SUPPLEMENTAL

TABLE NO. 1

MAXIMUM ALLOWABLE LIMITS FOR INDOOR AIR POLLUTANTS (GASES)

1. Two categories of Threshold Limit Values are shown here:
   (a) Time Weighed Average (TWA)- the time weighed average concentration for a normal 8-hour workday or 40-hour work-week, to which nearly all workers may be exposed, day to day, without adverse effect.
   (b) Short Term Exposure Limit (STEL) – the maximum concentration to which workers can be exposed for a period of up to 15 minutes continuously.

Name of the substance	TWA	STEL
Ammonia	25 ppm	35 ppm
Arsine	0.05 ppm	0.05 ppm
Asbestos	5 fibres per ml, more	
	than 5 um in length	
Butyl acetate	150 ppm	200 ppm
Carbon monoxide	50 ppm	400 ppm
Carbon tetrachloride – skin	10 ppm	25 ppm
Chlorine gas	1 ppm	3 ppm
Chromic acid	0.1mg/m3	0.1mg/m3
o-Dichlorobenzene … C	50 ppm	50 ppm
p- Dichlorobenzene	75 ppm	110 ppm
Dicholoroethyl ether - skin	5 ppm	10 ppm
1.2 Dichloroethylene	200 ppm	250 ppm
Ethyl ether	400 ppm	500 ppm
Ethyl acetate	400 ppm	400 ppm
Fluorine	1 ppm	2 ppm
Formaldehyde … C	2 ppm	2 ppm
Gasoline	500 ppm	500 ppm
Hydrogen Chloride … C	5 ppm	5 ppm
Hydrogen cyanide - skin	10 ppm	15 ppm
Hydrogen Fluoride	3 ppm	3 ppm
Hydrogen Sulphide	10 ppm	15 ppm
Lead, inorganic, fumes and dusts	0.15 mg/m3	0.45 mg/m3
LPG (Liquefied Petroleum Gas)	1000 ppm	1250 ppm
Malathion – skin	10 mg/m3	10 mg/m3
Mercury (Alkyl compounds) - skin	0.001 ppm	0.003 ppm

Name of the substance	TWA	STEL
Mercury (All forms except alkyl)	0.05 mg/m3	0.15 mg/m3
Methanol - skin	200 ppm	250 ppm
Monochlorobenzene	75 ppm	75 ppm
Methyl mercaptan	0.5 ppm	0.5 ppm
Methyl methacrylate	100 ppm	125 ppm
Nitric acid	2 ppm	4 ppm
Nitrobenzene - skin	1 ppm	2 ppm
Nitrogen dioxide … C	5 ppm	5 ppm
Phosgene (carbonyl chloride)	0.1 ppm	0.05 ppm
Phosphine	0.3 ppm	1 ppm
Silica dust (50% respirable) –various	0.15 – 0.3 mg/m3	
Sulphur dioxide	5 ppm	5 ppm
Sulphuric acid	1 mg/m3	1 mg/m3
Tetra ethyl lead (TEL)	0.1 mg/m3	0.3 mg/m3
Tetra methyl lead (TML)	0.15 mg/m3	0.45 mg/m3
Trichloroethylene	100 mg/m3	150 ppm
Vanadium perntoxide - dust	0.5 mg/m3	1.5 mg/m3
- fume ….C	0.05 mg/m3	0.05 mg/m3
Zinc oxide fume	5 mg/m3	10 mg/m3

Notes:

1. p.p.m. - Parts of vapor or gas per million parts of air by volume at 25°C and 760 mm mercury pressure.
2. mg/m3 - Milligrams of substance per cubic meter of air.
3. C - The concentration that should not be exceeded even instantaneously.

The above list only represents a few of the substances used in industry. In the case of substances not in the list, reference must be made to the current issue of “Occupational Exposure Limit (year)” revised and reprinted annually by the U.K. Health & Safety Executive as Guidance Note EH40/ (year).

TABLE NO. 2

MAXIMUM ALLOWABLE LIMITS FOR INDOOR AIR POLLUTANTS (DUST)

SUBSTANCE	MAX. ALLOWABLE LIMITS (mg/m^3)
Respirable Dust Crystallize Silica (quartz) Un-crystallize silica (graphite) Asbestos (crisotile)	0.1 2.5 2 ($fiber/cm^3$)
Total Dust Un-crystallize silica (graphite) Stone wool Silica jell Portland cement	10 10 10 10
Dust From Biological Sources Hard wood vapors Soft wood vapors	1 5
Inorganic Lead	1

TABLE NO. 3

ILLUMINATION LEVEL

The lighting luminance levels indicated in the following table shall be the minimum allowed in the listed operations:

Sr.	Operations	Lux
1	Operations not requiring accuracy like the ascertainment of large objects.	50
2	Operations requiring some accuracy like the assembly of machine parts, grinding of grains and stones and similar primary industrial operations, chambers of steam boilers, sections where the product is put in large containers, equipment storehouses and apparatuses used in semi-accurate operations.	100
3	Assembly of simple parts like turnery and moulding which do not require accuracy and test conducted on products and machines and the sewing of light colored clothes, the storing of foodstuff, the manufacturing of wooden planks, leather and similar operations.	200
4	Operations requiring accuracy like turnery and lathe works which requires average accuracy, and office work, final operations in production and similar operations.	250
5	Operations which require a great deal of accuracy like the assembly of small parts and accurate turnery and fitter works, the cutting and reshaping of glass, accurate carpeting, office work, drawing and similar operations.	300
6	Operations requiring extreme accuracy and patience such as tests conducted with extreme accuracy, tests conducted on small or subtle tools and machinery, the manufacturing of precious stones and watches, assembly of printing press letters, the weaving of dark colored clothes and similar operations.	500

Notes:

1. Only safety has been considered, because no perception of detail is needed and visual fatigue is unlikely. However, where it is necessary to see detail to recognize hazards or where error in performing the task could put someone else at risk, the figure should be increased to that for work requiring the perception of detail.

2. The purpose is to avoid visual fatigue; the luminance shall be adequate for safety purposes.

TABLE NO. 4

MEDICAL FIRST AID

First aid training should be given by EHS Approved agencies (Refer Occupational Safety Regulations (IO-001 5th Edition)) such as.

1. Registered medical practitioner/nurses with knowledge & experience of first aid in workplace.

2. Qualified teachers or graduates/lecturers with current first aid certificates from Authority approved organization, or Lay trainers holding a certificate from HSE approved organization, such certificate being renewable every two years.

The number of appointed and/or first aiders in different workplaces should be in accordance with the following table of requirements:

Category of Risk	First-aid Personnel
LOW RISK (e.g. shops, offices, libraries): - fewer than 50 employed - between 50 & 200 employed - more than 100 employed	 - at least one appointed person - at least one first-aider - one more first-aider to every 100
MEDIUM RISK (e.g. light engineering and assembly work, food processing, warehousing): - fewer than 20 employed - between 20 & 100 employed - more than 100 employed	 - at least two appointed persons - at least two first-aiders for every 50 - one more first-aider for every 100
HIGH RISK (e.g. most construction, slaughterhouses, chemical manufacture, extensive work with dangerous machinery): - fewer than 5 employed - between 5 & 10 employed - more than 50 employed	 - at least two appointed persons - at least two first-aiders - one more first-aider for every 50
HIGH RISK including risk of poisoning for which treatment with an antidote may be needed, or where hazard justifies additional first-aid facility	- at least two first-aider trained in the specific emergency action

A certificate of qualification as a first-Aider is valid for two years, after which a refresher course, followed by further examination is necessary before the person can be granted a further certificate. First-Aiders should be trained in following techniques and be knowledgeable about:

a) Resuscitation;	j) Treatment of minor injuries;
b) Treatment and control of bleeding;	k) Treatment of burns and scalds;
c) Treatment of shock;	l) Eye irritation;
d) Management of unconscious casualty;	m) Poisons;
e) Contents of first-aid rooms;	n) Treatment of a casualty overcome by gas/ fumes
f) Purchasing first-aid supplies;	o) Simple record keeping;
g) Transport of casualties;	p) Personal hygiene in treating wounds; and
h) Recognition of illness;	q) Communication and delegation in an emergency.
i) Treatment to injuries to bones, muscles and joints;	

Work places must have first-aid facility established in accordance with the following table:

Number of Employees

	1 – 50	50 - 150	150 - 250	250 – 1000	More than 1000
No. of First-aid boxes stocked	1	2	2	In each work area	
First-aid room			yes	yes	Yes
Trained certified first-aid staff				yes	Yes
Nurse or Doctor					yes