

14 -ാം കേരള നിയമസഭ

22 -ാം സമ്മേളനം

നക്ഷത്ര ചിഹ്നം ഇല്ലാത്ത ചോദ്യം നം. 2895

22-01-2021 - ൽ മറുപടിയ്ക്ക്

തൊഴിൽജന്യ രോഗങ്ങൾ

ചോദ്യം		ഉത്തരം	
ശ്രീ. കെ. സുരേഷ് കുറുപ്പ്		Shri. T. P . Ramakrishnan (തൊഴിലും എക്സൈസും വകുപ്പുമന്ത്രി)	
(എ)	ഓരോ പ്രത്യേക തരം തൊഴിലുമായി ബന്ധപ്പെട്ട് ഉണ്ടാകുന്ന രോഗങ്ങളും മാനസിക സമ്മർദ്ദങ്ങളും സംബന്ധിച്ച് ഈ സർക്കാർ പഠനം നടത്തിയിട്ടുണ്ടോ;	(എ)	ഉണ്ട്.
(ബി)	ഉണ്ടെങ്കിൽ അവയോരോന്നും പരിഹരിക്കുന്നതിന് സ്വീകരിച്ച നടപടികൾ വിശദമാക്കാമോ?	(ബി)	സംസ്ഥാനത്തെ മെറ്റൽ ക്രഷർ ഫാക്ടറികളിൽ നടത്തിയ തൊഴിൽജന്യ- രോഗ നിർണ്ണയ സർവ്വേയിൽ 4 തൊഴിലാളികൾക്ക് ശ്വാസകോശത്തെ ബാധിക്കുന്ന സിലിക്കോസിസ് എന്ന തൊഴിൽജന്യരോഗം ഉണ്ടെന്ന് സ്ഥിരീകരിച്ചു. ഈ തൊഴിലാളികളെ വിദഗ്ദ്ധ പരിശോധനയ്ക്കും ചികിത്സയ്ക്കുമായി തിരുവനന്തപുരം മെഡിക്കൽ കോളേജിലേക്ക് റഫർ ചെയ്തു. തൊഴിൽജന്യരോഗ നിർണ്ണയ സർവ്വേയെ തുടർന്ന് കൊല്ലത്ത് പ്രവർത്തിക്കുന്ന ഇൻഡസ്ട്രിയൽ ഹൈജീൻ ലബോറട്ടറിയുടെ നേതൃത്വത്തിൽ ക്രഷർ ഫാക്ടറികളിൽ ഇൻഡസ്ട്രിയൽ ഹൈജീൻ സർവീലിയൻസ് സ്റ്റഡി നടത്തുകയും സ്റ്റഡി റിപ്പോർട്ടിലെ നിർദ്ദേശങ്ങൾ ഉൾപ്പെടുത്തി കേരള ഫാക്ടറിസ് റൂൾ 1957-ലെ ഷെഡ്യൂൾ XIII ആവശ്യമായ ഭേദഗതി വരുത്തിയിട്ടുണ്ട്. പകർപ്പ് അനുബന്ധമായി ചേർത്തിരിക്കുന്നു. കശുവണ്ടി, കയർ. സീഫുഡ്, ടെക്സ്റ്റൈൽസ്, പാക്കിംഗ് മേഖലകളിൽ നടത്തിയ സർവ്വേയുടെ അടിസ്ഥാനത്തിൽ ഇൻഡസ്ട്രിയൽ ഹൈജീൻ സർവീലിയൻസ് സ്റ്റഡി നടത്തുന്നതിനുള്ള നടപടികൾ പുരോഗമിക്കുന്നുണ്ട്.

സെക്ഷൻ ഓഫീസർ

Factory Rules 1954

SCHEDULE - XIII

MANIPULATION OF STONE OR ANY OTHER MATERIAL CONTAINING FREE SILICA

1. **Application** .- This schedule shall apply to all factories or parts of factories in which manipulation of stone or any other material containing free silica is carried on.

2. **Definitions**- For the purpose of this Schedule -

(a) "manipulation" means crushing, breaking, chipping, dressing, grinding, sieving, mixing, grading or handling of stone or any other material containing free silica or any other operation involving such stone or material;

(b) "stone or any other material containing free silica" means a stone or any other solid material containing not less than 5% by weight of free silica.

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PART 1

PROCESS RISKS IN STONE CRUSHING

1. Location and Lay out.- (1) No crusher plant shall be constructed or extended to within a distance of 200 metres from the centre of the proposed crusher unit to the periphery of the structure of any residence or public building or place of worship. Exception is allowed only for store room and office room.

(2) In cases where environmental factors such as terrain and greenery are conducive to reduce spread of pollution and where advanced technology that reduces noise and dust is employed, the minimum distance may be further reduced to 150 metres with stringent control measures such as enclosure of crushers, classifiers, screens and other noise/dust producing units with 40 cm thick solid wall (not hollow brick), false roofing and dust extraction system.

(3) There should be a minimum clear distance of 100 metres from the centre of crusher of one industry to the centre of crusher of another industry.

(4) There should be a clear distance of 200 metres from the centre of the proposed crusher to State or National Highway. For crushers fulfilling the requirements of 2nd above, the minimum distance is reduced to 150 metres.

(5) Crushers, classifiers, screens and other noise and/or dust producing units should be housed in buildings with solid wall (not hollow block) of minimum 23 centimetre thickness and with suitable roofing.

2. Electrical Installations.- (1) Keep the main switch box in good condition, protected from the weather in a separate room. An appropriately sized Earth Leakage Circuit Breakers (ELCB) in all circuits shall be installed and provide good earth or ground connection for all installations to protect the operators from electrical hazards

(2) Electrical cables should be laid into the under ground cable trench in shock-proof material or taken over head. Cables should be run in extra plastic conduits.

(3) For work on electrical equipment insulation materials such as approved Insulation/rubber mats shall be provided in front of the distribution boards and main switches.

(4) Lock out- tag out system shall be used for all installations which are under maintenance or repair, to prevent others from switching on the machines while another worker is repairing it.



(5) All distribution points should be marked legibly in an understandable language, marking the feeding point, voltage, and identification number. This will help to Log-Out and make shutdown quicker in case of emergency.

(6) Required numbers of fire buckets filled with sand or portable-size Carbon Dioxide type fire extinguishers shall be provided for use in case of fire.

(7) Necessary personal protective equipment like shoes and rubber gloves shall be provided for those deployed in electrical work.

3. Risks at Intake hoppers, bunkers for intermediate products.- (1) Wheel chokers of adequate strength and height such as raised steel girder or bump shall be provided to prevent accidental fall of trucks into intake hoppers.

(2) Railings shall be provided for work platforms near all bunkers.

4. Risks of moving parts.- (1) Guards shall be installed around all power transmission moving parts such as shafts, couplings, pulleys and drive belts, chains and sprockets and all other moving parts.

(2) Nip and shear points of conveyors shall be provided with permanent barrier guards. Guards must extend beyond the in-running nips between the belts and rollers so as to make them inaccessible from above, below and from the ends.

(3) Provide continuously accessible conveyor belts with emergency stop cables that extend the entire length of the conveyor belt to allow access to the cable from any point along the belt.

(4) Install clearly marked, unobstructed emergency stop buttons or pull cords within easy reach of workers in the areas where they are deployed for duty.

(5) Use prominent awareness devices such as warning signs or lights to alert workers to the conveyor operation when it is not feasible to install guarding devices and such unguarded moving parts shall be located away from workers.

(6) All conveyor openings such as wall and floor openings, and chutes and hoppers have fencing when the conveyor is not in use.

(7) Electrical panel room for crushers, conveyors, vibrators and all other machines in



crushing unit shall be kept under lock and key for unauthorised operation of these equipments or accidental operation during maintenance or emergency.

(8) All accesses and aisles that cross over or under or are adjacent to the conveyor should have adequate clearance and hand rails or other guards.

(9) Where a conveyor passes over work areas, aisles, or thoroughfares, suitable guards/protected ceilings shall be provided to protect employees required to work below the conveyors.

(10) Post appropriate hazard warning signs at all crossovers, aisles, and passageways.

(11) Conveyors should be periodically inspected and tested for safety mechanisms, such as alarms, emergency stops, and safeguarding methods once in every month and log book shall be maintained.

(12) Screw conveyor housing should completely enclose the moving elements of the conveyor except for the loading and discharge points. If such guarding is not feasible, the entire conveyor should be fenced by railing unless it is guarded by location. Alternatively, the trough side walls should be high enough to prevent employees from reaching over falling into the trough.

5. Clothing. - No worker wearing loose clothing shall be permitted to work near moving machinery and conveyors.

6. Training. - (1) No worker shall be allowed to work in stone crushing units without attaining training on the hazards associated with stone crushing process and safe working procedures.

(2) Refresher training on the above subject shall also be attended by all the workers once in every year.

PART 2

RISKS DUE TO SILICA DUST

1. Preventive Control Measures. - No manipulation of stones containing silica shall be carried out in a factory or part of a factory unless the following preventive control measures are adopted, namely -



I. Engineering Control Measures

(1) Wet Methods: (a) Airborne Silica Dust should be minimized or suppressed by wetting or drenching the manipulated area with water ;

(b) Machines with water drenching nozzles shall be used for drilling or cutting of concrete or masonry;

(2) Ventilation:- (a) An effective Local exhaust system should be provided and maintained to control/remove silica dust from industrial processes.

(b) Dilution/Ventilation with proper dust collection shall be used to reduce free silica dust concentration to within the permissible limits in large areas. No direct ventilation to atmosphere shall be resorted to.

(c) Dust collectors/High Efficiency Particulate Air (HEPA) filter shall be set up so that dust is removed from the source and all the transfer points to prevent contaminating work areas,

(d) Ventilation systems should be kept in good working conditions.

(3) Isolation:- (a) Effective containment methods should be used while carrying out sand blasting. Wet blasting shall be ideal.

(b) Cutting and drilling of cabins of vehicles or machinery that might contain free silica should be effectively enclosed and sealed.

(4) Dust Control:- (a) Vacuum System with High Efficiency Particulate Air (HEPA) filter shall be used to remove dust from work areas and from all transfer points;

(b) The belt conveyors transferring crushed material shall be totally enclosed throughout its length of travel:

Provided that such control measures as above are not necessary, if the process or operation being carried on, is such that, the level of dust created and prevailing is within the permissible limit of exposure specified in the Second Schedule of the Act and on which measurements are made from time to time as part of air monitoring studies and records maintained.



II. Medical Control Measures.- (1) The occupier of every factory where a worker is employed in the processes specified in sub rule clause 1 of paragraph 1, shall ensure that every worker employed is examined by a Certifying Surgeon within 15 days of his first employment. Such medical examination shall include pulmonary function test and chest X Ray - Posterior Anterior (PA) view to be compared with standard ILO Radiographs in case of suspected Pneumoconiosis. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by a Certifying Surgeon or tested and examined by a Certifying Surgeon outside as insisted by the Occupier and advised by an Inspector.

(2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every twelve months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests as specified in sub-paragraph (1) above except the chest X-ray which shall be analysed by a radiologist specialized or trained in the field of analysing it with reference to ILO Radiograph specimens on Pneumoconiosis and chest X-ray in such suspected cases shall be carried out at least once in 3 years.

(3) Every worker employed in any of the aforesaid processes from the date on which the schedule has come into force, shall be radiologically examined by a qualified Radiologist at the cost of the occupier using standard size X-ray plates and with X-ray machine of capacity more than 300 milli ampere (mA). The report of such X-ray shall be submitted to the Medical Officer/ Certifying Surgeon/ Chief Inspector within three months of the said date.

(4) If at any time the Medical Officer/Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said process, on the ground that continuance therein would involve special danger to the health of the worker, then he shall make a record of his findings in the said Certificate and the Health Register. The entry of his findings shall contain the period for which he rectons the said person unfit for work in the said process/processes. The worker so removed from the process shall be provided with alternate placement facilities in the factory on job rotation basis, unless he is fully incapacitated in the opinion of the Certifying Surgeon and in that case, the person affected shall be suitably rehabilitated and compensated.

(5) No person who has been found unfit to work as stated in sub-paragraph (4) above shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.

(6) A worker already in employment and declared unfit by the Medical Inspector of Factories/Certifying Surgeon shall not be allowed to work on any of the processes specified in clause I of paragraph 1, unless he has been examined again using standard size chest X-ray plate by a qualified Radiologist, at the cost of the occupier and certified to be fit to work on the said processes again.

(7) For the purpose of medical supervision by the Medical Practitioner/Certifying Surgeon



appointed by an occupier, a room in the factory premises shall be maintained, properly cleaned, adequately lighted/ventilated and equipped with screen, table and with office stationery, chairs and other facilities and other equipments/instruments including X-ray analysing arrangements for radiological examinations and such other equipments as may be prescribed by the Chief Inspector from time to time shall be provided. The Medical Practitioner so appointed shall perform the following duties,-

- (a) maintain health register;
- (b) undertake medical supervision and examination of workers employed in the factory;
- (c) look after the well-being and rehabilitation of sick, injured or affected workers;
- (d) carry out inspection of work rooms where dangerous operations are carried out and advise the management of the measures to be adopted for the protection of health of the workers employed therein;
- (e) educate the workers of the health hazards involved and motivate them to wear proper personal protective equipments at work place.

(8) The health records of the workers exposed to silicosis, shall be kept up for a minimum period of 40 years from the beginning of the employment or for 15 years after retirement or cessation of the employment, whichever is later and shall be accessible to workers concerned or to their authorised representatives.

(9) For the record of medical examinations and appropriate tests carried out by the said Medical Practitioner, a certificate of fitness and health shall be maintained in separate register approved by the Chief Inspector of Factories, and shall be kept readily available for inspection by the Inspector on demand.

III. Administrative Control Measures.- (1) Work place/Environment Monitoring: The Occupier shall ensure that work place and environment monitoring are performed to determine the magnitude of exposure and evaluate the engineering controls, respiratory protections, work practices and the need for medical surveillance and take corrective control measures as and when needed.

- (a) Exposure/concentration measurements shall be made in close proximity of the employee's actual breathing zone;



(b) Total sampling time shall be at least 7 hours;

(c) Work place and environment monitoring shall be repeated quarterly;

(d) The occupier shall make available the report of dust sampling to the nearby public on demand.

(2) **Training/ Awareness** : Workers shall be trained in the following:-

(a) Health effects of free silica dust exposure;

(b) Operations and materials that produce free silica dust hazards;

(c) Engineering controls and way of work controls that reduce dust concentrations;

(d) The importance of good housekeeping and cleanliness;

(e) Proper use of personal protective equipment such as respirators etc;

(f) Personal hygiene practices to reduce exposure.

(3) **House Keeping: Maintenance of floors.**- (a) All floors or places where fine dust is likely to settle and whereon any person has to work or pass occasionally shall be made of impervious material and maintained in such condition that it can be thoroughly cleaned by any wet method or any other method which would prevent dust from being airborne in the process and shall be done at least once during each shift.

(b) For removing dust Dry sweeping or Compressed air shall not be used but wet methods or vacuum system with High Efficiency Particulate Air (HEPA) filter shall be used.

(c) Dust settled over-head, over a period of time, should be removed using any wet method before it becomes air borne again due to vibration, random air currents etc..

(4) **Change room and washing facilities.**-(a) Washing and bathing facilities shall be conveniently located sufficiently away from toilets and easily accessible to the workers,



(b) Cloak room with individual lockers shall be provided for employees to store cleaned clothing;

(c) Workers shall take bath and change the clothings before they leave the work site;

(d) Clothings worn during work shall not be cleaned by blowing or shaking;

(e) Eateries/lunch areas shall be located away from exposed areas.

(5) **Display of Notices:-** (a) Warning signs/ Posters shall be displayed conspicuously in a prominent place, visited by majority of the workers;

(b) The warning signs/poster shall listern the Hazards and the Precautions to be taken;

(c) The notices shall be in the local language as well as in the language understood by the majority of the workers;

(6) **Personal Protective Equipment.-** The occupier of every factory to which this schedule apply shall provide the following Personal Protective Equipment (PPEs) as per relevant National Standards or International Standards and as applicable to a particular work place.

(a) Dust Respirator.

or

(b) High Efficiency Particulate Air (HEPA) filter respirator or fume respirator.

or

(c) High Efficiency Particulate Air (HEPA) filter respirator with full face piece.

or

(d) Self contained breathing apparatus (SCBA)

or

(e) Active air respirator with a full face piece, helmet or hood.

or

(f) Self contained breathing apparatus (SCBA) with full face piece.

or

(g) Powered air purifying respirator with a High Efficiency Particulate Air (HEPA) filter.

(7). **Prohibition of Young Persons-** No young person shall be employed or permitted to work in any of the operations involving manipulation of stones containing silica or at any place where such operations are carried out.

(8). **Exemptions** - (1) If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or the lesser frequency of the processes carried on or for any other genuine reason, may relax all or any of the provisions of this schedule necessary for protection



of the workers, by a certificate in writing, which he may in his discretion revoke at any time and exempt any factory from all or any of such provisions subject to such conditions, as he may think fit and specify therein.

(2) The notification of Silicosis and free silica related occupational diseases shall be strictly notified by the Medical Practitioner/Certifying Surgeon and in case of any lapses in concealing or failure to notify, the Medical Practitioner/Certifying Surgeon shall be liable to be prosecuted under sub section (4) of section 89 of the Factories Act, 1948.

(iii) for Schedule XIV, the following SCHEDULE shall be substituted, namely as under:-

SCHEDULE – XIV

HANDLING AND PROCESSING OF ASBESTOS, MANUFACTURE OF ANY ARTICLE OUT OF ASBESTOS AND ANY OTHER PROCESS OF MANUFACTURE WHEREIN ASBESTOS IS USED IN ANY FORM.

1. **Application.**- (1) This schedule shall apply to all manufacturing process as defined under Section 2(k) of the Act, carried on in a factory involving exposure of workers to asbestos and/or exposure of workers to product containing Asbestos.

(2) The Government may, at any time, for the purpose of giving effect to any scientifically validated evidence for a particular disease or cause made out of any research and development by specialised institutions or experts in the field, notify in the Official Gazette and make suitable changes in the said Schedule.

(3) The provisions of this schedule shall apply to all workers exposed to asbestos in the factory and it shall be the responsibility of the occupier of the factory to comply with the provisions of the schedule in true spirit of it and in full;

(4) (a) The occupier of the factory wherein asbestos or substances containing asbestos are in use, shall modify, evolve and adopt newer work procedures and practices generated out of any scientific research and technological updations and present it for approval by the Chief Inspector and follow such approved procedures thereafter;

(b) Notwithstanding anything contained in sub-paragraph (1) above use of asbestos is prohibited in the manufacturing process as notified by the Government in this behalf;

(c) (i) spraying of all forms of asbestos is prohibited in a factory;
(ii) The prohibition in respect of spraying of asbestos referred to in sub-para (i) may be exempted by the Chief Inspector if the Occupier represents that such spraying is inevitable owing to the specific nature of the product and that he had taken adequate measures for ensuring the safety and health of workers to the satisfaction of the Chief Inspector.

2. **Definitions.**- For the purpose of this Schedule, –

(a) “asbestos” means any fibrous silicate mineral and any admixture containing actionlite, amosite, anthophyllite, chrysotile, crocidolite, tremolite or any mixture thereof, whether crude, crushed or opened;

(b) “asbestos textiles” means yarn or clothes composed of asbestos or asbestos mixed with any other materials;

(c) “approved” means approved for the time being in writing by the Chief Inspector;

(d) “breathing apparatus” means a helmet or face piece with necessary air connection by

