

# Occupational Health and Hygiene in Industry

provides detailed information on various important topics to the occupational safety professionals dealing with industrial safety, health and hygiene, especially the students appearing for Postgraduate Diploma in Industrial Safety course (PDIS/ADIS course). The book covers all aspects of the syllabus of PDIS/ADIS course on occupational health and industrial hygiene. The book contains one of the compulsory subjects of the course 'Occupational health, industrial hygiene, personal protective equipment' including ergonomics and work physiology. The book describes the potential problems in the practice of occupational health and hygiene faced by those who are going to devote their professional lives to ensure safe and healthy work environments for the workers employed in different industries and occupations.

**SK Haldar** obtained the degrees of Bachelor of Medicine and Surgery and Postgraduate Diploma in Public Health from Calcutta University. He worked as Deputy Principal Medical Officer for more than 11 years in a hazardous industry. He has retired from Directorate General of Factory Advice Service and Labour Institutes (DGFASLI), Ministry of Labour and Employment, Government of India, Mumbai, as Deputy Director General in 2020 after working about 22 years. The Author has more than 33 years of experience in the field of occupational health and safety. He has taken training on occupational safety and health from Occupational Safety and Health Administration (OSHA) under US Department of Labour in Chicago, USA.

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His first book *Industrial and Occupational Health* was published by CBS Publishers & Distributors in 2017 followed by *Multiple Choice Questions on Occupational Health and Safety* in 2021.



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**SK Haldar**



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Dedicated to Education



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## **Occupational Health and Hygiene in Industry**

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# Preface

Postgraduate diploma in industrial safety is a one-year full time course with an elaborate syllabus on industrial safety, occupational health and industrial hygiene. This is a qualification that is required to be a safety officer in industries, ports and construction works as per the statutes. There are some compulsory and optional subjects in this course. One compulsory subject contains the syllabus on occupational health, industrial hygiene and personal protective equipment.

This book covers almost all aspects of the syllabus of PDIS/ADIS course. It also contains a 'Miscellaneous' chapter which may be very much related to some of the other subjects of the course. It also contains a chapter called "Notifiable Occupational Diseases: Pictographs" that is required for practical presentation of the subject.

I hope the book will help the students of postgraduate course on industrial safety as well as the safety, health, hygiene, management of industrial as well as corporate personnel to know that health and environment is the essential component of safety in industry.

**SK Haldar**



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# Syllabus

## Occupational Health

Meaning of occupational health and occupational health hazards. Awareness programme, types of occupational health hazards—physical, chemical, biological, mechanical and psychosocial hazards. Common work related or occupational diseases—occupations involving risk of contracting those diseases—mode of causation of diseases and its effects—diagnostic methods—methods of prevention—notifiable occupational diseases—compensation of occupational diseases—evaluation of injuries—medical service in industrial establishment and its functions—occupational health service and its activity—occupational hazards in hospital—action programme for work related diseases at the national level—major accident hazards control—medical provision—occupational health audit and survey. Occupational diseases relating to construction work, emergency medical treatment of injuries and rehabilitation at construction site.

## Industrial Hygiene

Concept, definition and importance of hygiene in industry. Difference between domestic hygiene and industrial hygiene. Physical hazards—heat stress and its control, ventilation, noise, vibration, improper illumination, thermal radiation—X-ray—ultraviolet radiation—ionizing and non-ionizing radiations—permissible industrial exposure limits—effects of exposure—preventive and control measures.

Noise and vibration—the effect of noise on man, measurement and evaluation of noise, vibration damping, noise isolation, noise absorption—silencers, practical aspect of control of noise. Case studies on impact of noise from compressors and generators. Vibration: effect, measurement and control.

## Industrial Physiology

Classification of workload—work capacity and man-job alignment—fatigue and rest allowances—physiological test in occupational health assessment—ergonomics—man-machine differences—man-machine interface—fitting the man to the job—prevention of work-related limb disorders and repetitive strain injury (RSI).

## Personal Protective Equipment

Introduction and requirements of PPE. Type of PPE:

- a. Non-respiratory personal protective devices: Head protection—ear protection—face and eye protection—head protection—feet protection—body protection—supply. Use, care and maintenance of personal protective equipment—requirement under Factories Act and Rules.
- b. Respiratory personal protective devices: Classification of hazards—classification of respiratory personal protective devices—selection of respirators—inspection and hints in the use of breathing apparatus—supply. Use, care and maintenance of breathing apparatus—training in the use of breathing apparatus.

