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FROM THE DESK

Occupational health surveillance is the cover feature of this issue. We have selected this topic as we feel, that effective and proper health surveillance is of utmost importance in maintaining workers' health at the workplace and in preventing occupational diseases. Occupational health surveillance includes workers' health surveillance and working environment surveillance.

As most of the occupational diseases can not be cured and are not reversible, it is important that we give stress on preventing these diseases and having an occupational health service at the workplace. In 1978, WHO-EURO defined health as "a dynamic process which depends largely on the individual capacity to adopt to the environment". Occupational health surveillance will help to maintain the health of workers at the workplace helping in planning, implementing and evaluating occupational health programme. ILO/WHO in its 12th session wanted that the main focus in occupational health should be on "i) the maintenance and promotion of workers' health and working capacity; ii) the improvement of working environment and work to become conducive to safety and health; and iii) development of work organisations and working cultures in a direction which supports health and safety at work....." There can not be any further justification than this to have occupational health surveillance. Our Factories Act also calls for medical examination of workers engaged in hazardous processes and some dangerous operations.

While carrying out workers' health surveillance it should always be kept in mind that this should be appropriate to the occupational risk; collection, analysis, interpretation and dissemination of data are always followed by remedial action and the surveillance is done on the basis of sound ethical and technical practice and should be used for preventive purposes.

(S.K. SAXENA)

OCCUPATIONAL HEALTH SURVEILLANCE

Occupational Health Surveillance (also termed as medical surveillance for workers) constitutes an important component in efforts to protect and improve worker's health. It is the systematic collection, analysis, and dissemination of disease data on groups of workers and is designed to detect early signs of work-related illness. A well-run medical surveillance program can aid in the early recognition of a relationship between exposure to a hazard and disease, in the assurance of the safety of new substances, and as an indicator of the effectiveness of existing control measures. Based on the principles of screening, medical surveillance attempts to identify disease in its latent stage where intervention can slow, halt, or reverse the progression of the abnormal physiologic or pathologic condition. As a vital control measure, medical surveillance employs the use of questionnaires, physical examinations, ancillary testing, and biologic monitoring. Effective use of biologic monitoring – that is, the testing of various body specimens for the toxic substance itself, its metabolites, or physiologic dysfunction – depends on the availability of reliable toxicological data. The Factories Act, 1948 and the rules framed thereunder provide for pre-employment and periodical medical examinations of workers employed in industries with hazardous processes and dangerous operations under section 41-C and section 87 respectively.

Medical surveillance is a term that is used frequently today as industries, consumers, and health care providers become more aware of the adverse health effects that result from exposure to some occupational and environmental substances. Since the purpose of medical surveillance is to identify work-related disease at an early stage, it is considered to be a type of screening. Screening is the search for a

previously unrecognized disease or abnormal physiologic or pathologic condition at a stage where intervention can slow, halt, or reverse the progression of the disorder.

As per the ILO recommendation concerning occupational health services (No. 171), the surveillance of the worker's health is concerned with the following:-

1. Surveillance of the worker's health should include in the cases and under the conditions specified by the competent authority, all assessments necessary to protect the health of the workers, which may include –
 - (a) health assessment of workers before their assignment to specific tasks which may involve a danger to their health or that of others;
 - (b) health assessment at periodic intervals during employment which involves exposure to a particular hazard to health;
 - (c) health assessment on resumption of work after a prolonged absence for health reasons for the purpose of determining its possible occupational causes, of recommending appropriate action to protect the workers and of determining the worker's suitability for the job and need for reassignment and rehabilitation;
 - (d) health assessment on and after the termination of assignments involving hazards which might cause or contribute to future health impairment.
2. Provisions should be adopted to protect the privacy of the workers and to ensure that health surveillance is not

used for discriminatory purposes or in any other manner prejudicial to their interests.

3. In the case of exposure of workers to specific occupational hazard, in addition to the health assessments provided for in Paragraph 11 of this recommendation, the surveillance of the worker's health should include, where appropriate, any examinations and investigations which may be necessary to detect exposure levels and early biological effects and responses.
4. When a valid and generally accepted method of biological monitoring of the worker's health for the early detection of the effects on health of exposure to specific occupational hazards exists, it may be used to identify workers who need a detailed medical examination, subject to the individual worker's consent.
5. Occupational health services should be informed of occurrences of ill health amongst workers and absences from work for health reasons, in order to be able to identify whether there is any relation between the reasons for ill health or absence and any health hazards which may be present at the workplace. Personnel providing occupational health services should not be required by the employer to verify the reasons for absence from work.
6. Occupational health services should record data on worker's health in personal confidential health files. These files should also contain information on jobs held by the workers, on exposure to occupational hazards involved in their work, and on the results of any assessments of worker's exposure to these hazards.
7. The personnel providing occupational health services should have access to personal health files only to the extent that the information contained in the files is relevant to the performance of their duties. Where the files contain personal information covered by medical confidentiality this access should be restricted to medical personnel.
8. Personal data relating to health assessments may be communicated to others only with the informed consent of the worker concerned.
9. The conditions under which, and time during which, personal health files should be kept, the conditions under which they may be communicated or transferred and the measures necessary to keep them confidential, in particular when the information they contain is placed on computer, should be prescribed by national laws or regulations or by the competent authority or, in accordance with national practice, governed by recognised ethical guidelines.
10. On completing a prescribed medical examination for the purpose of determining fitness for work involving exposure to a particular hazard, the physician who has carried out the examination should communicate his conclusions in writing to both the workers and the employer.
11. These conclusions should contain no information of a medical nature; they might, as appropriate, indicate fitness for the proposed assignment or specify the kinds of jobs and the conditions of work which are medically contra-indicated, either temporarily or permanently.
12. Where the continued employment of a worker in a particular job is contra-indicated for health reasons, the occupational health service should collaborate in efforts to find alternative employment for him in the undertaking,

or another appropriate solution.

13. Where an occupational disease has been detected through the surveillance of the worker's health, it should be notified to the competent authority in accordance with national law and practice. The employer, workers and worker's representatives should be informed that this notification has been carried out.

Since the purpose of medical surveillance is to identify work-related disease at an early stage, it is considered to be a type of screening. Screening is considered as an important preventive measure in the control of occupational illness and is based on a number of principles, including the following:-

1. The screening test must be selective and geared to the population at risk.
2. The disease should be identified in its latent stage, not when symptoms appear.
3. Adequate follow-up is necessary.
4. The screening test is both valid and reliable.
5. Benefits outweigh the costs, and where feasible, tests are noninvasive.
6. Treatment is both available and effective at a stage when the disease is detectable.

Screening has been conducted in the occupational setting for many years but has recently gained more adherents because of its potential value in early detection of work-related illness. Screening techniques include questionnaires, physical examinations, and laboratory evaluations such as chest films, pulmonary function studies, audiometric evaluations, and other ancillary procedures as well as biologic monitoring. The most effective screening approach depends on the illness or condition that is being surveyed.

Questionnaires :

Questionnaires are simple, inexpensive tools that for many disorders serve as a reasonably sensitive way to obtain an overview of a potential problem, which can provide the basis for further investigation. Most often, questionnaires are used in conjunction with other techniques. To be most effective, they should be directed to symptoms that may be associated with exposure to the substance under study.

Physical Examination :

A physical examination is the time-honored method for detecting signs of illness. Although its effectiveness in screening settings is limited, some signs of illness might be uncovered. In asbestosis, for example, end inspiratory dry rales in the midaxillary line are classic finding. A physical examination also offers people the personally perceived benefit of 'being examined'. Although this value can be overlooked, people generally appreciate the opportunity of discussing their health concerns with a qualified provider in an appropriate setting. In fact, effective physician counseling in these settings can help to motivate people to control health risks. A physical examination is relatively inexpensive and can also be performed by paramedical personnel. Its effectiveness increases if directed primarily toward the target organ. In many diseases, however, physical signs are a late finding.

Chest Films :

Chest films gained favor as a screening device in the early detection of tuberculosis. They continue to find application in screening for nonmalignant lung disorders such as silicosis, asbestosis, and berylliosis. Chest films are highly sensitive for asbestosis but do not usually reveal early changes of the disorder. Annual chest films, especially in young workers, may be unnecessary in routine monitoring programs. For most occupational hazards, adequate information can be obtained if chest films are administered less frequently

and programs include an annual review of symptoms and pulmonary function.

Pulmonary Function Testing :

Pulmonary function testing is an integral component of most screening programs designed to detect nonmalignant occupational lung disorders. The procedure should be conducted in accordance with standard guidelines. Pulmonary function testing can be sensitive screening device for some occupational lung disorders, but results can be affected by cigarette smoking and non-occupational medical conditions, especially asthma and chronic obstructive lung disease. The test is most effective when results of the same individual are compared overtime rather than with reference limits. An accurate, well calibrated spirometer is essential.

Biologic Monitoring :

In biologic monitoring, blood, urine, or exhaled air is evaluated to determine the body's concentration of the substance being monitored, its metabolites, or physiologic changes resulting from the exposure. For example, in monitoring workers exposed to lead, levels of lead in whole blood or of zinc protoporphyrin (a reflection of the amount of lead incorporated into hemoglobin) can be used. In some cases, the concentration of metabolites, such as trichloroacetic acid in workers exposed to trichloroethylene, can be measured. For those exposed to organophosphate pesticides, levels of cholinesterase (both serum and RBC), pre and postexposure, are often determined.

Biological monitoring, an attempt at evaluating the internal concentration of a toxic agent, accounts for factors that affect total exposure, including breathing capacity, work effort, and underlying medical conditions. Such factors are not reflected in routine air measurements conducted in an industrial hygiene audit.

Biological monitoring offers other advantages:-

1. It is an attempt to measure the parameter most directly related to potential health effects. Results can aid in formulating a more refined estimate of risk of illness secondary to exposure.
2. Non-occupational exposures and individual variability are assessed.
3. Multiple exposures and other routes of exposure, such as dermal and ingestion, can be evaluated.

Occupational Cancer Screening :

In the occupational setting, a number of techniques have been attempted to screen for cancer, including cytogenetic monitoring and noncytogenetic monitoring. Cytogenetic monitoring is the study of numerical and structural chromosomal aberrations, which may occur naturally or secondary to exposure to environmental agents. As an attempt to assess damage to the gross structure of chromosomes, cytogenetic monitoring has been used to determine increases in chromosomal abnormalities among groups exposed to carcinogens. To date, however, these results have proved to be little value in the evaluation of individual risk of developing malignancy secondary to a toxic exposure.

Noncytogenetic monitoring is an attempt at evaluating damage to the molecular structure of DNA caused by mutagens. Monitoring techniques include the assessment of mutagens in body fluids and the determination of somatic cell and germ cell damage. Detection of urinary mutagens is the only assay that has shown some reliability in following groups of workers. No correlations, however, have been found between the frequencies of chromosomal aberrations and individual risk of cancer.

Medical Surveillance programs differ fundamentally from many clinical activities

in which the appropriate tests and interpretation are individually selected for each particular patient. In establishing a surveillance program, the clinician should ask, "What should be done if ...?" for every possible combination of health surveillance outcomes. Interpretation of surveillance data is accomplished from two different perspectives – the first oriented to benefit the worker and the second designed to benefit the group of workers. The latter perspective needs special attention in that it frequently is not incorporated into "non-industrial" clinical practice, wherein the focus is solely on an individual patient. Interpretation of results of a health surveillance program must go beyond clinical implications for individuals; for example, an abnormality of minimal clinical significance to an individual may be significant if present in every member of an exposed population. Hence, interpretation of medical surveillance data needs to be done in a manner different from interpretation of routine clinical data (Table).

Table: Purpose of medical surveillance program interpretation

For Benefit of Individual Workers :

1. Screening for disease
2. Risk factor for identification
3. Assessment of environmental exposures of the individual worker
4. Identifying over exposures
5. Fitness for duty
6. Pre-placement testing
7. Worker selection
8. Job accommodation
9. Detection of non-occupational disease
10. Health promotion
11. Baseline for future reference
12. Substance abuse detection

For Benefit of Groups of Workers :

1. Detection of new hazards
2. Identifying of sites of exposure to known hazards

3. Assuring safety of current practices
4. Assessing absence patterns
5. Projecting health care resource needs
6. Planning of preventive programs

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OCCUPATIONAL HEALTH STUDY IN A CARBOFURAN PESTICIDE FORMULATION UNIT

As a part of multi-disciplinary project on "Safety, Health and Working Environment", an Occupational Health Study was conducted at Carbofuran Pesticide Formulation Unit in West Bengal by the Industrial Medicine Division, Regional Labour Institute, Calcutta in collaboration with the Directorate of Factories, Govt. of West Bengal. A total of 82 workers were engaged in this factory. After stratified random sampling, 26 workers were subjected to general medical examination and investigation.

All of these 26 workers except one showed one or more than one signs and symptoms related to pesticide over-exposure. One worker showed both albumen and sugar in routine urine examination. Two workers showed low Hb% and another 4 showed high eosinophil count in routine blood examination. 3 workers were found their obstructive Index below normal in lung function test. 4 workers had abnormal ECG findings. 6 workers showed abnormal X-ray findings.

Though Carbofuran has the property of reversibility in its clinical effects, 3 workers showed their cholinesterase activity in blood 75% which was attributable over-exposure of carbofuran. The sign and symptoms as well as abnormal investigations were also suggestive toxic effect in them.

OCCUPATIONAL HEALTH STUDY (MEDICAL-CUM-BIOCHEMICAL) IN TETRA ETHYL LEAD BLEND- ING PLANT

A Medical-cum-Biological Study in Tetra Ethyl Lead Blending Plant in West Bengal, was conducted by Industrial Medicine and Hygiene Divisions, Regional Labour Institute, Calcutta. The study deals with the Occupational Health Status of workers engaged in TEL Blending Plant.

A total of 23 employees from the TEL Blending Plant were subjected to general medical examination. Random urine and venous blood samples were collected for estimation of urine and blood lead levels. 15 workers were casual and 7 were permanent workers.

Out of these 23 worker examined, 12 (2 permanent & 7 casual) workers were found higher blood as well as urine lead levels (both). All of these 12 workers exhibited more than one mild sign and symptom which were suggestive to lead toxicity. Out of the 23 workers only one worker exhibited no sign and symptom. The maximum urine lead level was 500 microgram/L and maximum blood lead level was 80 microgram/100 ml. The mean urine lead level of casual workers was 271.87 microgram/L whereas the mean urine lead level of permanent workers was 264.28 microgram/L. The mean blood lead level of casual workers was 46.25 microgram/100 ml and mean blood lead level of permanent workers was 41.43 microgram/100 ml.

TRAINING PROGRAMME ON MANAGEMENT OF PESTICIDES AT WORKPLACE

Modern technological innovation in agriculture has helped the country to boost the production of foodgrains, even exceeding its target in the recent years. This has become possible because of judicious use of agrochemical including pesticides whenever required in the area. Manufacture and use of pesticides, however, has brought in tremendous danger for the human beings in and outside the industries. It is well recognised now a days that almost all pesticides are highly insidious in type, manipulation of which are required to be carried out with utmost care and attention. International Labour Organisation of late, stated that out of 2 million people poisoned by pesticide each year, nearly 2% of them die in the world mainly due to lack of knowledge and upto date information. In order to derive the benefit of application of modern agricultural technology, it is needed to develop knowledge and skill on the safe handling and use of pesticides in the area wherever it is produced and used.

Viewing the above, a 5-day Training programme on Management of Pesticides at Workplace has been designed to give practical guidance and knowledge on various safety precautions to be observed in the manufacture, formulation and use of pesticides.

CONTENTS

- * Safety provisions in the Factories and Insecticides Acts.

- * Registration requirement in Pesticide Industry
- * Hazards of Pesticides
- * Detoxification of misbrand pesticides
- * Transportation, storage & handling of pesticides
- * Monitoring in the workplace
- * Status of working conditions in Pesticide Industry
- * Management of pesticides at workplace in industry and agriculture
- * Process Safety
- * Emergency Preparedness
- * Medical Surveillance
- * Environmental Management System
- * Training techniques

PARTICIPANTS

Safety Officers, Chemists, Supervisors, Production Management Personnels, Agents and Dealers in pesticides.

DURATION : One Week

Conducted by Industrial Hygiene Division, CLI, Mumbai

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 86 affiliated National Centres and 23 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: Practical Occupational Medicine

CIS ACCESSION NUMBER :
CIS 98-140

ABSTRACT :

Topics: Anamnesis; assessment of working capacity, causes of accidents; diagnosis; epidemiological aspects; ergonomic evaluation; ethics; expertise; handicapped workers; health programmes; legislation; limitation of exposure; lung diseases; manuals; medical examinations; medical treatment; mental stress; neurological effects; occupational diseases; occupational hygiene; occupational medicine; rehabilitation; sickness absenteeism; skin diseases; workmen's compensation.

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

IDENTIFICATION :

Product Name(s) : Crystalline Silica - various grades, Quartz, Crystalline Silica, Silicon Dioxide

HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

This product is a chemically inert, non-combustible mineral. A single exposure will not result in serious adverse effects. Excessive inhalation of dust may cause lung disease, silicosis, with symptoms of shortness of breath and reduced pulmonary function.

HEALTH HAZARDS:

Inhalation: Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may have the following serious chronic health effects:

Silicosis: Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling and sometimes fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop tuberculosis.

Cancer Status: The International Agency for Research on Cancer has determined that there is "sufficient evidence" for carcinogenicity of crystalline silica to experimental animals and "limited evidence" with respect to humans (Group 2A - probably carcinogenic to humans). The National Toxicology Program classifies respirable crystalline silica as "reasonably anticipated to be a carcinogen".

Other Data with Possible Relevance to Human Health: There is some evidence that

breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by fibrosis of the lungs, skin and other internal organs) and kidney disease.

Inhalation of dust may cause irritation of the nose, throat and respiratory passages.

Skin Contact: No adverse effects expected.

Eye Contact: Contact may cause mechanical irritation and possible injury.

Ingestion: No adverse effects expected for normal, incidental ingestion.

Chronic Health Effects: See "Inhalation" subsection above with respect to silicosis, cancer status and other data with possible relevance to human health.

Medical Conditions Aggravated by Exposure: Individuals with respiratory disease, including but not limited to, asthma and bronchitis, or subject to eye irritation should not be exposed to respirable quartz dust.

Signs and Symptoms of Exposure: There are generally no signs or symptoms of exposure to crystalline silica (quartz). See "Inhalation" subsection above for symptoms of silicosis.

FIRST AID

Gross Inhalation: Remove victim to fresh air. If breathing has stopped, perform artificial respiration. If breathing is difficult have qualified personnel administer oxygen. Get prompt medical attention.

Skin Contact: No first aid should be needed since this product does not affect the skin.

Wash exposed skin with soap and water before breaks and at the end of the shift.

Eye Contact: Flush the eyes immediately with large amounts of running water, lifting the upper and lower lids occasionally. If irritation persists or for imbedded foreign body, get immediate medical attention.

Ingestion: If large amounts are swallowed, get immediate medical attention.

FIRE AND EXPLOSION DATA

Flash Point (Method Used): Fully oxidized, will not burn.

Autoignition Temp: Will not burn.

Flammable Limits: LEL: Not applicable UEL: Not applicable

Extinguishing Media: This product will not burn but is compatible with all extinguishing media. Use any media that is appropriate for the surrounding fire.

Special Fire Fighting Procedures: None required with respect to this product. Firefighters should always wear self-contained breathing apparatus for fires indoors or in confined areas.

Unusual Fire and Explosion Hazards: None

Hazardous Combustion Products: None

ACCIDENTAL RELEASE MEASURES

Wear appropriate protective equipment. If uncontaminated, collect using dustless method (HEPA vacuum or wet method) and place in appropriate container for use. If contaminated: a) use appropriate method for the nature of contamination, b) consider possible toxic or fire hazards associated with the contaminating substances. Collect for disposal.

HANDLING AND STORAGE

Do not breathe dust. Do not rely on your sight to determine if dust is in the air. Silica may be in the air without a visible dust cloud. Use normal precautions against bag breakage or spills of bulk material. Avoid creation of respirable dust. Use good housekeeping in storage and use areas to prevent accumulation of dust in work area.

Use adequate ventilation and dust collection. Maintain and use proper, clean respiratory equipment (See Section 8). Launder clothing that has become dusty. WARN and TRAIN employees in accordance with state and federal regulations.

Warn your employees (and your customers - users in case of resale) by posting and other means of the hazards and Osha precautions to be used. Provide training for your employees about Osha precautions.

TOXICOLOGICAL INFORMATION

No acute toxicity data is available for product or components. Refer to Section 3 for health hazard information.

Toxic Substances Control Act: All of the components of this product are listed on the EPA TSCA Inventory or exempt from notification requirements.

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 400 022. MSDS on about 1,00,000 chemicals/materials are available with Central Labour Institute. Computer printout will be supplied on nominal charge basis.

LIBRARY AND INFORMATION CENTRE

The Library-cum-Information Centre of Central Labour Institute has unique and rare collection of different kind of publications in the field of Occupational Safety, Health, Management and allied subjects. It also has a good collection of different standards, codes, regulations on these matters. In the current year the centre is subscribing to 28 Indian & foreign journals, besides receiving complimentary copies of different periodicals from all over the world. The centre provides facilities for study and research and at the same time supplies authentic and up-to-date information on Occupational Safety, Health and Management. It also extends reading facilities to students & scholars attending different training programmes & courses conducted by CLI. From January 1998 till date a number of publications in the field of OS&H have been added to Library. Some of them are :

ENCYCLOPAEDIA OF OCCUPATIONAL HEALTH & SAFETY - FOURTH EDITION

Publisher: International Labour Office, Geneva.

International Labour organization has recently published the fourth edition of Encyclopaedia of Occupational Health and Safety. The intent of the fourth edition is to present a panoramic view of the basic available information in the field.

The encyclopaedia which is in 4 volumes has been developed in parts, sections and chapters which correspond to the various disciplines that comprise occupational health and safety. It has been designed to provide the general user with background information on the major disciplines of occupational health and safety in an understandable manner that will, at the same time, be considered rigorous by

professionals in those fields. The encyclopaedia has attempted to provide sufficient depth and breadth of coverage to permit workers in one area to appreciate and be stimulated by the ideas and approaches of other disciplines in occupational health and safety.

Volume I is divided into four parts. Part I & II are on body and health care respectively, takes a medical approach and provides information on diseases, its detection and prevention and occupational health services and health promotional activities. Part II is on prevention, management and policy which covers legal, ethical and social policy aspects of the field as well as educational and informational and institutional resources. Part IV is on tools and approaches that provides insight into the disciplines of occupational hygiene, epidemiology and statistics and laboratory research.

Volume II includes Part V to Part VII. Hazards spans the range of chemical, physical and social hazards, accident and safety management methods that may be encountered around the world. The nature of hazards has been provided in detail together with technical information on its recognition, evaluation and control.

Volume III contains Part IX to Part XVII which presents basic data on chemicals used in industry. Information has been provided on the physical and toxicological properties on more than 2000 chemicals categorised by chemical family. Industries and occupations takes a "how things work" and "how to control hazards" approach to all the major industries.

Volume IV provides on how to use the encyclopaedia guide. List of tables and figures and collaborating institutions and indexes of chemical substances, cross

references, subjects and authors have been cited.

SOLVENTS COULD CAUSE BIRTH DEFECTS: STUDY

Women exposed to certain solvents on the job are 13 times more likely to give birth to a baby with major defects, a study found. The researchers also found an increased risk of miscarriages, low birth weight, foetal distress and prematurity.

The study looked at what are called organic solvents, which are used in many industries and trades.

The chemicals found in paints, pesticides, adhesives, lacquers and cleaning agents have been linked to a host of physical and mental problems in adults.

These occurred most often among women who worked in factories, as laboratory technicians, in graphic design or printing and as chemists, according to the study.

The study was led by Dr. Sohail Khattak of the Hospital for Sick Children in Toronto and was published in Wednesday's Journal of the American Medical Association.

Dr. Richard Schwarz, obstetrics consultant to the March of Dimes, said the study was too small to draw definite conclusions about the risk of birth defects.

He also questioned its methods because the study group was selected from women who had called with concerns about pregnancy.

Of the group of 125 pregnant women exposed to solvents on the job, 113 gave birth, eight suffered miscarriages and four had abortions.

There were 13 major birth defects and five minor ones among their babies, vs. one major malformation and one minor one among the women not exposed to solvents.

Dr. Khattak said such chemical exposure is unavoidable. If proper precautions are taken and the guidelines for proper handling followed, the risk is no greater than that for the general population, he said.

Source: Times of India dated 25-03-1999.

53 BURNT ALIVE IN COLLISION

At least 53 persons were burnt alive when a patna-bound private bus collided head-on with a tanker laden with kerosene on the Ara-Mohania road in Bihar's Bhojpur district early this morning.

The tanker went up in flames after the collision, giving no chance to bus passengers.

State Director General of Police and Home Secretary of Bihar have rushed to the accident. The District Magistrate and Superintendent of Police of Bhojpur are camping there.

The Inspector-General Administration said seven bodies that were charred beyond recognition were extricated from the bus. Around 30 to 40 mangled bodies were still inside it. Removal the bodies was a difficult task as they were badly charred, he said. The administration is planning a mass burial of the bodies.

Five of the injured persons, including the driver and the helper of the bus, have been admitted to a hospital in Ara. The mishap took place due to the early morning thick fog. The tanker caught fire immediately after the collision. By the time the authorities reached by the spot the bus had been totally gutted.

Chief Minister and Governor expressed grief over the mishap. Ms. Rabri Devi directed the administration to take all necessary steps to provide proper medicare to the injured.

Source: The Hindustan Times dated 10-12-1998

NATIONAL SEMINAR ON OCCUPATIONAL SAFETY & HEALTH

The National Seminar on Occupational Safety & Health - New Challenges was held at Magpie, Faridabad on 12th August in collaboration with CIF, Haryana, Haryana Safety Council and CIF, Delhi. 204 delegates from various organisation attended the seminar. Shri A.N. Nimbalkar, Additional Secretary, Labour, Government of India inaugurated the Seminar, and was presided over by Smt. Asha Sharma, Labour Secretary, Government of Haryana.

ONE DAY SEMINAR ON "INDUSTRIAL NOISE CONTROL"

Regional Labour Institute, Kanpur, organised a one-day Seminar on "Industrial Noise Control". Shri M.N. Siddiqui, Director of Factories, U.P., presided over the inaugural function. Dr. A. Sahay, Chairman-cum-Managing Director, Scooters India Ltd., Lucknow, inaugurated the seminar and an officer of the Institute proposed the vote of thanks. Eleven technical papers were presented in three technical sessions. The Seminar was attended by 20 delegates from 15 organisations in addition to the officers from the Regional Labour Institute, Kanpur.

After the technical sessions the delegates exchanged their views on the Noise Control Measures adopted in their industry. An exhibition on Noise Measuring Instruments and Equipment was displayed on the day of the Seminar.

2-DAY WORKSHOP ON "OCCUPATIONAL HEALTH & SAFETY MANAGEMENT SYSTEM"

A two-day Workshop on "Occupational Health & Safety Management Systems" organised jointly by Central Labour Institute, Mumbai and Thane Belapur Industries Association, Mumbai. Shri Dinesh Parikh, President, TBIA, Shri G.R. Gujar, Director, Directorate of Industrial Safety & Health (DISH), Mumbai and Shri V.K. Mahindru, Factory Manager, Hindustan Lever Ltd. participated in the programme. 18 participants from various industries in Maharashtra attended the programme.

VISITS/TALKS/MEETINGS

* Shri S.K. Saxena, Director General, DGFASLI, attended the International Workshop on the Translation of the International Chemical Safety Cards in the International programme of Chemical Safety (IPCS), in U.S.A.

* Shri S.K. Saxena, Director General, DGFASLI, visited the Port of Cochin and held discussions with the Chairman and other senior officials of the Port Trust on matters related to safety and health of workers. He also visited Cochin Refineries Ltd., Cochin and Hindustan Newspaper Ltd., and held discussion with officials of Cochin Port Trust and Cochin Refineries Ltd., regarding maintenance of pipelines carrying hazardous substances from the port to the refinery.

* Inspectors of Factories from Government of Bangladesh, Nepal and Sri Lanka visited DGFASLI.

**TRAINING PROGRAMMES
JULY '99 - SEPTEMBER '99**

CENTRAL LABOUR INSTITUTE , SION, MUMBAI - 400 022

Programme Title	Period	Contact Person
Diploma Course in Industrial Safety 1999-2000	01 June 1999 - 31 March, 2000	Director (Safety) & Incharge Indl.Safety Division
Refresher course for Inspectors of Factories with over 10 years experience	05-16 July, 1999	Director (Safety) & Incharge Indl.Safety Division
Productivity Techniques for Effective Employee Participation	19-23 July, 1999	Director(Productivity) & Incharge Productivity Division
Training of Trainers	05-09 July, 1999	Director(Staff Trg.) & Incharge Staff Training Division
Techniques of Hazard Assessment and its control in MAH installation	05-09 July, 1999	Director(MAHCA) & Incharge MAHCA Division
Industrial Ergonomics/Human factor for augmenting Safety, health and productivity at work	26-30 July, 1999	Director(Erg.) & Incharge Ergonomics Division
Workshop on Safety Committees - its success & failures	10-11 August, 1999	Director(Safety) & Incharge Indl.Safety Division
Occupational Health practices for Nurses	16-27 August, 1999	Director(Medicine) & Incharge Indl.Medicine Division
Wage & Salary Administration	16-20 August, 1999	Director(Productivity) & Incharge Productivity Division
Handling Problem Behaviour of Employees	23-27 August, 1999	Director(Psychology) & Incharge Indl.Psychology Division
Construction Safety	16-18 August, 1999	Director(Const.Safety) & Incharge Construction Safety Division
Heat Stress & Heat Disorders	23-27 August, 1999	Director(Physiology) & Incharge Indl.Physiology Division

Programme Title	Period	Contact Person
Basic Course for Inspector of Factories	06 Sept.-01 October, 1999	Director(Safety) & Incharge Indl.Safety Division
Safety & Health Management in Thermal Power Plant	07-09 September, 1999	Director(Indl.Hygiene) & Incharge Indl.Hygiene Division
Motivation for Safety & Health	14-17 September, 1999	Director(Psychology) & Incharge Indl.Psychology Division
Personal Growth & Group Dynamics	06-10 September, 1999	Director(Staff Trg.) & Incharge Staff Training Division
Occupational back pain prevention through Physiological techniques	20-24 September, 1999	Director(Physiology) & Incharge Indl.Physiology Division
Industrial Ergonomics/Human factor for augmenting Safety, health and productivity at work	20-24 September, 1999	Director(Erg.) & Incharge Ergonomics Division

**TRAINING PROGRAMMES
JULY '99 - SEPTEMBER '99**

REGIONAL LABOUR INSTITUTE, SARDAR PATEL ROAD, CHENNAI-600 113

Programme Title	Period	Contact Person
Evaluation & Control of Airborne Contaminants in Work Environment	12-16 July, 1999	Director Incharge
Safety Management in Engineering Industries	26-30 July, 1999	Director Incharge
Safety Audit	24-26 August, 1999	Director Incharge
Refresher Course on 'Occupational Health'	20 Sept.- 01 October, 1999	Director Incharge

**TRAINING PROGRAMMES
JULY '99 - SEPTEMBER '99**

REGIONAL LABOUR INSTITUTE, SARVODAYA NAGAR, KANPUR - 208 005

Programme Title	Period	Contact Person
Industrial Safety & Hygiene	12-16 July, 1999	Director Incharge
Chemical Safety	26-30 July, 1999	Director Incharge
Personal Growth & Group Dynamics for improving Safety & Health at the place of work	02-06 August, 1999	Director Incharge
Specialised Course on Chemical Safety for Factory Inspectors	16-20 August, 1999	Director Incharge
Occupational Health	23-27 August, 1999	Director Incharge
Motivation for Safety & Health	08-10 September, 1999	Director Incharge
Workshop on Dispersion Modelling & Effect Calculations	29-30 September, 1999	Director Incharge

INDOSHNET

Ministry of Labour, 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 (OSH) 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 OSH 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.

GOVERNMENT OF INDIA, MINISTRY OF LABOUR
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, Government of India. DGFASLI organisation 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 Calcutta, 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 past 33 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 organisation 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 organisation is well prepared to meet the challenges of tomorrow. It is committed to the goal of making the workplace safer.

Visit us at : <http://www.dgfasli.nic.in>