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12.1 Table No. 1 - Reportable Diseases/Occupational Diseases

<b><u>REPORTABLE DISEASES/OCCUPATIONAL DISEASES</u></b>	
<b><u>Diseases</u></b>	<b><u>Activities</u></b>
<b><i>Conditions due to physical agents and the physical demands of work</i></b>	
1. Inflammation, ulceration or malignant disease of the skin due to ionizing radiation.	) ) )
2. Malignant disease of the bones due to ionizing radiation.	) Work with ionizing radiation ) )
3. Blood dyscrasia due to ionizing radiation.	)
4. Cataract due to electromagnetic radiation.	Work involving exposure to electromagnetic radiation (including radiant heat).
5. Decompression illness	
6. Barotraumas resulting in lung or other organ damage.	Work involving breathing gases at increased pressure (including diving)
7. Dysbaric osteonecrosis	
8. Cramp of the hand or forearm due to repetitive movements	Work involving prolonged periods of handwriting, typing or other repetitive movements of the fingers, hand or arm.
9. Subcutaneous cellulitis of the hand ( <i>beat hand</i> )	Physically demanding work causing severe or prolonged friction or pressure on the hand.



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<p>10. Bursitis or subcutaneous cellulitis arising at or about the knee due to severe or prolonged external friction or pressure at or about the knee (<i>beat knee</i>)</p>	<p>Physically demanding work causing severe or prolonged friction or pressure at or about the knee.</p>
<p>11. Bursitis or subcutaneous cellulitis arising at or about the elbow due to severe or prolonged external friction or pressure at or about elbow (<i>beat elbow</i>)</p>	<p>Physically demanding work causing severe or prolonged friction or pressure at or about the elbow.</p>
<p>12. Traumatic inflammation of the tendons of the hand or forearm or of the associated tendon sheaths.</p>	<p>Physically demanding work, frequent or repeated movements, constrained postures or extremes of extension or flexion of the hand or wrist.</p>
<p>13. Carpal tunnel syndrome</p>	<p>Work involving the use of hand-held vibrating tools.</p>
<p>14. Hand-arm vibration syndrome.</p>	<p>Work involving:</p> <ul style="list-style-type: none"> <li>(a) the use of chain saws, brush cutters or hand-held or hand-fed circular saws in forestry or woodworking;</li> <li>(b) the use of hand-held rotary tools in grinding material or in sanding or polishing metal;</li> <li>(c) the holding of material being ground or metal being sanded or polished by rotary tools;</li> <li>(d) the use of hand-held percussive metal-working tools or the holding of metal being worked upon by percussive tools in connection with riveting, caulking, chipping, hammering, fettling or swaging;</li> <li>(e) the use of hand-held powered percussive drills or hand-held percussive hammers in mining, quarrying or demolition, or on roads or footpaths (including road construction); or</li> <li>(f) the holding of material being worked upon by pounding machines in shoe manufacture.</li> </ul>
<p><i>Infections due to biological agents</i></p>	
<p>15. Anthrax</p>	<p>(a) Work involving handling infected animals, their products or</p>



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<p>16. Brucellosis</p> <p>17. (a) Avian chlamydiosis</p> <p style="padding-left: 40px;">(b) Ovine chlamydiosis</p> <p>18. Hepatitis</p> <p>19. Legionellosis</p> <p>20. Leptospirosis</p> <p>21. Lyme disease</p>	<p>packaging containing infected material; or</p> <p>(b) work on infected sites</p> <p>Work involving contact with:</p> <p>(a) Animals or their carcasses (including any parts thereof) infected by brucella or the untreated products of same; or</p> <p>(b) Laboratory specimens or vaccines of or containing brucella.</p> <p>Work involving contact with birds infected with chlamydia psittaci, or the remains or untreated products of such birds.</p> <p>Work involving contact with sheep infected with chlamydia psittaci or the remains of untreated products of such sheep.</p> <p>Work involving contact with;</p> <p>(a) human blood or human blood products; or</p> <p>(b) any source of viral hepatitis.</p> <p>Work on or near cooling systems which are located in the workplace and use water, or work on hot water service systems located in the workplace which are likely to be a source of contamination.</p> <p>(a) Work in places which are liable to be infested by rats, field-mice, voles or other small mammals;</p> <p>(b) Work at dog kennels or involving the care or handling of dogs; or</p> <p>(c) Work involving contact with bovine animals or their meat products or pigs or their meat products.</p> <p>Work involving exposure to ticks (including in particular work by</p>
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22. Q fever	forestry workers, rangers, dairy farmers, gamekeepers and other persons engaged in countryside management).  Work involving contact with animals, their remains or their untreated products.
23. Rabies	Work involving handling or contact with infected animals.
24. Streptococcus suis	Work involving contact with pigs infected with streptococcus suis, or with the carcasses, products or residues of pigs so affected.




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<p>25. Tetanus</p>	<p>Work involving contact with soil likely to be contaminated by animals.</p>
<p>26. Tuberculosis</p>	<p>Work with persons, animals, human or animal remains or any other material which might be a source of infection.</p>
<p>27. Any infection reliably attributable to the performance of the work specified in the entry opposite hereto.</p>	<p>Work with micro-organisms; work with live or dead human beings in the course of providing any treatment or service or in conducting any investigation involving exposure to blood or body fluids; work with animals or any potentially infected material derived from any of the above.</p>
<p><i>Conditions due to substances</i></p>	<p>Any Activity</p>
<p>28. Poisonings by any of the following:</p> <ul style="list-style-type: none"> <li>(a) acrylamide monomer;</li> <li>(b) arsenic or one of its compounds;</li> <li>(c) benzene or a homologue of benzene;</li> <li>(d) beryllium or one of its compounds;</li> <li>(e) cadmium or one of its compounds;</li> <li>(f) carbon disulphide;</li> <li>(g) diethylene dioxide (dioxan);</li> <li>(h) ethylene oxide;</li> <li>(i) lead or one of its compounds;</li> <li>(j) manganese or one of its compounds;</li> <li>(k) mercury or one of its compounds;</li> <li>(l) methyl bromide;</li> <li>(m) nitrochlorobenzene, or a nitro- or amino- or chloro-derivative of benzene or of a homologue of benzene;</li> </ul>	



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<p>(n) oxides of nitrogen; (o) phosphorus or one of its compounds.</p>	
<p>29. Cancer of a bronchus or lung</p>	<p>(a) Work in or about a building where nickel is produced by decomposition of a gaseous nickel compound or where any industrial process which is ancillary or incidental to that process is carried on; or (b) Work involving exposure to bis (chloromethyl) ether or any electrolytic chromium process (excluding passivation) which involve hexavalent chromium compounds, chromate production or zinc chromate pigment manufacture.</p>
<p>30. Primary carcinoma of the lung where there is accompanying evidence of silicosis</p>	<p>Any occupation in: (a) Glass manufacture; (b) Sandstone tunneling or quarrying; (c) The pottery industry; (d) Metal ore mining; (e) Slate quarrying or slate production; (f) Clay mining; (g) The use of siliceous materials as abrasives; (h) Foundry work; (i) Granite tunneling or quarrying; or (j) Stone cutting or masonry;</p>
<p>31. Cancer of the urinary tract.</p>	<p>1. Work involving exposure to any of the following substances: (a) Beta-naphthylamine or methylene-bis-ortho-chloroaniline; (b) Diphenyl substituted by at least one nitro or primary amino group or by at least one nitro and primary amino group (including benzidine); (c) Any of the substances mentioned in sub-paragraph (b) above if further ring substituted by halogeno, methyl or methoxy</p>



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	<p>groups, but not by other groups; or</p> <p>(d) The salts of any of the substances mentioned in sub-paragraphs (a) to (c) above</p> <p>2. The manufacture of auramine or magenta.</p>
<p>32. Bladder cancer</p>	<p>Work involving exposure to aluminium smelting using the Soderberg process.</p>
<p>33. Angiosarcoma of the liver</p>	<p>(a) Work in or about machinery or apparatus used the polymerization of vinyl chloride monomer, a process which, for the purposes of this sub-paragraph, comprises all operations up to and including the drying of the slurry produced by the polymerization and the packaging of the dried product; or</p> <p>(b) Work in a building or structure in which any part of the process referred to in the foregoing sub-paragraph takes place.</p>
<p>34. Peripheral neuropathy</p>	<p>Work involving the use or handling of or exposure to the fumes of or vapor containing n-hexane or methyl n-butyl ketone.</p>
<p>35. Chrome ulceration of:</p> <p>(a) the nose or throat; or</p> <p>(b) the skin of the hands or forearm</p>	<p>Work involving exposure to chromic acid or to any other chromium compound.</p>
<p>36. Folliculitis</p>	<p>}</p>
<p>37. Acne</p>	<p>} Work involving exposure to mineral oil, tar, pitch or arsenic.</p>
<p>38. Skin cancer</p>	<p>}</p>
<p>39. Pneumoconiosis (excluding asbestosis)</p>	<p><b>1.(a) The mining, quarrying or working of silica rock or the working of dried quartzose sand, any dry deposit or residue of silica or any dry admixture containing such materials</b></p>





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**(including any activity in which any of the aforesaid operations are carried out incidentally to the mining or quarrying of other minerals or to the manufacture of articles containing crushed or ground silica rock); or**

**handling of any of the materials specified in the foregoing sub-paragraph in or incidentally to any of the operations mentioned therein or substantial exposure to the dust arising from such operations.**

2. The breaking, crushing or grinding of flint, the working or handling of broken, crushed or ground flint or materials containing such flint or substantial exposure to the dust arising from any such operation.

**3. Sand blasting by means of compressed air with the use of quartzose sand or crushed silica rock or flint or substantial exposure to the dust arising from such sand blasting**

4. Work in a foundry or the performance of, or substantial exposure to the dust arising from, any of the following operations:

(a) the freezing of steel castings from adherent siliceous substance or;

(b) the freezing of metal castings from adherent siliceous substance:

(i) by blasting with an abrasive propelled by

compressed air, steam or a wheel, or

(ii) by the use of power driven tools.



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5. The manufacture of china or earthenware (including sanitary earthenware, electrical earthenware and earthenware tiles) and any activity involving substantial exposure to the dust arising therefrom.
6. The grinding of mineral graphite or substantial exposure to the dust arising from such grinding.
7. The dressing of granite or any igneous rock by masons, the crushing of such materials or substantial exposure to the dust arising from such operations.
8. The use or preparation for use of an abrasive wheel or substantial exposure to the dust arising therefrom.
- 9.(a) Work underground in any mine in which one of the objects of the mining operations is the getting of the material;  
(b) the working or handling above ground at any coal or tin mine of any materials extracted therefrom or any operation incidental thereto;  
(c) the trimming of coal in any ship, barge, lighter, dock or harbour or at any wharf or quay; or  
(d) the sawing, splitting or dressing of slate or any operation incidental thereto.
10. The manufacture or work incidental to the manufacture of carbon electrodes by an industrial undertaking for use in the electrolytic extraction of aluminum from aluminum oxide and any activity involving substantial exposure to the dust therefrom.



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<p>40. Byssinosis</p>	<p>11. Boiler scaling or substantial exposure to the dust arising therefrom.</p>
<p>41. Mesothelioma</p>	<p>The spinning or manipulation of raw or waste cotton of flax, carried out in each case in a room in a factory, together with any other work carried out in such a room.</p>
<p>42. Lung cancer</p>	
<p>43. Asbestosis</p>	<p>(a) The working or handling of asbestos or any admixture of asbestos;                  (b) The manufacture or repair of asbestos textiles or other articles containing or composed of asbestos;                  (c) The cleaning of any machinery or plant used in any of the foregoing operations and of any chambers, fixtures and appliances for the collection of asbestos dust; or                  (d) Substantial exposure to the dust arising from any of the foregoing operations.</p>
<p>44. Cancer of the nasal cavity or associated air sinuses</p>	<p>1.(a) Work in or about a building where wooden furniture is manufactured;                  (b) work in a building used for the manufacture of footwear or components of footwear made wholly or partly of leather or fibre board; or                  (c) Work at a place used wholly or mainly for the repair of footwear made wholly or partly of leather or fibre board.</p> <p>2. Work in or about a factory building where nickel is produced by decomposition of a gaseous nickel compound or in any process which is ancillary or incidental thereto.</p>




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<p>45. Occupational dermatitis</p>	<p>Work involving exposure to any of the following agents:</p> <ul style="list-style-type: none"> <li>(a) Epoxy resin systems;</li> <li>(b) Formaldehyde and its resins;</li> <li>(c) Metalworking fluids;</li> <li>(d) Chromate (hexavalent and derived from trivalent chromium);</li> <li>(e) Cement, plaster or concrete;</li> <li>(f) Acrylates and methacrylates;</li> <li>(g) Colophony (rosin) and its modified products;</li> <li>(h) Glutaraldehyde;</li> <li>(i) Mercaptobenzothiazole, thiurams, substituted paraphenylenediamines and related rubber processing chemicals;</li> <li>(j) Biocides, anti-bacterials, preservatives or disinfectants;</li> <li>(k) Organic solvents;</li> <li>(l) Antibiotics and other pharmaceuticals and therapeutic agents;</li> <li>(m) Strong acids, strong alkalis, strong solutions (e.g. brine) and oxidising agents including domestic bleach or reducing agents;</li> <li>(n) Hairdressing products including in particular dyes, shampoos, bleaches and permanent waving solutions;</li> <li>(o) Soaps and detergents;</li> <li>(p) Plants and plant-derived material including in particular the daffodil, tulip and chrysanthemum families, the parsley family (carrots, parsnips, parsley and celery), garlic and onion, hardwoods and the pine family;</li> <li>(q) Fish, shell-fish or meat;</li> <li>(r) Sugar or flour; or</li> <li>(s) Any other known irritant or sensitising agent including in particular any chemical bearing the warning “may cause sensitisation by skin contact” or “irritating to the skin”.</li> </ul>
<p>46. Extrinsic alveolitis (including farmer’s lung)</p>	<p>Exposure to moulds, fungal spores or heterologous proteins during</p>




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<p>47. Occupational asthma</p>	<p>work in:</p> <ul style="list-style-type: none"> <li>(a) agriculture, horticulture, forestry, cultivation of edible fungi or malt working;</li> <li>(b) loading, unloading or handling mouldy vegetable matter or edible fungi whilst same is being stored;</li> <li>(b) caring for or handling birds; or</li> <li>(c) handling bagasse.</li> </ul> <p>Work involving exposure to any of the following agents:</p> <ul style="list-style-type: none"> <li>(a) isocyanates;</li> <li>(b) platinum salts;</li> <li>(c) fumes or dust arising from the manufacture, transport or use of hardening agents (including epoxy resin curing agents) based on phthalic anhydride, tetrachlorophthalic anhydride, trimellitic anhydride or triethylene-tetramine;</li> <li>(d) fumes arising from the use of rosin as a soldering flux;</li> <li>(e) proteolytic enzymes;</li> <li>(f) animals including insects and other arthropods used for the purposes of research or education in laboratories;</li> <li>(g) dusts arising from the sowing, cultivation, harvesting, drying, handling, milling, transport or storage of barley, oats, rye, wheat or maize or the handling, milling, transport or storage of flour made there from;</li> <li>(h) Antibiotics;</li> <li>(i) cimetidine;</li> <li>(j) wood dust;</li> <li>(k) ispaghula;</li> <li>(l) castor bean dust;</li> <li>(m) ipecacuanha;</li> <li>(n) azodicarbonamide;</li> </ul>
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<p>48. Infectious Diseases</p>	<ul style="list-style-type: none"><li>(o) animals including insects and other arthropods (whether in their larval forms or not) used for the purposes of pest control or fruit cultivation or the larval forms of animals used for the purposes of research or education or in laboratories;</li><li>(p) glutaraldehyde;</li><li>(q) persulphate salts or henna;</li><li>(r) crustaceans or fish or products arising from these in the food processing industry;</li><li>(s) reactive dyes;</li><li>(t) soya bean;</li><li>(u) tea dust;</li><li>(v) green coffee bean dust;</li><li>(w) fumes from stainless steel welding;</li><li>(x) any other sensitizing agent, including in particular any chemical bearing the warning “may cause sensitization by inhalation”.</li></ul> <p>Cholera, Typhoid, para typhoid, Salmonellosis, Bacillary Dysentery, Pulmonary Tuberculosis, Brucellosis, Leprosy, Diphtheria, Pertusis, Scarlet Fever, Meningococcal Meningitis, Tetanus, Acute Poliomyelitis, Small Pox, Chicken Pox, Measles, Rubella, Viral Haemorrhagic fever, Hepatitis, Rabies, Mumps, Trachoma, Malaria, Ophthalmia (Neonatorum), Leptospirosis, HIV, ARC, Meningitis, Viral Encephalitis.</p>
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### 12.2 Table No. 2 - Maximum Allowable Limits for Indoor Air Pollutants (Gases)

Two categories of Threshold Limit Values are shown here:

- a) Time Weighted 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
Acetaldehyde		25 ppm
Acetic Acid	10 ppm	15 ppm
Acetic Anhydride	5 ppm	
Acetone	750 ppm	1000 ppm
Acetonitrile	40 ppm	60 ppm
Acetylene Tetra Bromide	1 ppm	
Acetyl Salicylic Acid	5 mg/m <sup>3</sup>	
Adipic Acid	5 mg/m <sup>3</sup>	
Allyl Alcohol	2 ppm	4 ppm
Aluminum	10 mg/m <sup>3</sup>	
Aluminum Oxide	10 mg/m <sup>3</sup>	
Ammonia	25 ppm	35 ppm
Ammonium Chloride (fumes)	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>
Aniline	2 ppm	
Antimony (elemental)	0.5 mg/m <sup>3</sup>	
Arsenic (elemental)	0.01 ppm	
Asbestos (crocidolite)	0.2 fibres per ml	
Asphalt (fumes)	5 mg/m <sup>3</sup>	
Barium Compounds (as Ba)	0.5 mg/m <sup>3</sup>	
Barium Sulfate	10 mg/m <sup>3</sup>	
Benzene	1 ppm	5 ppm
Bromine	0.1 ppm	0.2 ppm




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Butane	800 ppm	
Butyl acetate	200 ppm	
Butyl Amine		5 ppm
Cadmium (elemental)	0.02 mg/m <sup>3</sup>	
Calcium Hydroxide	5 mg/m <sup>3</sup>	
Calcium Oxide	2 mg/m <sup>3</sup>	
Calcium Silicate	10 mg/m <sup>3</sup>	
Calcium Sulfate	10 mg/m <sup>3</sup>	
Camphor (synthetic)	2 ppm	3 ppm
Carbon Black	3.5 mg/m <sup>3</sup>	
Carbon Dioxide	5000 ppm	30,000 ppm
Carbon monoxide	25 ppm	400 ppm
Carbon tetrachloride	5 ppm	10 ppm
Carbonyl chloride	0.1 ppm	
Chlorine	0.5 ppm	1 ppm
Chloroform	10 ppm	20 ppm
Chromates		0.01 mg/m <sup>3</sup>
Chromic acid	0.1mg/m <sup>3</sup>	0.02 mg/m <sup>3</sup>
Chromium-III-Chromate	10 ppm	
Copper (dust)	1 mg/m <sup>3</sup>	
Copper (fumes)	0.2 mg/m <sup>3</sup>	
Cotton (dust)	0.2 mg/m <sup>3</sup>	
Cyclohexane	300 ppm	
o-Dichlorobenzene	25 ppm	50 ppm
p- Dichlorobenzene	10 ppm	
1,1 Dichloro ethylene	10 ppm	20 ppm
1,2 Dichloro ethylene	200 ppm	
Diesel Exhaust	0.15 mg/m <sup>3</sup>	
Diethanol Amine	0.46 ppm	
Diethyl ether	400 ppm	500 ppm
Ethyl acetate	400 ppm	
Ethyl Bromide	5 ppm	
Ethyl Chloride	100 ppm	





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Fluorine	1 ppm	2 ppm
Formaldehyde		0.3 ppm
Formic Acid	5 ppm	10 ppm
Gasoline	300 ppm	500 ppm
Glycerin (Mist)	10 mg/m <sup>3</sup>	
Grain Dust (oat, wheat, barley)	4 mg/m <sup>3</sup>	
n-Heptane	400 ppm	500 ppm
n-Hexane	50 ppm	
Hydrogen Chloride		5 ppm
Hydrogen cyanide		4.7 ppm
Hydrogen Fluoride		3 ppm
Hydrogen Sulphide	10 ppm	15 ppm
Iodine	0.1 ppm	
Iron Oxide	5 mg/m <sup>3</sup>	
Iso Butyl Alcohol	50 ppm	
Iso Propyl Alcohol		
Lead, inorganic,	0.05 mg/m <sup>3</sup>	
LPG ( Liquidified Petroleum Gas )	1000 ppm	
Magnesium Oxide fume	10 mg/m <sup>3</sup>	
Malathion	10 mg/m <sup>3</sup>	
Mercury (Alkyl compounds )	0.01 ppm	0.03 ppm
Mercury (fumes)	0.05 mg/m <sup>3</sup>	
Methanol	200 ppm	250 ppm
Methyl mercaptan	0.5 ppm	
Methyl methacrylate	100 ppm	
Nitric acid	2 ppm	4 ppm
Nitric Oxide	25 ppm	
Nitrobenzene	1 ppm	
Nitrogen dioxide	3.5 ppm	5 ppm
Phosphine	0.3 ppm	1 ppm
Silica dust (respirable)	3 mg/m <sup>3</sup>	
Sulphur dioxide	2 ppm	5 ppm
Sulphuric acid	1 mg/m <sup>3</sup>	3.4 mg/m <sup>3</sup>



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Toluene	50 ppm	
Trichloroethylene	50 mg/m <sup>3</sup>	100 ppm
Vanadium pentoxide - dust	0.5 mg/m <sup>3</sup>	
Vinyl Acetate	10 ppm	15 ppm
Vinyl Chloride		2.5 ppm
Xylene (isomers)	100 ppm	150 ppm
Zinc oxide fume	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>

Notes:

1. p.p.m. - Parts of vapour or gas per million parts of air by volume at 25°C and 760 mm mercury pressure.
2. mg/m<sup>3</sup> - Milligrams of substance per cubic meter of air.

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 Ministerial Council Decision no. 12 for 2006 for Air Pollution Protection System.



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12.2.1 Table No. 2- A - Maximum Allowable Limits For Indoor Air Pollutants (Dust)

SUBSTANCE	MAX. ALLOWABLE LIMITS (mg/m <sup>3</sup> )
<b>Respirable Dust</b> Crystallize Silica (quartz) Un-crystallize silica (graphite) Asbestos (crisotile)	0.05 2.5 0.1 (fiber/cm <sup>3</sup> )
<b>Total Dust</b> Un-crystallize silica (graphite) Stone wool Silica jell Portland cement	10 5 6 10
<b>Dust from Biological Sources</b> Hard wood vapors Soft wood vapors	1 5
<b>Inorganic Lead</b>	0.05

12.3 Table No. 3 - Frequency of Testing Of Lifting Equipment And Pressure Vessels

- Boilers/ Pressure Vessels - 12 months internal and external, when all parts include blow down valve, safety valve and pressure gauge opened for inspection. On completion of inspection working test has to be carried out and safety valve floated.
- Air Receivers - 12 months of the internal and external examination



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### 12.4 Table No. 4 - Occupational Noise

In every workplace, suitable measures shall be taken by the occupier to ensure that no worker is exposed to continuous sound levels exceeding the maximum exposure level given in the following table:

Sound level in dB(A)	Maximum No. of hours of exposure per employee per work day hours
Up to 85	8
92	6
95	4
97	3
100	2
102	1.5
105	1
110	0.5
115	0.25
more than 115	0

The following duties are laid on employers:

1. To make (and update where necessary) a formal noise assessment, where employees are likely to be exposed to:
  - a) First action level or above 85 dB(A)
  - b) Peak action level
2. To provide, at the request of an employee, suitable and efficient personal ear protection where employees are likely to be exposed to 85 dB (A) or above but less than 90 dB (A).
3. To designate ear protection zone.
4. To designate ear protection zone, indicating that it is an ear protection zone with signs, informing that ear protection must be worn.
5. The manufacturers and suppliers of noisy machinery to design and construct such machinery, so that the risks from noise emissions are reduced to the lowest level. Information on noise emissions must be provided when specified levels are reached.



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### 12.5 Table No. 5 - Suitable Lighting

The lighting illuminance 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 molding 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 require 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 carpentering, 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. No 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.



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### 12.6 Table No. 6 - Steam Boiler Installation Guidelines

Prior to any steam boiler installation in the Free Zone, the following Health, Safety and Environment Protection Guidelines are to be fulfilled:

#### **A. ENVIRONMENT PROTECTION GUIDELINES:**

1. Details of steam boiler/heater: capacity, fuel type, fuel rate, sulphur content etc. to be provided.
2. Boiler room height and any adjacent building height to be provided. Boiler chimney height calculation will be provided by EHS to the client.
3. The fuel tank should be bunded with impervious bund wall including the bund floor. The same should be designed to confine fuel of 110% fuel tank capacity and underground bunded area to be lined with HDPE lining. Details of bund wall volume calculation & design should be provided.
4. Proper drainage facility should be provided for the boiler condensate and blow down as approved by EHS, away from the domestic drainage of the facility. A detailed drawing in this regard should be provided.
5. Refer PCFC Environmental Guideline. No. 002 for Large Boilers & Furnaces.
6. Proper sampling point & access ladder to be provided on chimney for emission quality checks.

#### **B. HEALTH & SAFETY GUIDELINES:**

1. Boilers should be installed at a safe distance from production or other working areas and to be protected (at least 3 mts.). Entry is to be restricted in the boiler rooms for authorized personnel only.
2. The boiler should be checked and certified by accredited third party (in case of new boiler, manufacturer's certificate is acceptable) every year. The test & certification should cover all the boiler's safety devices, gauges, internal and external conditions etc.
3. All Safety devices of the Boiler must be checked before starting and the safety devices as well as pressure gauges and water level meter should be located at a height of not more than 1.5 m from the ground level.
4. Boiler design should meet ASME boiler & pressure vessel codes.
5. A suitable stop valve/valves by which the boiler vessel or the boiler system may be isolated from other vessels or source of supply of pressure to be provided.



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6. Conditions mentioned in Article (16) of the Ministerial Decision 32 of 1982 on the prevention of preventive methods and measures for the protection of labor from the risk of work to be fulfilled and acknowledged.

### 12.7 Table No. 7 - First Aid Training

First aid training should be given by Trakhees Approved agencies such as:

- i. Registered medical practitioner/nurses with knowledge & experience of first aid in workplace.
- ii. Qualified teachers or graduates/lecturers with current first aid certificates from Authority approved organization, or Lay trainers holding a certificate from HS&E approved organization, such certificate being renewable every two years.

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

Category of Risk	First-aid Personnel
<p>LOW RISK (e.g. shops, offices, libraries):</p> <ul style="list-style-type: none"> <li>- fewer than 50 employed</li> <li>- between 50 &amp; 200 employed</li> <li>- more than 100 employed</li> </ul>	<ul style="list-style-type: none"> <li>- at least one appointed person</li> <li>- at least one first-aider</li> <li>- one more first-aider to every 100</li> </ul>
<p>MEDIUM RISK (e.g. light engineering and assembly work, food processing, warehousing):</p> <ul style="list-style-type: none"> <li>- fewer than 20 employed</li> <li>- between 20 &amp; 100 employed</li> <li>- more than 100 employed</li> </ul>	<ul style="list-style-type: none"> <li>- at least two appointed persons</li> <li>- at least two first-aiders for every 50</li> <li>- one more first-aider for every 100</li> </ul>
<p>HIGH RISK (e.g. most construction, slaughterhouses, chemical manufacture, extensive work with dangerous machinery):</p> <ul style="list-style-type: none"> <li>- fewer than 5 employed</li> <li>- between 5 &amp; 10 employed</li> <li>- more than 50 employed</li> </ul>	<ul style="list-style-type: none"> <li>- at least two appointed persons</li> <li>- at least two first-aiders</li> <li>- one more first-aider for every 50 employed</li> </ul>



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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-aiders trained in the specific emergency action
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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





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### LIST OF ITEMS IN A FIRST-AID BOX

These are only minimum items to be put in a first aid box, other kits shall be added or increase depending on the work activities (Ref – Dubai Municipality Technical Guidelines No. 17)

ITEM	NUMBER OF EMPLOYEE				
	100-100	110-250	260-500	510-100	101-150
Guidance Card	1	1	1	1	1
Plastic Band Aids	40	75	150	300	450
Adhesive Tape ½" X 10 yds	1	1	1	2	3
Adhesive Tape 1" X 10 yds	1	1	1	2	3
Absorbent Cotton - Bundle	1	1	1	1	2
Gauze Bandage - 1"	1	1	2	4	6
Gauze Bandage - 2"	1	2	4	8	10
Gauze Bandage - 3"	1	2	4	8	10
Gauze Pads – 3" X 3"	1	2	5	10	15
Oval Eye Pads	1	3	3	6	9
Triangular Bandage	1	2	2	4	6
Ammonia Inhalant - Bottle	1	1	1	1	2
Eye Wash	2 oz	4 oz	4 oz	4 oz	4 oz
First Aid Cream	1	1	1	1	2
Calamin Lotion	1 oz	2 oz	2 oz	4 oz	6 oz
Cotton Tipped Applicator – 6"	25	50	100	200	300
Rescue Breather		1	1	1	1
Surgical Scissors	1	1	1	1	1
Anti-septic Solution	250 ml	500 ml	500 ml	500 ml	1000 ml



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**12.8 Accident Notification Form**

**Accident Notification Form**

**Section-1 Details of Person Making This Report**

Persons Name		Designation	
Contact No. & Address:			
Date & Time of Report:		Signature:	

**Section-2 Accident Details**

Name of the Company / Contractor			
Name of the Injured Person:			
ID Number		Age	
Location Of Accident		Male / Female	
Date of Accident		Occupation of the Person	
Shift Timings		Time Of Accident	
Name of Main Contractor (If applicable)		Contact Number	
Nature Of Accident causing (Tick in the appropriate box)	Injury	Property Damage	Fatality
	Fire	Environmental Disturbance	Amputation
Details Of Plant / Equipment Involved In Accident			
Accident Reported By: (Name & Position of Supervisor)		Contact Number	

**Section-3 Brief Details of the Accident (Attach Separate Sheet If Required)**

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**Section-4 Immediate Actions Taken (Tick on Y for YES and on N for No)**

First Aid given to the injured	Y / N
Called the Emergency Number	Y / N
Any Other	



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**Section -5 Witness to the Accident / Incident**

<b>Witnesses Names</b>	<b>Position</b>	<b>Company/Contractor</b>	<b>Contact Nos.</b>	<b>Signature</b>
1.				
2.				

- For major/significant accidents in BU's, ECC will inform Trakhees to carry out necessary investigation