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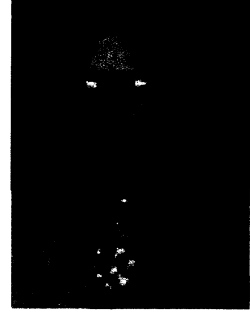
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## मेरी कलम से

यद्यपि पोत भंजन उद्योग अति जोखिमपूर्ण व्यवसाय है जो सुरक्षा, स्वास्थ्य और पर्यावरण को गम्भीर रूप से प्रभावित करता है, फिर भी प्रमाणित करने योग्य विकास में इस उद्योग का महत्वपूर्ण योगदान है।

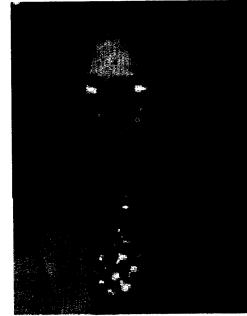
कामगारों की सुरक्षा और स्वास्थ्य की दृष्टि से पोत भंजन अन्तर्निहित रूप से जोखिमपूर्ण है और एस्बेस्टॉस जैसी जोखिमपूर्ण सामग्री तथा पोत के ढांचे में प्रयुक्त हैवि-मैटल, पेन्ट सहित असंख्य जोखिमपूर्ण पदार्थों के कारण बदतर हो गया है।

चूँकि पोत भंजन परिचालन में शारीरिक श्रम की आवश्यकता होती है और यह एक जटिल कार्य है, अतः परीक्षित सक्षमता और विशिष्ट कौशल में प्रशिक्षित कामगारों को ही इस जोखिमपूर्ण कार्य में लगाना चाहिए। पोत के सुरक्षित भंजन के लिए, परिचालन की योजना के लिए पोत भंजकों और योजना को आवधिक पुनरीक्षण की आवश्यकता होती है। आरम्भिक निर्धारण करने के लिए जनित्र जोखिम निर्धारण का प्रयोग किया जा सकता है लेकिन पोत के सत्यापन, सर्वेक्षण के समय इसका अद्यतन किया जाना चाहिए।

इंडोश्न्यूज के इस अंक में भारत में पोत भंजन उद्योग और इससे जुड़े जोखिम की संक्षेप में चर्चा की गई है। इस उद्योग से जुड़े सभी व्यक्तियों को पूर्ण सहयोग प्रदान कर, पोत भंजन उद्योग के कामगारों की सुरक्षा और स्वास्थ्य में सुधार करने के लिए डीजीफासली वचनबद्ध है।

*सुधीर सक्सेना*

(एस.के.सक्सेना)  
मुख्य संपादक



### FROM THE DESK

The ship breaking industry in India has significant contribution to the sustainable development even though it is considered as one of the most hazardous occupations with potential to cause severe impact on safety, health and environment.

Ship breaking is inherently hazardous in terms of worker's safety and health and this is made worse by the presence of hazardous substances such as asbestos and a host of many other hazardous substances including heavy-metal paints contained in the ship's structure.

Since ship breaking is a physically demanding operation and a complex business, trained workers with tested competence and specialized skills need to be used in this demanding and hazardous work. Safe breaking of a ship requires ship breakers to plan their operations in advance and continually review such plans. Generic risk assessments may be used to make preliminary assessments, but they should be updated when the verification/survey of the vessel is carried out.

This issue of INDOSHNEWS briefly describes the ship breaking industry in India and the hazards associated with it. DGFASLI is committed to improve the safety and health of the workers in ship breaking industry by extending full cooperation to all the stake holders.

**(S.K. SAXENA)**  
**EDITOR -IN- CHIEF**

**OCCUPATIONAL SAFETY AND HEALTH IN SHIP  
BREAKING INDUSTRY – INDIAN SCENARIO**

**S.N. BORKAR**

The ship-breaking activity is mainly a scrap recycling industry, and was recognized in India as manufacturing industry in the year 1979. Its contribution to the Indian economy is very much like a business process outsourcing except that the goods that are produced belongs to the processor and not to the one that out sources. Old ships that are no longer capable of plying or those that have such high maintenance costs that it is more economical to scrap them are usually sold to ship-breakers. The ship breaker pays an advance of 10% of the cost of the ship and brings it to the anchorage point of his own country for valuation. Only when he is fully satisfied with all the conditions of rules of his own country and his own expectations with respect to revenue realizations that he makes the full payment. In a country like India, the ship breaking industry is guided by several rules and a ship-breaker has to take as many as ten certificates in order to obtain permission to beach his ship.

The ship-breaking industry is labour intensive. The survival of the ship breaking industry depends on the availability of labour. The ship-breaking industry faces a typical backward bending supply curve and the ship-breaking activity has moved from countries of high wages to countries of low wages.

In India ship breaking activity is carried out on sandy beaches. Indeed, most of the developing world where ship breaking is presently located breaks ships on sandy beaches. This is known as the beaching method and it is far cheaper than the mooring method that needs dry docks. Dry-docks are expensive to build and maintain. It is actually the beaching method that makes the ship breaking activity into a viable commercial activity rather than only an activity of disposing off waste materials. Ship breaking generates good quality and valuable scrap at a fraction of the costs of an integrated steel plant.

**VARIOUS STAKE-HOLDERS INVOLVED  
IN SHIP-BREAKING IN INDIA**

The stake-holders involved in ship-breaking

industry in India are ship builders, ship breakers, port authorities, factory inspectors, Central Pollution Control Board, State Board and workers.

The responsibility lies collectively with all these stake-holders and they should work in tandem with each other, complementing each others efforts and solving any dispute amicably. Ultimate aim should be towards providing better work environment to the workers and least de-gradation to the environment.

The main concerns related to ship-breaking industry are towards the Environment and Workers. In discussing the issue, the thrust must be to include the interests of the environment and the workers, and to strive towards cleaner and greener ships. Ships-for-scrap need to become free of hazardous substances.

**MAJOR ISSUES INVOLVED IN  
OCCUPATIONAL SAFETY AND  
HEALTH HAZARDS**

**1. Occupational Safety**

The ship breaking industry presents a dangerous work environment with high risk of injury and accidents with poor equipments and machinery and with inadequate safety devices. There is high risk of explosion and emission of toxic gases and fall of heavy metal objects. The safety control measures are absent and there is lack of personal protective equipments available to the workers.

**2. Occupational Health**

The workers have high health risk due to exposure to physical, chemical, ergonomic, biological and psycho-social hazards. There is also exposure to hazardous substances such as heavy machines, asbestos, radioactive materials, etc. The working hours are long and work is poorly organized. The worker do not have access to occupational health and there is no health surveillance programme. The ship

## COVER FEATURE

breaking yards to not have adequate welfare, sanitary and housing facilities.

### 3. Environmental Health

The ship breaking is a high environment pollution industry and there is no safe management of hazardous substances. Ship breaking operations affect the environment and causes contamination of drinking water and food chains.

#### Sources of Pollution In A Ship

In 1999, with the growing concerns expressed by the environmental groups over the damages that ship breaking might bring on the ecology, the International Chamber of Shipping established a code of conduct. This Industry working group consisted of representatives from ship owners, workers' federation and oil companies. The last was important since oil and LPG tankers are usually the most hazardous and prone to chemical accidents. This group developed a chart of inventories that a ship is supposed to carry with it during its final journey.

#### The inventories are of three kinds

1. those that are a part of the structure of the ship,
2. those that are held as stores and spares
3. those that are used in the final journey like oil and wastes.

#### Government of India's Waste List

The Government of India lists out the following as hazardous and non-hazardous wastes.

The *hazardous wastes* are as follows:

1. asbestos
2. glasswool
3. rubber
4. rexins
5. plastics and cables
6. sludge residue another contaminated material like leaked batteries

The *non-hazardous* materials are as follows:

1. fiberglass
2. iron scales
3. cardboard and thermacol
4. glass
5. excreta
6. cement tiles

India has in fact taken the lead and the apex court of the country (Supreme Court), has issued the order taking the above-referred Guidelines into consideration, directing among other things:

- \* That, no tanker will be permitted to beach without gas free for hot work certification.
- \* That, prior inventory of hazardous waste on board should be made before allowing beaching of the ship, and
- \* That, the sale of used oil should be made only to registered processing units.

#### Problems faced by workers

The labourers have no place to live. They take shelter in shacks that are made out of the plywood generated out of the ship. There is no sanitation, no specific bath place or no place for defecating. The streams on which these shacks are built accumulate stagnant water and breed anopheles mosquitoes. The shacks have no ventilation. Cooking and preparing food is more often than not a problem. The appalling living conditions with no civic amenities, no shopping centers and no recreation makes people take to alcohol and gambling. Indeed, the latter is a major source of anti-social activities in the area. The diseases due to such poor civic conditions are artemesia and other skin diseases, lung and chest infections, tuberculosis, dysentery, diarrhoea, malaria, cholera and common fever. Unfortunately, there is no systematic health check up by occupational health experts.

#### Role played by DGFASLI, Government of India, Ministry of Labour

Government of India, Ministry of Labour was deeply concerned about the poor state of occupational safety, health and welfare of workers employed in ship breaking yard of

## COVER FEATURE

Alang. As such Director General, FASLI constituted a task force in June 1998 to have a thorough investigation into the facts of the case. The task force, based on its findings recommended a series of measures for improving safety and health of workers.

DGFASLI collaborated with ILO for organizing the second workshop on "National Tripartite Workshop on Ship Breaking and Safe Work" in the year 2001. The workshop was a huge success where all the stake holders agreed on a number of issues such as review of rules, implementation of standards, appointment of welfare officers, housing and schooling for the workers and their families, implementation of guidelines given by Pollution Control Board and development of a model ship breaking yard.

DGFASLI developed a model ship breaking yard in order to provide better and efficient layout of activities that would help in the cause of OSH aspects of the workers in ship breaking industry. Salient features are :

1. The activities carried out in the ship breaking yard has been segregated and each activity has been allotted a separate space.
2. Proper storage for gas cylinders, hazardous wastes, etc.
3. Ample space for movement of cranes, trucks
4. Proper stacking and storing of material
5. Free unobstructed movement for all

DGFASLI has proposed special provisions for ship breaking industry to be included under Rule 75 of the existing Model Rules framed under Section 41 of the Factories Act 1948. The special provisions for ship breaking are :

**Sub-rule 67** Before commencement of breaking activity in respect of any ship, the occupier shall obtain and produce to the inspector/the Chief Inspector, the following:

- (a) Proper consent from the State Maritime Board or any such equivalent authority, stating that the ship does not

contain any hazardous waste or radio-active substance.

- (b) Proper authorization from the State Pollution Control Board or any such authority as declared under the Hazardous Waste (Management and Handling) Rules, 1989.

**Sub-rule 68** Every occupier shall provide to the Inspector or the Chief Inspector, the following information in respect of all the waste generated as a result of ship breaking activity :

- a) Name of the waste
- b) Nature of the waste, whether hazardous or non-hazardous
- c) Quantity of the waste
- d) Procedure of its safe disposal

**Sub-rule 69** The occupier shall ensure that no material, whether hazardous or not, shall be burnt inside or in the vicinity of the ship breaking yard.

**Sub-rule 70** In the event of any explosion, the occupier shall forthwith stop all activities or operations carried out in the premises. The occupier shall not commence any activity unless fresh "gas free for hot work" permission is granted by the Chief Controller of Explosives or any other Officer on his behalf.

The Hon'ble Supreme Court on a public interest litigation challenging the import of hazardous wastes in to the country filed in 1995 by the Research Foundation for Science, Technology and National Resource Policy (New Delhi) has given a number of directions to various authorities of the country. One of the directions is on the "Impact of the Hazardous Wastes on Workers Health". The Court directed the Ministry of Labour and

## COVER FEATURE

Ministry of Industries to constitute the special committee to examine the matter and enumerate medical benefits which may be provided to the workers having occupational hazard as also keeping in view the question of health of workers and compensation which may have to be paid to them.

To comply with the above mentioned directive of the Court, Ministry of labour constituted a special committee in the month of January, 2004. The committee comprised of the Director General, FASLI, Mumbai as Chairman and one representative each from Ministry of Commerce and Industry and Employees State Insurance Corporation. It also had one nominee each from ESI Hospital and one from National Institute of Occupational Health, Ahmedabad. The committee prepared the report and had given 10 recommendations. Some of the recommendations included :

- \* Medical benefits to persons handling hazardous wastes – covered under ESIC Act and otherwise.
- \* Creating awareness amongst the persons handling hazardous wastes about safety and health hazards and the control measures to be taken
- \* Pre, post and periodical medical examination of persons handling hazardous wastes
- \* Training of all the medical practitioners responsible for providing for health care to persons handling hazardous wastes
- \* Creations of National Level database on units handling hazardous wastes, number of persons working and category-wise quantity of hazardous wastes
- \* Epidemiological studies covering occupational health and hygiene
- \* Identification of accredited

laboratories to carry out health and hygiene activities related to hazardous wastes

In pursuance to the Supreme Court order dated 28<sup>th</sup> October, 2003 in the Writ Petition No. 657 of 1995, the Inter Ministerial Committee (IMC) was constituted. The IMC, in its 5<sup>th</sup> meeting held on 1-2-2006 the IMC had asked DGFASLI to identify PPEs suitable to workers working in specific conditions of ship breaking. DGFASLI has identified PPEs for different operations carried out in the ship breaking yards. Gujarat Maritime Board (GMB) has agreed to enforce the use of PPEs in the ship breaking yards and use the penal provisions available in the "Gujarat Maritime Board Ship Recycling Regulations 2003".

### Future Thrust Areas

1. Review of rules for improving the working conditions in the ship breaking industry
2. Awareness campaign for improving occupational safety and health
3. The model ship breaking yard introduced in Alang to be made popular and implemented in other parts of the country
4. To carry out a full fledged study on occupational hazards and health of workers in ship breaking industry
5. To start specialized training programmes for supervisors and workers in the ship breaking industry in the areas of accident prevention, identification and control of hazards, handling of hazardous wastes, occupational health hazards and control measure, environmental hazards and control measures, fire and explosion hazards, emergency preparedness, motivation, communication and work physiology.

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**HOW TO CHECK THE EFFECTIVENESS OF A HEARING PROTECTOR**

**P.B. PAL**

It is a general practice in factories that ear defenders are provided to the workers, when factory management feels there is noise at the work places. They ask the safety officer or the safety representative of the workers to procure & provide ear protectors of maximum efficiency to the exposed persons. The safety personnel will ask the manufactures to supply ear protectors having maximum attenuation say about 25 to 30 dB or even more without considering the frequency spectrum of the existing noise of the factory. While conducting surveys in industries, it was observed that work areas where noise levels were around 100 dB (A), the ear muffs have been provided to the workers. This is not a correct way of providing ear protection. Though the ear- muffs can give maximum attenuation, they are rarely used by the workers for long time, being heavy in weight. Ear- muffs should be given in those work areas where noise of very high intensity prevails for a short duration. Further it is not necessary that ear- muffs can attenuate the sound of all frequencies. Therefore, it is necessary that we should know the frequency spectrum of work areas in order to get the

information about those high sound intensity frequency bands which need reduction. Having this knowledge, we can select an appropriate hearing protector from the market. Instead of asking total attenuation of the ear protector we should ask the manufacture the mean attenuation & standard deviation of the ear protector at different frequency-bands. From this information, hearing- protector's rating can be calculated and it can be found out that the resultant attenuation is 90 dB (A), or not. If the resultant attenuation is more than 90 dB (A) then the ear-protector will not be not effective and we should choose other effective ear defenders. This has been illustrated in the following discussions.

**ATTENUATION DATA OF EAR DEFENDERS**

Various types of ear- plugs or muffs are available in the markets specifying their Mean attenuation and Standard Deviation (SD) at different frequency-bands. Some of them are given Table-1 below:

**TABLE:1**

**Attenuation Data of Some Ear-Protectors as Tested by BS 5108: 1974**

Ear-protector	Attenuation at different frequency bands specified by center frequency in Hz							
	63	125	250	500	1KHz	2KHz	4KHz	8KHz
BS-5108								
Mean	19.8	19.9	20	22.2	24.1	30.7	41.4	40.8
S.D.	7.5	7.8	6.4	4.9	3.5	4.3	4.7	5.9



**ARTICLE I**

ANSI-S3, 74	-	22	25	29	34	37	46	38
Mean	-	3.5	2.3	2.5	3.1	2.4	4.2	3.9
S.D.								
Glass down								
Mean	13.7	15.4	16.8	18.8	19.9	25	31.7	33.8
S.D.	6.2	6.1	6.2	6.8	6.6	4.8	6.8	5.2
Plastic plug								
Mean	21.7	22	21.3	20.3	23	29.8	44.9	43.3
S.D.	4.4	4.9	5.8	5.1	4.6	5.5	4.2	5.2
Foam plug								
Mean	24.8	26.1	26.7	28.9	30.4	32.8	43.6	44.4
S.D.	7.3	7.8	7.4	7.0	5.9	4.9	5.0	5.5
Ear-muff								
L- (Foam seal 130gm.)	-	7.2 4.3	8.5 3.5	16.3 3.0	25.2 3.8	31.4 5.5	36.7 4.0	34.6 6.1
M- (foam s.260gm.)	-	19.6 3.1	25 3.1	27.2 3.7	36.9 3.4	34.8 3.6	37.4 3.7	35 5.5
H- (liquid seal 373 gm.)	13.6 5.4	15.9 6.3	21.8 4.5	28.2 5.6	36.3 5.1	35.3 3.8	35.1 5.4	25.0 5.8

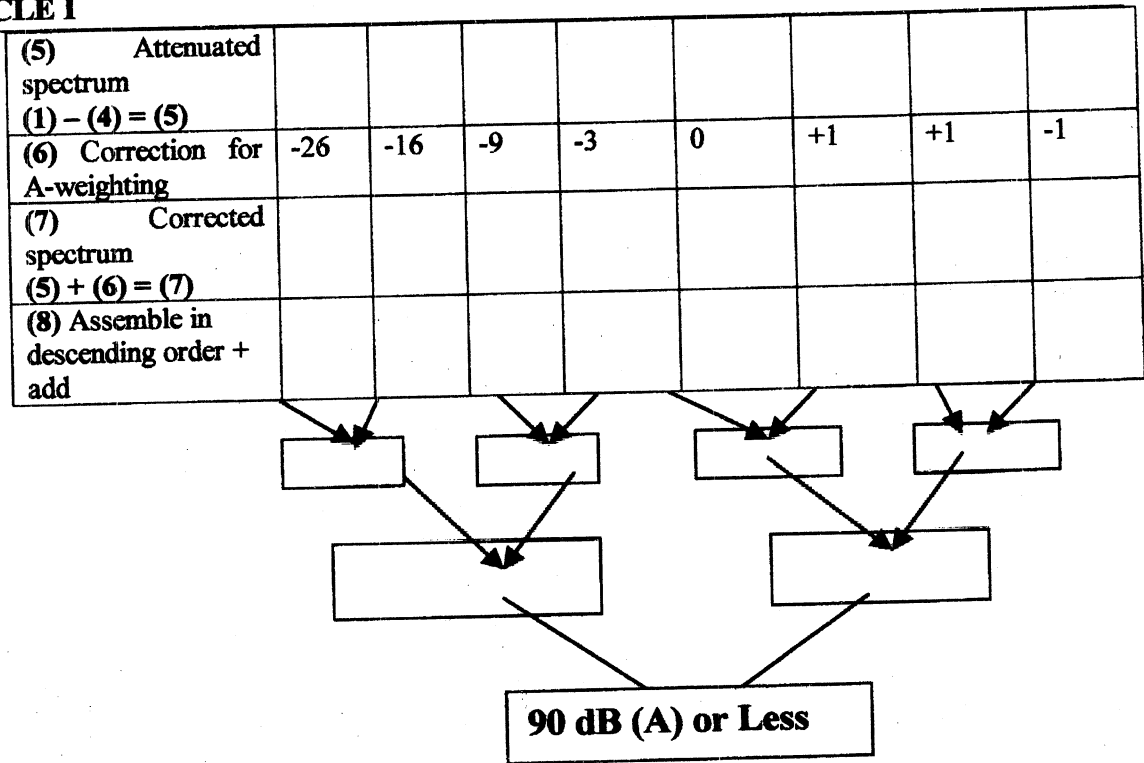
**EAR PROTECTOR'S RATING FORM**

It is a format developed by the Acoustic professionals of the European countries to find out the resultant attenuated dB (A) levels of a hearing protector which is given as Tble-2 below:

**TABLE: 2  
RATING FORM**

Frequency Band at Center Freq. (Hz)	63	125	250	500	1000	2000	4000	8000
(1) SPL, (dB) at worker's ear								
(2) Ear protector's mean attenuation in dB								
(3) Ear- protector's standard deviation in dB								
(4) Effective attenuation (2) - (3) = (4)								

**ARTICLE I**



**ILLUSTRATION**

For example, observed noise levels in a Ball Mill of an Alumina Reduction Plant are given in Table-3.

**TABLE:3**

**Frequency Spectrum of Sound in Ball Mill Area of Alumina Plant**

Frequency Band (Hz)	63	125	250	500	1000	2000	4000	8000
(1) SPL, (dB) at worker's ear	92	92	95	95	93	91	83	71

## ARTICLE I

If foam plug is provided as a hearing protector to the workers of the above Ball mill the attenuation effected by it is given in the Table -4.

**TABLE :4**  
**Attenuation in dB of Foam Plug at Different Frequency Band**

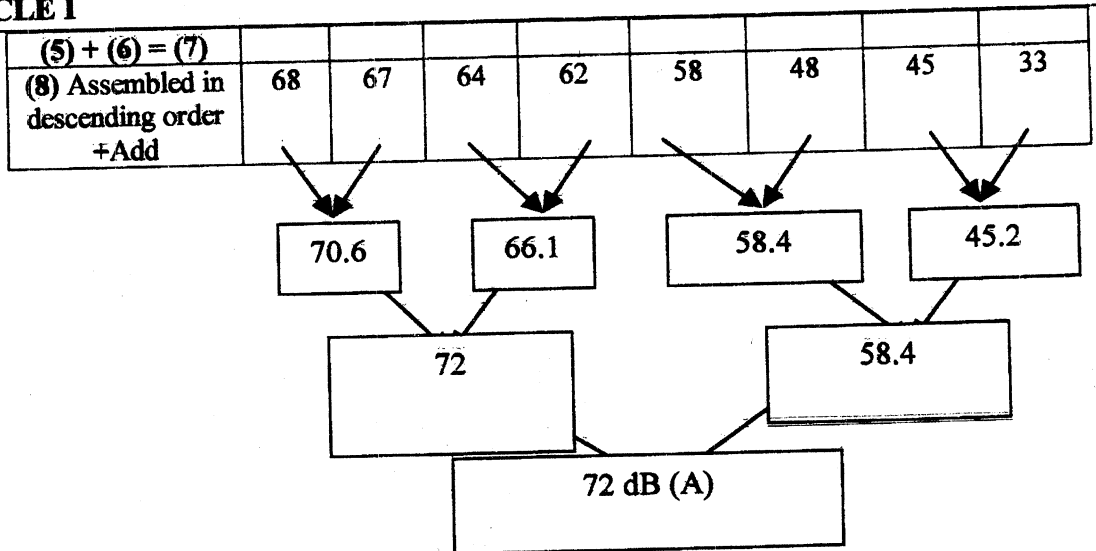
Frequency Band (Hz)	63	125	250	500	1000	2000	4000	8000
<b>Foam plug Mean Attenuation</b>	24.8	26.1	26.7	28.9	30.4	32.8	43.6	44.4
<b>Standard Deviat.</b>	7.3	7.8	7.4	7.0	5.9	4.9	5.0	5.5

On putting the attenuation data of the ear protector in Ear Protector's Rating Form, its effectiveness could be evaluated as explained in Table -5.

**TABLE-5**  
**Attenuated Sound Levels at Ball Mill Area**

Frequency Band (Hz)	63	125	250	500	1000	2000	4000	8000
(1) SPL, (dB) at worker's ear	92	92	95	95	93	91	83	71
(2) Ear protector's mean attenuation in dB	24.8	26.1	26.7	28.9	30.4	32.8	43.6	44.4
(3) Ear-protector's standard deviation in dB	07.3	07.8	07.4	07.0	05.9	04.9	05.0	05.5
(4) Effective attenuation (2) - (3) = (4)	17.5	18.3	19.3	21.9	24.5	27.9	38.6	38.9
(5) Attenuated spectrum say- (1) - (4) = (5)	74.5 74	73.7 74	75.7 76	65.1 65	68.5 68	63.1 63	44.4 44	32.1 32
(6) Correction for A-weighting	-26	-16	-9	-3	0	+1	+1	-1
(7) Corrected spectrum	48	58	67	62	68	64	45	33

**ARTICLE I**



Since the resultant attenuation is 72 dB (A), which is less than 90 dB (A), therefore this is an effective hearing protector. In this way we can find out the effectiveness of other protectors supplied by the manufacturers.

Moreover, protection of an ear protector is dependent upon the percentage of Time it is

worn. An ear protector can give a maximum protection of 30 dB (A) if it is worn by 99.99 % of Time. It will give maximum protection of 05 dB (A) if worn for 75 % of Time. Hence, it should be ensured that ear protectors are worn for maximum % of Time i.e.99.99 % of exposure in order to get its maximum protection.

**Shri P.B.Pal**  
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### AN OCCUPATIONAL ENVIRONMENT STUDY IN QUARTZ GRINDING UNITS.

This study was carried out by Regional Labour Institute, Kanpur.

#### OBJECTIVE

The objective of the study was to find out the status of occupational environment in the quartz grinding units and suggest measures to improve the working environment.

#### FINDINGS

Jaw Crushers in most of the units are located in open yard and are of similar type in ball and hammer mills. In some units, conveyors are provided on the jaw crushers to transfer crushed quartz/gittis into the storage silos. The average levels of airborne dust on jaw crushers were ranging from 11.86 mg/m<sup>3</sup> to 77.53 mg/m<sup>3</sup> which is more than the computed permissible limit of exposure for quartz dust i.e. 0.32 mg/m<sup>3</sup>. The average dust concentration on silo transfer point was found to be 33.05 mg/m<sup>3</sup> which is also more than the permissible limit of exposure i.e. 0.32 mg/m<sup>3</sup>.

The levels of airborne dust on ball mills were higher than the permissible limit of exposure i.e. 0.32 mg/m<sup>3</sup> in all units selected for the study. The highest average concentration of quartz dust on ball mill was observed to be 45.93 mg/m<sup>3</sup>. Bag filters were provided in all the quartz grinding units but were not effective. The levels of airborne quartz dust at the time of bag filling also exceeded the permissible limit of exposure. The bag filling was done manually and workers involved on the job were severely affected with quartz dust.

The dust extraction systems (bag filters) were provided in hammer mills (disintegrators). Still bucket elevator, rotary screens and magnetic separators found to be the sources of dust into the work

environment. The highest average levels of airborne quartz dust near rotary screens and magnetic separator were observed to be 89.8261 mg/m<sup>3</sup>, 21.53 mg/m<sup>3</sup> respectively which were considerably higher than the permissible limit of exposure of quartz dust i.e. 0.32 mg/m<sup>3</sup>. The observed levels of dust on disintegrators were indicative that the dust control devices in industrial units were not efficiently working. Some disintegrators had vibrators provided to segregate the quartz particles of different mesh size. The average levels were found to be in the range of 11.86 mg/m<sup>3</sup> to 70.62 mg/m<sup>3</sup> which were higher than the permissible limits of exposure of quartz dust i.e. 0.32 mg/m<sup>3</sup>.

#### RECOMMENDATIONS

In order to improve the status of occupational environment of the quartz grinding industry, the study recommends that the outlet of the jaw crushers should be sealed with chute and properly enclosed and provided with local exhaust. Transfer points were the potential sources of airborne dust at the work places and therefore these should be suitably enclosed and provided with suitably designed local exhaust, discontinue the piling and manual handling of crushed quartz to protect the workers from severe exposure to quartz dust. Open bag filters as provided in the ball mills should be properly enclosed with an arrangement of air jets for de-dusting the bags and vent pipe and should be maintained properly. Efficiency of the bag filters provided on hammer mills should be properly maintained, annular hood with exhaust may be designed and maintained at bag filling with the arrangement to clamp the opening of bag with duct opening. Metallic container may be considered for the bottom discharge of the bag filters. In disintegrators/hammer mills, the leakage from casings of the bucket elevator should be controlled and rotary screens and magnetic separators should be enclosed and connected with the local exhaust system. Vibratory screen/vibrators in disintegrators may be enclosed and provided with suitably designed dust collection.

## **EDUCATION & TRAINING**

### **TRAINING WORKSHOP ON SAFE HANDLING OF CHEMICALS FOR SAFETY COMMITTEE MEMBERS OF HAZARDOUS INDUSTRIES**

#### **PROGRAMME PERSPECTIVE**

Chemical industries handle and process large variety of hazardous substances namely, flammable, toxic, corrosive, etc., which have the potential to cause fire, explosion and toxic release. Exposure to toxic chemicals may also cause adverse effects to the health of the workers including occupational diseases. Chemicals can be handled safely if the properties of the chemicals are known and necessary safety precautions are taken. It has been observed that many times chemical accidents and chemical injuries take place because the workers are not aware of the hazards associated with the chemicals and their safe method of handling. Hence training of workers becomes imperative to avert chemical accidents and exposure to chemicals.

Safety committee plays an important role in safety management of chemicals. For effective functioning of safety committee and to understand its roles and responsibilities, the members of the safety committee in a chemical process plant should be adequately trained on safe methods of handling of chemicals so that they can adopt safe practices, establish and monitor control systems and conditions under which hazardous materials are to be stored, transported, used and disposed off in the operation of the company. Keeping the above objectives in view, a three-day training workshop on "Safe Handling of Chemicals" has been launched for the Safety Committee Members of hazardous industries.

#### **OBJECTIVE:**

To educate and train the members of the safety committee on –

1. Statutory obligations, roles & responsibilities

2. Safety & Health hazards of chemicals
3. Materials Safety Data Sheet
4. Safe methods of handling of chemicals
5. Use of Personal Protective Equipment
6. First Aid

#### **HIGHLIGHTS**

- Safety Committee. Its structure and function
- Role of Safety Committee in safety management
- Hazards of chemicals & their control
- Safe method of handling & work practices
- Investigation of accidents
- Personal Protective Equipment

#### **THE PARTICIPANTS**

Safety Committee members of hazardous industries

#### **MODE OF TRAINING**

- Class room lectures
- Group Discussions
- Audio Visual
- Case Studies.

Conducted by

**Major Accident Hazard Control Advisory Division,  
Central labour institute,  
Mumbai – 400 022.**

## INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH INFORMATION CENTRE (CIS)

CIS (from the French name, Centre international d'Information de securite et d'hygiene du travail) i.e. International Occupational Safety and Health Information Centre, is a part of the International Labour Office, Geneva, Switzerland. The mission of CIS is to collect world literature that can contribute to the prevention of occupational hazards and to disseminate this information at an international level. CIS imparts to its users the most comprehensive and up-to-date information in the field of Occupational safety and health. The work of CIS is supported by a worldwide Safety and Health information exchange network which includes over 91 affiliated National Centres and 38 CIS collaborating Centres. Central Labour Institute, Mumbai has been designated as the CIS National Centre of India.

CIS can offer you rapid access to comprehensive information on occupational safety and health through:

- Microfiches on original documents abstracted in CIS DOC (CISILO)
- ILO CIS Bulletin "Safety and Health at Work"
- Annual and 5-year indexes
- The CIS Thesaurus
- The list of periodicals abstracted by CIS

### EXCERPT FROM CIS DOC

**Title: Guide for safety assessors on hot work certification.**

Association of Singapore Marine Industries (ASMI), Singapore, Republic of Singapore, 2003

### CIS ACCESSION NUMBER

CIS 03-1879

### ABSTRACT

This guide provides guidelines for safety assessors appointed under Regulation 35(3) of the Factories (Shipbuilding and Ship-repairing) Regulations (CIS 00-12) for the purpose of certification of hot work areas in relation to the issuing of work permits. Contents: definitions; relevant regulations; duties and responsibilities of safety assessors; hot work endorsement; validity of the hot work permit; other conditions to be observed by the safety assessor during hot work inspection; recording of inspections; general guidelines on the use of a combustible gas detector. In appendices: extracts from relevant regulations, sample forms of a hot work permit and of a record of failed inspection; safety checklists.

### Note:

**For details write to CIS National Centre for India, Central Labour Institute, Sion, Mumbai 400 022.**

## MSDS

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The Library & Information Centre of Central Labour Institute has unique collection of Material Safety Data Sheet of about 1,20,000 chemicals/materials taken from Canadian Centre for Occupational Health & Safety. MSDS provides extensive coverage over safety perspective with detailed evaluation of health, fire and reactivity hazards. It also provides precaution as well as recommendation on handling, storage, personal protective equipment, accidental release, etc.

### PRODUCT NAME: PROPANE

#### Hazards identification

Physical state: Gas. (Liquefied gas)  
Color: Colorless.

**Emergency Overview:** Danger! Extremely flammable. Vapor may cause flash fire. At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen. Liquid can cause burns similar to frostbite. Keep away from heat, sparks and flame. Avoid contact with eyes, skin and clothing. Do not breathe vapor or mist. Keep container closed. Use only with adequate ventilation.

**Routes of Entry:** Skin contact. Eye contact.  
Inhalation.

#### POTENTIAL HEALTH EFFECTS

**Eyes:** Liquid can cause burns similar to frostbite. Will cause serious damage to the eyes.

**Skin:** Liquid can cause burns similar to frostbite.

**Inhalation** At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen.

**Ingestion:** Not applicable. Liquefied gas.

#### First-aid measures

**Eye Contact:** Contact with liquid: Immediately flush with plenty of tepid water (105-115 F; 41-46 C). DO NOT USE HOT WATER. Get immediate medical attention.

**Skin Contact :**Contact with liquid: Immediately flush with plenty of tepid water (105-115 F; 41-46 C). DO NOT USE HOT WATER. Get immediate medical attention. Remove contaminated clothing and shoes.

**Inhalation :** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

**Ingestion:** Not applicable. Liquefied gas.

#### Fire-fighting measures

**Flammability of the Product:** Extremely flammable.

**Autoignition temperature :**449.9 °C

**Flash point** -104.4 °C (CLOSED CUP)

**Explosion Limits :**LOWER: 2.1 %

UPPER: 9.5 %

**Products of Combustion :**Carbon oxides (CO, CO<sub>2</sub>); smokes as products of incomplete combustion.

**Unusual fire/explosion hazards:** Extremely flammable in presence of open flames, sparks and static discharge, of heat. Vapors may form explosive mixtures with air. Vapor may cause flash fire. Vapors may accumulate in low or confined areas, travel considerable distance to source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. Container explosion may occur under fire conditions or when heated.

#### Fire Fighting Media and Instructions:

**Small fire:** Use dry chemical powder.

**Large fire:** Use water spray, fog or foam. Do not fight fire when it reaches material. Withdraw from fire and let it burn. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Apply water from a safe distance to cool container and protect surrounding area.

**Protective clothing (fire):**Fire fighters should wear full bunker gear, including a positive pressure self-contained breathing apparatus.



## MSDS

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Firefighters' protective clothing will provide limited protection.

### Handling and Storage

**Handling :** Keep away from heat, sparks and flame. Keep container closed. Use only with adequate ventilation. Do not breathe vapor or mist. Take precautionary measures against static discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

**Storage:** Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

### Toxicological information

#### Chronic toxicity

**Carcinogenic effects:** No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH or International Agency for Research on Cancer (IARC).

**Mutagenic effects:** No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a Mutagen.

**Reproductive effects:** No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a reproductive toxin.

**Teratogenic effects:** No component of this product at levels greater than 0.1% is classified by established regulatory criteria as teratogenic or embryotoxic.

**Other information:** At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen.

### Exposure controls/personal protection

**Control Measures :** Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash station and safety shower is proximal to the work-station location.

**Hygiene measures :** Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, using lavatory, and at the end of day.

#### Personal Protection:

**Eyes:** Avoid contact with eyes. Chemical splash goggles.

**Skin and Body:** Avoid contact with skin and clothing. Wear clothing and footwear that cannot be penetrated by chemicals or oil.

**Respiratory :** Use only with adequate ventilation. Avoid breathing vapor or mist. If operating conditions cause high vapor concentrations or TLV is exceeded, use supplied-air respirator.

**Hands :** Insulated gloves suitable for low temperatures.

### NOTE

The above details constitute part information of MSDS taken from Canadian Centre for Occupational Health and Safety. For complete MSDS write to MIS division, Central Labour Institute, Sion, Mumbai.400022. MSDS on about 1,20,000 chemicals/materials are available with Central Labour Institute. Computer printout will be supplied on nominal charge basis.

## CLIPPINGS

### NATIONAL DIALOGUE ON PROTECTION OF LEGAL RIGHTS OF WORKERS

#### For Access to Justice and Legal Empowerment

The National Legal Services Authority (NALSA) organized a National Dialogue on Protection of Legal Rights of Workers on 1<sup>st</sup> May 2005 at Talkatora Indoor Stadium, Talkatora Road, New Delhi to express its solidarity and support to the workers community. The programme was attended by Hon'ble Mr. Justice Y.K. Sabharwal, Judge, Supreme Court of India and Chairman, Supreme Court Legal Services Committee, Dr. H.R. Bhardwaj, Hon'ble Union Minister of Law & Justice, Hon'ble Mr. Justice Mukul Mudgal, Judge, High Court of Delhi, Shri George Fernandes, Hon'ble Member of Parliament & Former Union Minister of Defence, Shri G. Venkat Swamy, Hon'ble Member of Parliament & Deputy Leader, Congress Parliamentary Party & Former Union Minister of Labour & Employment, Textiles, Shri Jitender Sharma, Senior Advocate, Supreme Court of India, Dr. Nirmala Deshpande, Hon'ble Member of Parliament, Smt. Brinda Karat, Member, CPI(M) Polit Bureau & Vice President, All India Democratic Women's Association, Shri Sukbhir Sharma, Chairman, All India Society for Labour Welfare & National Convenor of the above Programme and Mr. Jackie Shroff, a well known cine star.

During the programme, approximately 3,000 workers from the organized and unorganized sectors were present. Additionally, police workers from Delhi, Uttar Pradesh, Haryana and Rajasthan participated in the programme.

The special attraction of the programme was inauguration of Crime against Labour Cell in every District of India and establishment of an E-justice Network called National Legal Aid Resource and Communication Centre for workers. The Crime against Labour Cell will assist labourers in the registration of their cases, speedy settlement of claims and compensation. The Legal Aid Resource Centre will help in on-line grievance registration and redressal.

The invocation of the programme was conducted by Smt. Zila Khan, daughter of Sitar Maestro Late Ustad Vilayat Khan. The National songs were played by an 80 member musical band of Delhi police, CRPF, BSF and ITBP.

Mr. Jackie Shroff, the well known Cinema personality came all the way from Mumbai to campaign for the labourers.

The programme was compared by the artist Mr. Shammi Narang and concluded with the powerful speech of Hon'ble Mr. Justice Y.K. Sabharwal, Judge, Supreme Court of India and Chairman, Supreme Court Legal Services Committee. In his speech, Hon'ble Mr. Justice Y.K. Sabharwal said that the Judiciary system of the country is concerned about the Protection of Legal Rights of Workers and hence, it will take all measures to ensure the implementation of Labour Welfare Laws and Acts. He added, the National Legal Services Authority is approaching the subject with all intent and will and hopefully succeed in people's emancipation of rights.

The Union Minister of Law and Justice, while addressing the labourers, said that the Ministry of Law & Justice is the guardian of laws in the country and will take utmost care so that the laws are implemented in proper spirit.

Former Union Defence Minister Mr. George Fernandes, former Union Labour Minister Shri G. Venkat Swamy, Hon'ble Member of Parliament and Veteran Gandhian Dr. Nirmala Deshpande, CPI(M) Polit Bureau Member Smt. Brinda Karat jointly expressed their solidarity for this noble initiative of social justice and equality for the workers.

Hon'ble Mr. Justice Mukul Mudgal, Judge Delhi High Court appreciated the need of the day and invited the workers to access the free legal services available to them by the National Legal Services Authority. Senior Supreme Court Advocate Shri Jitendar Sharma, while advocating the cause of the workers, laid emphasis on legal literacy and social empowerment.

Source: Hindustan Times

## ANNOUNCEMENTS

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### TRAINING PROGRAMMES CENTRAL LABOUR INSTITUTE, SION, MUMBAI-400 022

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Programme title	Contact person
Diploma in Industrial Safety	Director (Safety) & Incharge Indl. Safety Division
Training Programme on Industrial Safety for NSC Maharashtra Chapter	Director (Safety) & Incharge Indl. Safety Division
Industrial Hygiene Aspects for Safety Committee Members	Director (Indl.Hygiene)&Incharge Indl.Hygiene Division
Impact of Environmental Pollutants and their control of Workplace.	Director (Physiology) & Incharge Environmental Engg.Division
Safety,Health & Environment Management in Process Industries	Director (Indl.Hygiene) & Incharge Major Accident Hazard Advisory Division
Ergonomics – A Tool for ensuring Safety,Health & Productivity at work	Director (Physiology) & Incharge Indl.Ergonomics Division
Chemical Hazards and Control in Pesticide Industry	Director (Indl.Hygiene) & Incharge Indl.Hygiene Division
Effective Participative Skills for Safety Committee Members	Director (Indl.Psychology) & Incharge Indl.Psychology Division
Training Workshop on Occupational Health Practice for Nurses, Health/ Medical Assistants etc.	Director (Medical) & Incharge Indl. Medicine Division
PGGD for Improving Health & Safety at Work	Director (Staff Trg./Productivity) & Incharge Staff Trg. Division
Heat Stress & Ventilation – its evaluation & management for ensuring Safety,Health & Productivity at work	Director (Physiology) & Incharge Indl.Ergonomics Division

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## ANNOUNCEMENTS

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Programme title	Contact person
Occupational Physiology - its application in Industry for promotion of Safety, Health and Productivity at work	Director (Physiology) & Incharge Indl.Ergonomics Division
Effective Management of Safety, Health & Environment in Thermal Power Plants.	Director (Indl.Hygiene)&Incharge Indl.Hygiene Division
Workshop for Safety Committee Members	Director (Safety) & Incharge Indl. Safety Division
Training Workshop on Hazard & Operability(HAZOP) studies	Director (Indl.Hygiene) & Incharge Major Accident Hazard Advisory Division

**TRAINING PROGRAMMES**  
**REGIONAL LABOUR INSTITUTE , NO.1,SARDAR PATEL ROAD**  
**ADYAR, CHENNAI-600 113**

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Programme title	Contact person
Diploma Course in Industrial Safety	Director Incharge
Safety in Chemical Industries	Director Incharge
Technical Meet of Safety Officers	Director Incharge
Refresher Course on Occupational Health	Director Incharge

## ANNOUNCEMENTS

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### TRAINING PROGRAMMES REGIONAL LABOUR INSTITUTE , LAKE TOWN KOLKATA-700 089

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Programme title	Contact person
Refresher Course on Occupational Health for Plant Medical Officers	Director Incharge
Training Programme on Techniques of Chemical Safety Management	Director Incharge
Safety, Health & Environment at Work Place	Director Incharge
Chemical Safety for worker members of Safety Committee	Director Incharge
Advanced Training Programme on Environmental Hazards and their Control in Industries.	Director Incharge

### TRAINING PROGRAMMES REGIONAL LABOUR INSTITUTE, SARVODAYA NAGAR KANPUR- 208 005

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Programme title	Contact person
Diploma Course in Industrial Safety	Director Incharge
Advanced Training Programme on Occupational Health	Director Incharge
Training Programme on Major Accident Hazards Control	Director Incharge
Training Programme on Effective Supervision in managing Safety & Health at Work	Director Incharge
Training Programme on Monitoring of Work Environment	Director Incharge
Workshop on Safety Audit	Director Incharge
Workshop on Industrial Noise Control	Director Incharge

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INDOSHNEWS OCTOBER-DECEMBER 2005

## इंडोशनेट

भारत सरकार का श्रम एवं रोजगार मंत्रालय व्यवसायिक सुरक्षा और स्वास्थ्य सूचना प्रणाली पर इंडोशनेट नामक राष्ट्रीय नेट वर्क का विकास कर रहा है। श्रम मंत्रालय का एक संबद्ध कार्यालय, कारखाना सलाह सेवा एवं श्रम संस्थान महानिदेशालय इस नेट वर्क प्रणाली के सफल कार्यान्वयन में सहायता देता है। इस नेट वर्क का उद्देश्य व्यवसायिक सुरक्षा और स्वास्थ्य संबंधी राष्ट्रीय जानकारी सुदृढ़ करना और लाभहानि रहित आधार पर इसका आदान-प्रदान करना है ताकि हमारे समग्र सूचना स्रोतों का परस्पर लाभ के लिए उपयोग हो सके। आपस में सूचना या जानकारी की यह सहभागिता केवल राष्ट्रीय स्तर तक ही सीमित नहीं होगी बल्कि इसमें अंतर्राष्ट्रीय स्रोत भी शामिल होंगे। इस जानकारी का आदान-प्रदान ई-मेल के साथ-साथ डाक/कुरियर सेवा द्वारा किया जाएगा। यदि औद्योगिक संगठनों, संस्थानों, उद्योग संघों, मजदूर संघों, व्यवसायिक निकायों और गैरसरकारी संगठनों के पास व्यवसायिक सुरक्षा स्वास्थ्य संबंधी कोई जानकारी हो और वे राष्ट्रीय और अंतर्राष्ट्रीय स्तर पर उक्त जानकारी बाँटना चाहते हों तो कारखाना सलाह सेवा एवं श्रम संस्थान महानिदेशालय की ओर से इस नेट वर्क के सदस्य के रूप में भाग लेने के लिए उनका स्वागत है। इच्छुक इकाइयों संगठनात्मक रूपरेखा संबंधी प्रोफार्मा के लिए महानिदेशक, कारखाना सलाह सेवा एवं श्रम संस्थान महानिदेशालय, केंद्रीय श्रम संस्थान भवन, एन.एस.मंकीकर मार्ग, सायन, मुंबई-४०० ०२२ से संपर्क करें।

टिप्पणी : जिन इकाइयों ने हमारे पहले आग्रह के संदर्भ में संपर्क किया है और निर्धारित प्रोफार्मा में रूपरेखा भेज दी है, वे दुबारा आवेदन न करें।

## नेशनल रेफरल डायग्नोस्टिक सेंटर

भौतिक, रासायनिक, जैविक तथा मनो-सामाजिक जैसे विभिन्न कारणों से कामगारों पर होने वाले विपरीत स्वास्थ्य प्रभावों की रोकथाम और नियंत्रण करने के लिए व्यावसायिक स्वास्थ्य विकार और व्यावसायिक रोगों की शीघ्र पहचान और उसका निदान एक प्रमुख पहलू है। व्यावसायिक रोगों का शीघ्र पता लगाने और निदान करने के लिए केंद्रीय श्रम संस्थान, मुंबई के औद्योगिक चिकित्सा प्रभाग के अधीन 'नेशनल रेफरल डायग्नोस्टिक सेंटर' कार्यरत है जो व्यावसायिक स्वास्थ्य समस्याओं /व्यावसायिक रोगों की रोकथाम / नियंत्रण के लिए आवश्यक उपाय सुझाता है। प्रभावित कामगारों की चिकित्सीय जाँच के लिए यह निदान केंद्र पूर्णतया सज्जित है और यहाँ श्वास/धमनी संबंधी जाँच, श्रव्यता मापन, ई.सी.जी., टिट्मस दृष्टि जाँच, जैविक निगरानी आदि के लिए सुविधाएँ उपलब्ध हैं। कारखाना चिकित्सा अधिकारी, ई.एस.आई. डॉक्टर, कारखानों के चिकित्सा निरीक्षक सहित व्यावसायिक चिकित्सक तथा मेडिकल कॉलेज और अस्पतालों के प्रमाणित शल्य चिकित्सक और डॉक्टर व्यावसायिक रोगों के संदेहास्पद रोगी, निदान और परामर्श के लिए इस केंद्र में भेज सकते हैं। इस मामले में अधिक जानकारी के लिए महानिदेशक, कारखाना सलाह सेवा एवं श्रम संस्थान महानिदेशालय, केंद्रीय श्रम संस्थान भवन, एन.एस.मंकीकर मार्ग, सायन, मुंबई-४०० ०२२ से संपर्क करें।

## **INDOSHNET**

Ministry of Labour & Employment, Government of India, is developing a National Network on Occupational Safety and Health information system known as INDOSHNET. Directorate General Factory Advice Service & Labour Institutes (DGFASLI), an attached office of the Ministry of Labour will act as a facilitator of the network system. The objective of the network is reinforcement and sharing of national occupational safety and health (OS &H) information on no-profit no-loss basis with a view to pooling our information resources for mutual benefit. The sharing of information will not only confine to the national level but also includes international sources. The communication of information will be through E-mail as well as postal/courier service. DGFASLI invites industrial organisations, institutions, industry associations, trade unions, professional bodies and non-governmental organisations having information on OS&H and willing to share the same with others at the national and international level to participate as members in the network. Interested agencies may please write for proforma of organisational profile to Director General, DGFASLI, Central Labour Institute Bldg., N.S. Mankikar Marg, Sion, Mumbai 400 022.

**Note:** Those who have responded to our earlier communication and sent organisation profile in the prescribed format need not write again.

## **NATIONAL REFERRAL DIAGNOSTIC CENTRE**

Early detection and diagnosis of occupational health disorders and occupational diseases is one of the most important factors in the prevention and control of adverse health effects on workers due to various factors - physical, chemical, biological and psycho-social. The Industrial Medicine Division of Central Labour Institute, Mumbai runs a National Referral Diagnostic Centre (N.R.D.C.) for early detection and diagnosis of occupational diseases and recommends necessary measures for prevention/control of occupational health problems/occupational diseases. The diagnostic centre is well equipped for medical examination of the exposed workers and facilities are available for carrying out special investigation, e.g. Pulmonary function tests, Audiometry, ECG, Titmus vision test, Biological monitoring, etc. Medical professionals including Factory Medical Officers, ESI Doctors, Medical Inspectors of Factories and Certifying Surgeons, Doctors from Medical Colleges and Hospitals can refer suspected cases of occupational diseases to N.R.D.C. for diagnosis and advice. The communication should be addressed to the Director General, DGFASLI, Central Labour Institute Bldg., N.S. Mankikar Marg, Sion, Mumbai 400 022 for further details.

**'इन्डोश्न्यूज़'** एक त्रैमासिक समाचार पत्र है जो व्यावसायिक सुरक्षा और स्वास्थ्य के क्षेत्र में अनुसंधान, ध्यान और सर्वेक्षण के माध्यम से उपलब्ध जानकारी तथा तत्संबंधी विचार विनिमय में अत्यंत सहायक है। कारखाना सलाह सेवा एवं श्रम संस्थान उन व्यक्तियों, उद्योगों, औद्योगिक संगठनों, मज़दूर संघों और व्यावसायिक निकायों से लेख आमंत्रित करता है जिनके पास व्यावसायिक सुरक्षा एवं स्वास्थ्य संबंधी जानकारी है तथा जो उसे स्वेच्छा से दूसरों में बाँटना चाहते हैं।

१. प्रकाशन के लिए पांडुलिपि की दो प्रतियाँ 'डबल स्पेस' में ए-४ आकार के कागज़ पर एक ओर टाइप किए गए लेख जो ३ या ४ पृष्ठ से अधिक न हों, मुख्य संपादक के पास भेजी जानी चाहिए। कोई फ़ोटो छपा नहीं जाएगा।
२. प्रकाशन के लिए स्वीकृत पांडुलिपियों में प्रकाशन की दृष्टि से आवश्यक संपादकीय परिवर्तन करने का अधिकार प्रकाशक का है। प्रकाशक बिना कोई कारण बताए लेख का प्रकाशन नहीं भी कर सकता है।
३. लेखक अपने लेख में दिए गए आँकड़े तथा संदर्भ स्वयं सुनिश्चित करने में सावधानी बरतें।



## **ANNOUNCEMENTS**

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**INDOSHNEWS is a quarterly newsletter that facilitates exchange of ideas and data developed through research, study and surveys in the areas of occupational safety and health. DGFASLI invites articles from individuals, industry, industrial associations, trade unions, professional bodies etc. having information on OS & H and willing to share the same with others at the national and international level.**

- 1. Manuscripts for publication should be typed in double space within 3 to 4 A4 size sheets only on one side of the paper and sent in duplicate to the Editor-in-Chief. No photographs can be published.**
- 2. Once the manuscripts are accepted for publication, publisher reserves the right to make editorial changes as may be necessary to make the article suitable for publication; and publisher reserves the right not to proceed with publication for whatever reason.**
- 3. Authors should take care to ensure the accuracy of data and reference.**

**भारत सरकार, श्रम एवं रोज़गार मंत्रालय  
कारखाना सलाह सेवा एवं श्रम संस्थान महानिदेशालय**

कारखाना सलाह सेवा एवं श्रम संस्थान महानिदेशालय (डीजीफासली) भारत सरकार के श्रम एवं रोज़गार मंत्रालय का एक संबद्ध कार्यालय है। कारखानों और गोदी में व्यावसायिक सुरक्षा और स्वास्थ्य संबंधी नीति बनाने के लिए तथा कार्य स्थलों पर कामगारों की सुरक्षा, स्वास्थ्य, दक्षता संबंधी मामलों पर राज्य सरकारों और कारखानों को परामर्श देने की दृष्टि से १९४५ में भारत सरकार के श्रम मंत्रालय के अधीन डीजीफासली की स्थापना की गई थी। यह महानिदेशालय देश के प्रमुख पत्तनों में सुरक्षा एवं स्वास्थ्य संबंधी नियम भी लागू कराता है।

कारखाना सलाह सेवा और श्रम मंत्रालय संस्थान महानिदेशालय डीजीफासली के निम्नलिखित अंग हैं:

- मुम्बई स्थित मुख्यालय;
- मुम्बई स्थित केंद्रीय श्रम संस्थान और
- कोलकाता, चेन्नई, फरीदाबाद और कानपुर स्थित क्षेत्रीय श्रम संस्थान।

मुम्बई स्थित केंद्रीय श्रम संस्थान समाजार्थिक प्रयोगशाला के रूप में कार्य करता है और यह मानवीय पहलुओं से संबंधित औद्योगिक विकास के सभी पक्षों के वैज्ञानिक अध्ययन का एक राष्ट्रीय संस्थान है।

पिछले कई वर्षों में केंद्रीय श्रम संस्थान का केवल आकार की दृष्टि से ही नहीं बल्कि महत्ता की दृष्टि से भी विकास हुआ है और इसने राष्ट्रीय तथा अंतर्राष्ट्रीय स्तर पर मान्यता प्राप्त की है। एशिया और पैसिफिक क्षेत्र में व्यावसायिक सुरक्षा और स्वास्थ्य पर सर्वोत्कृष्ट प्रशिक्षण केंद्र के रूप में अंतर्राष्ट्रीय श्रम संगठन ने मान्यता प्रदान की है। यह सीआईएस अंतर्राष्ट्रीय व्यावसायिक सुरक्षा और स्वास्थ्य सूचना केंद्र के राष्ट्रीय केंद्र तथा राष्ट्रीय सुरक्षा एवं स्वास्थ्य जोखिम सतर्कता प्रणाली के केंद्र के रूप में कार्य करता है। राष्ट्रीय स्तर पर सरकार को अनुसंधान और प्रशिक्षण सुविधा उपलब्ध कराने और श्रम मंत्रालय के तकनीकी सहायक के रूप में कार्य करने के अलावा यह संस्थान अध्ययन, तकनीकी परामर्श, प्रशिक्षण और सूचना प्रसार के माध्यम से औद्योगिक पत्तन सेक्टर को गहन और बहु-आयामी सेवा उपलब्ध कराता है। इसके अधीन, व्यावसायिक विकारों की शीघ्र पहचान और उसके नियंत्रण और रोकथाम के लिए रेफरल डायग्नोस्टिक सेंटर कार्यरत है। सुरक्षा और स्वास्थ्य से संबंधित स्तरीय यू-मैटिक वीडियो फ़िल्मों के निर्माण के लिए परिष्कृत उपकरणों से सज्जित एक आधुनिक ऑडियो विजुअल स्टूडियो उपलब्ध है। केंद्रीय श्रम संस्थान के लघु रूप में क्षेत्रीय श्रम संस्थान हैं जो अपने संबद्ध क्षेत्रों की आवश्यकता पूरी करते हैं।

निरंतर बढ़ती माँग को देखते हुए, इस संगठन का आगे विकास हो रहा है। किसी विकासशील देश में विभिन्न और जटिल प्रकृति के उद्योगों की बढ़ी संख्या को देखते हुए, कामगारों की सुरक्षा और स्वास्थ्य एक चुनौतीपूर्ण कार्य है। तकनीक, औद्योगिक समाज की साख और समर्पित कर्मचरियों से सज्जित यह संगठन भविष्य की चुनौतियों का सामना करने में सक्षम है। कार्य स्थल सुरक्षित बनाने के अपने लक्ष्य के लिए यह संगठन प्रतिबद्ध है।

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## **ABOUT DGFASLI**

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### **GOVERNMENT OF INDIA, MINISTRY OF LABOUR & EMPLOYMENT DIRECTORATE GENERAL FACTORY ADVICE SERVICE & LABOUR INSTITUTES**

The Directorate General Factory Advice Service & Labour Institutes (DGFASLI) is an attached office of the Ministry of Labour & Employment Government of India. DGFASLI organization was set up in 1945 under the Ministry of Labour, Government of India to serve as a technical arm to assist the Ministry in formulating national policies on occupational safety and health in factories and docks and to advise State Governments and factories on matters concerning safety, health, efficiency and well-being of the persons at workplace. It also enforces safety and health statutes in major ports of the country.

The Directorate General Factory Advice Service & Labour Institutes (DGFASLI) comprises:

- \* Headquarters situated in Mumbai
- \* Central Labour Institute in Mumbai
- \* Regional Labour Institutes in Kolkata, Chennai, Faridabad and Kanpur

The Central Labour Institute in Mumbai functions as a socio-economic laboratory and is a national institute dealing with the scientific study of all aspects of industrial development relating to the human factors.

Over the years the Central Labour Institute has constantly grown not only in size but also in stature and has earned national and international recognition. It has been recognised by the International Labour Organisation as a Centre of Excellence in training on Occupational Safety and Health in the Asian and Pacific Region. It also functions as a National Centre for CIS (International Occupational Safety and Health Information Centre) and the Centre for National Safety and Health Hazard Alert System. At the national level, apart from providing research and training support to the Government and functioning as a technical arm of the Ministry of Labour, the institute provides comprehensive and multi-disciplinary services to the Industrial Port sector through studies, technical advice, training and dissemination of information. It also runs National Referral Diagnostic Centre for early detection of occupational disorders and thereby controls and prevents them. It has a modern Audio Visual Studio fully equipped with sophisticated video production equipment to produce quality U-matic video films on Safety and Health. The Regional Labour Institutes are a scaled-down version of the Central Labour Institute and cater to the needs of their respective regions.

The organization is poised to grow further, and meet the increased demands on it. In a developing country with a large number of industries having diverse and complex nature, the task of protecting safety and health of workers is an uphill task. Armed with the technology, good will of the industrial society and the strength of the dedicated staff, the organization is well prepared to meet the challenges of tomorrow. It is committed to the goal of making the workplace safer.

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