity for work, longevity and should not deteriorate man's good general condition.

Article 2

(1) Maximum admissible hazardous contaminant levels in communities ambient air are determined as maximum single time levels, average round-the-clock and average annual levels according to Annex No .1 in which:

1. The maximum single time permissible level is the permissible concentration during a 30 minutes' period of exposure.
2. The average round-the-clock permissible level is the permissible concentration during a twenty-four hours' period of exposure.
3. The average annual permissible level is the permissible concentration for an exposure of one year.

(2) The maximum single time level is the highest value of the single-time (30 minutes') concentrations, measured at a certain point during a certain period of observation.

(3) The average round-the-clock level is the average value of the single time levels, measured several times during the twenty-four hours or the value measured in the course of uninterrupted sampling during twenty-four hours.

(4) The average annual level is the average value of the average round-the-clock levels, registered during a period of one year.

Article 3

(1) In the course of assessment of atmospheric air pollution by some simultaneously found hazardous substances, it is admitted to determine the impact of their total quantity according to Annex No. 2. In these cases not only the

isolated effect of the contaminants is taken into consideration, but also their combined and complex impact.

(2) A combined impact of atmospheric pollutants means the penetration into the organism of different hazardous substances by one and the same pathway simultaneously or in a period of time, determined for the respective substances.

(3) A complex impact of atmospheric pollutants means the penetration into the organism of one and the same substance by different pathways simultaneously or during a period of time determined for the respective substance.

CONCLUDING PROVISIONS

§ 1. This Regulation is issued on the basis of §2 and in connection with Article 20 of the National Health Act and cancels the Maximum Admissible Hazardous Substances Levels in communities ambient air, issued by the Ministry of Health (Promulgated SG, No.3/1970; amended No.64/1972).

§ 2. The Regulation is co-ordinated with the Committee for Environmental Protection at the Council of Ministers, with the Ministry of Construction and Regional Development and with the Ministry of the Interior.

May, 1992

Annex No.1
to Article 2, para 1

list of Maximum Admissible Separate Hazardous Contaminant Levels

No.	Contaminant	Level in mg/m ³		
		average annual	average round-the-clock	maximum single time
1	2	3	4	5
1.	Nitrogen Dioxide	0.05	0.10	0.20
2.	Nitrogen Monoxide		0.06	0.60
3.	Nitric Acid		0.15	0.40
4.	Acrylonitrile		0.03	-
5.	Acrolein		0.03	0.03

6.	Amyl Alcohol		0.01	0.01
7.	Alpha Methyl Styrene		0.04	0.04
8.	Ammonium Nitrate (Ammonium Saltpeter)		0.30	-
9.	Alpha Naphthoquinone		0.005	0.005
10.	Arsenic (inorganic compounds except arsenuretted hydrogen, calculated as arsenic)		0.003	-
11.	Arsenuretted Hydrogen		0.002	-
12.	Amyl Acetate		0.1	0.1
13.	Amylene		1.5	1.5
14.	Ammonia		0.04	0.20
15.	Aniline		0.03	0.05
16.	Acetaldehyde		0.01	0.01
1	2	3	4	5
17.	Acetone		0.35	0.35
18.	Acetophenone		0.003	0.003
19.	Benzene		0.1	1.5
20.	3,4-Benzopyrene		0.1 microg/ 100 m ³	-
21.	Boric Acid		0.02	-
22.	Gasoline (petroleum, with low sulfur content, calculated as carbon)		1.5	5.0
23.	Gasoline -schist, calculated		0.05	0.05

	as carbon			
24.	Bromine		0.04	-
25.	Benzyl Alcohol		-	0.16
26.	Butane		-	200
27.	B-Diethylaminoethyl Mercaptan		0.6	0.6
28.	Butyl acetate		0.1	0.1
29.	Benzoylchloride		0.03	0.06
30.	Butene		3.0	3.0
31.	Butanediol-1,4		0.05	0.10
32.	Butyl Alcohol		0.1	0.1
33.	Butyphos		0.01	0.1
34.	Valeric Acid		0.01	0.03
35.	Sodium Tungstate (calculated as Tungsten)		0.10	-
36.	Vanadium Pentaoxide		0.002	-
37.	Vinyl Acetate		0.15	0.15
38.	Carbon Monoxide		10.0	60.0
39.	Germanium Dioxide (calculated as Germanium)		0.04	-
40.	Divinyl		1.0	3.0
41.	Diketen		-	0.007
42.	Dinitrotoluene		0.004	0.004
43.	Dimethylaniline		0.0055	0.0055
44.	Dimethyl Sulfide		-	0.08

45.	Dimethylformamide		0.03	0.03
46.	Dinyl		0.01	0.01
47.	Dichloroethane		1.0	3.0
48.	2,3-Dichloro-1,4-naphthoquinone		0.05	0.05
49.	Dinitroorthocresol		0.001	0.002
50.	Dimethyl Sulphoxide		-	0.7
51.	Diethyl amine		0.05	0.05
52.	Dimethylamine		0.005	0.005
53.	Epichlorohydrin		0.2	0.2
54.	Ethanol		5.0	5.0
55.	Ether-Diethyl Ether		0.6	1.0
56.	Ethyl Acetate		0.1	0.1
57.	Ethylene		3.0	3.0
58.	Ethylene Oxide		0.03	0.3
59.	Ethyl benzene		0.02	0.02
60.	Ethylene amine		0.001	0.001
61.	Mercury-metallic		0.0003	-
62.	Mercury-compounds		0.0003	-
63.	Isopropyl benzene		0.014	0.014
64.	Isopropyl benzene Hydroperoxide		0.007	0.007
65.	Isooctyl Alcohol		0.15	0.15
1	2	3	4	5

66.	Iodine		0.03	-
67.	Isopropyl Alcohol		0.6	0.6
68.	Isobutyl Alcohol		0.10	0.10
69.	Intrathion (M-81)		0.001	0.001
70.	Cadmium	0.00001	0.00002	-
71.	Caprolactam		0.06	0.06
72.	Caproic Acid		0.005	0.01
73.	Carbophos		-	0.015
74.	Cobalt Metallic		0.001	-
75.	Cobalt Sulfate		0.001	-
76.	Xylene		0.2	0.2
77.	Maleic Anhydride		0.05	0.2
78.	Manganese and its compounds (calculated as MnO ₂)		0.01	-
79.	Butyric Acid		0.01	0.015
80.	Magnesium Oxide		0.05	0.4
81.	Copper		0.01	-
82.	Copper Oxide		0.002	-
83.	2-Mercaptoethanol (Monothioethylene glycol)		0.07	0.07
84.	Methanol		0.5	1.0
85.	Metaphos		-	0.008
86.	Metachlorophenylisocyanate		0.005	0.005
87.	Methyl Acrylate		-	0.01

88.	Methyl Acetate		0.07	0.07
89.	Methylmercaptan		-	9x10-6
90.	Methylmethacrylate		0.1	0.1
91.	Monometalanilin		0.04	0.04
92.	Dichloromethane		1.5	3.0
93.	Monoethylamine		0.01	0.01
94.	Nitrobenzene		0.008	0.008
95.	β -Naphthol		0.003	0.006
96.	Nickel-metallic		0.001	-
97.	Naphthalene		0.003	0.003
98.	Nickel Oxide		0.001	-
99.	Nitrobromobenzene (meta-)		0.01	0.12
100.	Nickel - soluble salts		0.0002	-
101.	Nitrochlorobenzene (meta-, ortho- and para-)		0.004	0.004
102.	Lead and its compounds (except tetraethyl lead), calculated as lead	0.001	0.001	-
103.	Ozone		0.10*	0.160
104.	Lead Sulfide		0.0017	-
105.	Oxytetracycline		-	0.01
106.	Acetic Acid		0.06	0.2
107.	Acetic Anhydride		0.03	0.1
108.	Parachloroaniline		0.01	-
109.	Parachlorophenyl isocyanate		0.0015	0.0015

110.	Penicillin		0.0025	0.05
111.	Pentane		25.0	100.0
112.	Perchloroethylene		0.06	-
113.	Paramolybdate, ammonium (calculated as Molybdenum)		0.10	-
1	2	3	4	5
114.	Pyridine		0.08	0.08
115.	Propylene		3.0	3.0
116.	Propyl Alcohol		0.3	0.3
117.	Total Suspended Dust	0.15	0.25	0.50
118.	Rogor (O,O-dimethyl-8-N-methyl carbamidomethyl), dithiophosphate		0.003	0.003
119.	Soot		0.05	0.15
120.	Sulfuric Acid (by the molecule H ₂ SO ₄)		0.1	0.3
121.	Sulfuric Acid (by the hydrogen cation)		0.002	-
122.	Sulfur Dioxide	0.05	0.15	0.50
123.	Selenium Dioxide		0.00005	0.0001
124.	Hydrogen Sulfide	0.008	0.008	0.008
125.	Carbon Disulfide		0.005	0.03
126.	Hydrochloric Acid (by the molecule HCl)		0.2	0.3
127.	Styrene		0.003	0.003
128.	Thiophene		-	0.6

129.	Toluylenediiso cyanate		0.02	0.05
130.	Toluylenediamine		0.025	0.04
131.	Toluene		0.6	0.6
132.	Turpentine		1.0	2.0
133.	Trichloroethylene		1.0	4.0
134.	Tetracycline		0.006	0.01
135.	Tetrachloro hydrofuran		0.2	0.2
136.	Tellurium Dioxide		0.0005	-
137.	Triethylamine		0.14	0.14
138.	Tricresol (mixture of ortho-, meta- and para- isomers)		0.005	0.005
139.	Tetrachloromethane		1.0	-
140.	Trimethylpropane		0.15	0.20
141.	Phenol		0.01	0.01
142.	Phosalon (O,O-diethyl-3-6-chlorobenzoxazonilin-3-methyl), dithiophosphate		0.01	0.01
143.	Formaldehyde		0.003	0.035
144.	Phosphoric Anhydride		0.05	0.15
145.	Phosphorus Hydride		0.001	0.01
146.	Phthalic Anhydride		0.1	0.1
147.	Phosgene		0.01	0.02
148.	Fluorine Gaseous Compounds (HF, SiF4)		0.005	0.02
149.	Highly Soluble Inorganic Fluorides (NaF3, Na2SiF6)		0.01	0.03

150.	Low Solubility Inorganic Fluorides (AlF ₃ , Na ₃ AlF ₆ , CaF ₂)		0.03	0.2
151.	Furfurol		0.05	0.05
152.	Hexene		0.085	0.4
153.	Chlorine		0.03	0.1
154.	Hexane		-	60.0
155.	Chlorobenzene		0.1	0.1
156.	Hexafluorobenzene		0.1	0.8
157.	Hexamethylene Diamine		0.001	0.001
158.	Chloroprene		0.1	0.1
159.	Heptene		0.065	0.35
160.	Chromium, six-valent (calculated as CrO ₃)		0.0015	0.0015
161.	Hexachloro Cyclohexane		0.03	0.03
162.	Chloroaniline (meta-)		0.01	0.01
163.	Chloroaniline (para-)		0.01	0.04
1	2	3	4	5
164.	Chlorophos		0.02	0.04
165.	Cyclohexanol		0.06	0.06
166.	Cyclohexanone		0.04	0.04
167.	Hydrocyanic Acid		0.01	-
168.	Hydrogen Cyanide		0.01	0.01
169.	Cyclohexane		1.4	1.4
170.	Zinc		0.05	-

171.	Cyclohexanone Oxime		-	0.1
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Annex No.2
To Article 3, para 1

List of Admissible Total Concentrations in the Case of the Simultaneous Presence of
Several Hazardous Substances

1. The simultaneous existence is allowed up to a total level 1 (unity) of the following hazardous contaminants: acetone, acrolein and phthalic anhydride; acetone and acetophenone; acetone and phenol; acetone, furfurool, formaldehyde and phenol; acetaldehyde and vinyl-acetate; aerosols of vanadium pentaoxide and sulfur dioxide; aerosols of vanadium pentaoxide and chromium trioxide; benzene and acetophenone; valeric, caproic and butyric acids; carbon monoxide, nitrogen dioxide, formaldehyde and hexane; carbon monoxide and dust from cement production; 2,3-dichloro- 1,4-naphthoquinone and 1,4-naphthoquinone; ethylene, propylene, butylene and amylene; isopropyl benzene and isopropyl benzene hydroperoxide; ozone, nitrogen dioxide and formaldehyde; acetic acid and acetic anhydride; sulfur dioxide and aerosols of sulfuric acid; sulfur dioxide and nitrogen dioxide; sulfur dioxide, carbon monoxide, nitrogen dioxide and phenol; sulfur dioxide and hydrogen sulfide; sulfur dioxide and phenol; sulfur dioxide and hydrogen sulfide; sulfur dioxide and phenol; sulfur dioxide and hydrogen fluoride; sulfur trioxide, sulfur dioxide, ammonia and nitrogen oxides; hydrogen sulfide and dinil; hydrogen sulfide and phenol; strong mineral acids (sulfuric, hydrochloric and nitric); phenol and acetophenone; furfurool, methanol and ethanol; cyclohexane and benzene.

Calculation is carried out using the formula $x = a/ M1 + b/ M2 + c/ M3$ etc., where: x is the total level to be found, $a/ M1 + b/ M2 + c/ M3$ - the level of a given contaminant, divided by its maximum admissible level in the case of an isolated influence.

2. In the case of a simultaneous existence in the atmospheric air of several contaminants, the following substances should separately have the same maximum admissible levels as in the case of an isolated influence: carbon disulfide and hydrogen sulfide; carbon monoxide and sulfur dioxide; phthalic, maleic anhydride and alphanaphthoquinone.

3. In the case of a simultaneous existence in the atmospheric air of parachlorophenyl isocyanate and methylchlorophenylisocyanate temporarily (until a method for their separate determination is found) standardization should be carried out on the basis of the more toxic compound, i.e. Parachlorophenyl isocyanate.

4. In the case of a simultaneous existence in the atmospheric air of gaseous fluorine and fluorides, the maximum single time level is 0.03 mg/m³, and the average twenty-four-hour level is 0.01 mg/m³.

5. In the case of a complex penetration into the organism of dinitroorthocresol from water and ambient air, the following concentrations should not be exceeded respectively: 0.05 mg/l water and 0.001 mg/m³ air.