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# Health and Hygiene Safety Studies in Automobile Industry

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**ABSTRACT:** Stimulation and preservation of the excessive degree of physical, mental and social well-being of workers in all occupations; The precautions amongst employees of departures from health effected by their working state; the preservation of employees in their employment from risks ensuing from factors inauspicious to health; The placing and perpetuation of the employer in an occupational environment modified to his physiological and psychological capabilities; and, to condense, the modification of work to man and of each man to them.

Occupational health and safety (OHS) examining is a organized procedure for appraising compliance and verifying conformance with established guide lines or best practices in occupational health and safety. OHS audits are enhancing an esteemed tool as occupational health and safety management systems have matured and become integrated with modern quality initiatives. The extension in the number international standards and concurrence that integrate environmental, health and safety aspects of production has also facilitated widespread development and use of OHS audits. Increasingly, as regulatory agencies move to performance-based approaches to improving OHS, auditing is seen as an effective method of ensuring compliance and improving the performance of prevention systems.

**KEYWORDS:** Hazards in process, Chemical Hazards, Safety equipment, Findings & recommendations

### I. INTRODUCTION

As defined by the World Health Organization (WHO) "occupational health deals with all aspects of health and safety in the abode and has a sturdy basis on primary precaution of hazards." Health has been expound as "a state of sheer physical, mental and social welfare and not merely the absence of disease or infirmity." Occupational health is a ambidextrous pasture of healthcare perturbed with authorizing an discrete to assume their occupation, in the way that causes least harm to their health. Health has been defined as It contrasts, for example, with the promotion of health and safety at exertion, which is perturbed with averting anguish from any subsidiary hazards, emerging in the workplace. Since 1950, the International Labor Organization (ILO) and the World Health Organization (WHO) have shared a common definition of occupational health. It was embraced by the concerted ILO/WHO Commission on Occupational Health at its first session in 1950 and revised at its twelfth session in 1995. The explanation interpret: The essential target in occupational health is on three divergent aspirations:

(1) The preservation and stimulation of employees' health and working range; (ii) The improvement of working Environment and exertion to become conducive to safety and health and (iii) Development of work organizations and working cultures in a direction which supports health and safety at exertion and in doing so also build up a decisive social humidity and smooth operation and may enhance productivity of the undertakings. The conceptualization of waged civilization is deliberated in these surroundings to signify a consideration of the essential value systems adopted by the undertaking concerned. Such a civilization is contemplated in execution in the supervisory organization, personnel scheme, and concepts for participation, training policies and quality management of the undertaking." Those

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in the field of occupational health come from a wide range of disciplines and careers inclusive of healing, psychology, epidemiology, physiotherapy and betterment, occupational treatment, occupational medicine, human elements and ergonomics, and many others. Executive instruct on a wide scope of occupational health events. These include how to avoid particular pre-existing conditions causing a problem in the occupation, accurate attitude for the exertion, prevalence of rest cracks, precaution deal that can be ventured, and so forth. Occupational health should intent at: The advocacy and maintenance of the paramount degree of physical, mental and social well-being of workers in all occupations; The precaution aim employees of retail from health produced by their working states; the preservation of employees in their work from hazards ensuing from component inauspicious to health; The situate and maintenance of the employee in an professional domain modify to his physiological and psychological capabilities; and, to condense, the modification of work to man and of each man to his job. Professional health and safety (OHS) survey is a methodical procedure for appraising conformity and authenticating conformance with established guide lines or best practices in occupational health and safety. OHS surveys are enhancing an decisive tool as professional health and safety authority systems have matured and become integrated with modern quality initiatives. The extension in the number of worldwide standards and accordance that integrate domain, health and safety aspects of production has also facilitated widespread development and use of OHS audits. Increasingly, as regulatory agencies move to performance-based approaches to improving OHS, auditing is seen as an effective method of ensuring compliance and improving the performance of prevention systems. Despite their widespread and expanding use in Canada and internationally however, there has not been a synthesis of the literature on the effectiveness of OHS auditing or on the reliability and validity of audit instruments.

In March of 2005, preliminary work was begun to determine the feasibility scope and potential learning inquiry for a full organized evaluation of the literature on the potency of OHS auditing. In achieving a organized evaluation, distinctly originated questions are developed, and systematic and explicit methods are used to identify, select and critically appraise the relevant literature. This preliminary work found that a full systematic review on the effectiveness, reliability, or validity of OHS auditing is not appropriate given the state of the peer reviewed literature. The evidence base addressing the study questions was scant and many of the studies provided findings that were limited in external validity. Nevertheless, we proceeded with a narrative review to provide potentially useful information to stakeholders. Findings from the feasibility study informed the development of the protocol for the narrative review that was conducted.

## II. HEALTH PROVISIONS AS PER FACTORIES ACT

Occupational Health and Safety in India: Health and Safety allocation under Indian Factories Act 1948. The Act has been propagated essentially to supply safety estimate and to assist the health and welfare of the workers employed in factories. The Factories Act, 1948, has been propagated essentially to supply safety estimate and to assist the health and welfare of the workers employed in factories. The object thus brings this Act, within the competence of the Central Legislature to enact. State Governments/Union Territory Administrations have been empowered under certain provisions of this Act, to make rules, to give effect to the objects and the scheme of the Act.

### Applicability:

This Act applies to factories, which qualify the definition of "Factory" under the section 2(m) of the Act or to those industrialized formation, to whom section 85 have been made applicable by the State Government, by notification in the Official Gazette.

### Objective:

- To transfer out an organized, condemnatory evaluation of all prospective risks requiring personnel, plant, services and operation method.
- To ensure that OS&H system fully satisfy the legal requirements and those of the company's written safety policies, objectives and progress.
- zero work-related accidents
- zero occupational illnesses

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- zero ecosystem injury; and tiny sequel of our pursuit

### III. HAZARD

There are many health issues and safety issues happening Automobile industry.

Noise – High noise level, No Lubrication

Chemical- Skin allergy, Eye pain

Electrical – Low light Illumination, old wires, No proper Earthling

Psychosocial issues – Night shift, Over Time, Polluted water, No employee motivation Ergonomic- unsafe work place, unable to sit

#### **Hazard identification, risk assessment and determining controls:**

The concern shall initiate, apparatus and conceive a strategies for the ongoing risk recognized, hazard evaluation, and regulating of necessary jurisdiction. The procedure(s) for hazard recognition and risk assessment shall take into account:

- a) Routine and non-routine activities;
- b) Pursuits of all persons having ingress to the abode (inclusive of fabricators and visitors);
- c) Identified risks originating outside the workplace capable of adversely affecting the health and safety of persons under the control of the concern within the abode;
- d) Risks created in the vicinity of the workplace by work-related activities under the control of the organization;
- e) Infrastructure, equipment and materials at the workplace, whether provided by the organization or others;
- f) Modifications to the OH&S management system, including temporary changes, and their impacts on operations, processes, and activities;
- g) Any applicable legal obligations relating to risk assessment and implementation of necessary controls (see also the NOTE to 3.12)
- h) The design of work areas, processes, installations, machinery/equipment, operating procedures and work organization, including their adaptation to human capabilities.

#### **Evaluation of hazards:**

Evaluation is achieved with the aid of quantitative measurement techniques to measure the magnitude in terms of occupational health hazard factors and stresses that impair human health and well being Evaluation requires some form of personal /static monitoring to provide a good picture of the level of contamination during the normal work cycle of different workers. There are a variety of monitoring methods that can be used by persons suitably trained and qualified in industrial hygiene.

#### **Monitoring:**

##### **Personal monitoring:**

- The concentration of airborne chemicals to which workers are exposed can be determined with the help of sample collecting equipment such as self-contained air samples and air sampling devices worn by workers for determined periods.

##### **Environmental monitoring:**

Determining the levels of air borne chemicals /substances in the working environment can give an indirect estimate of workers' exposure and indicate the existence of potential hazards.

##### **Biological monitoring:**

- Involves measuring the chemical or its metabolite in biological agents such as blood, urine, scalp hair, saliva, nails, enzymes, exhaled breath, body tissues, body fluids and comparing the levels with the accepted values as per the standard reference

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### Physical Hazards:

**Dust:** Airborne dusts are solids formed by disintegration of coal, wood, ore, metal, and rock by the process like crushing, grinding, blasting, and drilling. Dusts are also materializing naturally, e.g., antigen, charcoal, and sandstorms. Particles are small replicas of the parent material and the size can be submicroscopic to visible.

They do not flocculate except under electronic forces and they do not diffuse in Air but settle down under the gravity.

Emergency preparedness and response the organization shall establish, implement and maintain a procedure(s):

- a) To identify the potential for emergency situations;
- b) To reply to such extremity conditions.

The organization shall respond to actual emergency situations and prevent or mitigate associated adverse OH&S consequences. In planning its emergency response the organization shall take account of the needs of relevant interested parties, e.g. emergency services and neighbors.

The organization shall also periodically test its procedure(s) to respond to emergency situations, where practicable, involving relevant interested parties as appropriate. The organization shall periodically review and, where necessary, revise its emergency preparedness and response procedure(s), in particular, after periodical testing and after the occurrence of emergency situations

### The primary responsibility of the industrial hygienist is as follows:

- To protect the health of employees
- To examine the work environment to maintain an objective/attitude towards the recognition, evaluation, and control of industrial health hazards.
- To counsel the employees regarding the health hazards and necessary precautions to be taken to avoid adverse health effects
- To conduct programs for the education/training of the workers and the public in the prevention of occupational diseases.
- To direct the industrial hygiene programs
- To make specific decisions as to the need for effectiveness of control measures to protect the health of the employees.
- To prepare rules, regulations, standards, and procedures for the healthful conduct of work and prevention of nuisance in community.
  - To conduct research to enhance the knowledge concerning the effects of occupation upon health and means of preventing occupational health hazards and related problems.

Basically an effective industrial hygiene program would consist of the application of knowledge to the anticipation and recognition of health hazards arising out of work operations and process evaluation and measurement of the magnitude of hazard based on experience and study, and control of the hazards

### Anticipation of Hazards:

For anticipation hazards in any industry brought about hazardous or toxic condition:

- Have the operation, method or material changes? Could this change possible cause a hazardous or toxic situation or condition?
- Has training been developed or instituted aid in the reduction or elimination of a potentially hazardous situation or condition?
- Is there information available to assist in the identification of potential toxins or hazards?
- There written safety or maintenance procedures that can be instituted to reduce further injury in the event?

### Recognition of Hazards:

The identification of environmental factors and stresses associated with work and work operations and understanding of their effects on man and its wellbeing in the workplace and community is of prime importance.

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### IV. FINDINGS AND RECOMMENDATIONS

- The company is having health and hygiene policy on maintaining health and hygiene of employees in shop floor. The strategy shows the dedication of the concern in worker's health and sterility. For contractor workers, the awareness is being created from induction training itself.
- Refresher training needed specific to health and hygiene. The doctors to be utilized to create awareness in health and hygiene part
- The shop floor designed to utilize natural ventilation as best as possible. And worker is having good space to work. The critical areas provided with man coolers. Hot sections covered by air conditioned cooling in required areas.
- The coater ware house is having limited ventilation which is to be focused for ventilation. Even though the worker exposure is limited in that area, the facility is a concern as of now.
- The roof lights are well maintained and adequate in shop floor. The lights position is not creating any glare effect. The details of maintenance schedule are being circulated within department well in advance to ensure its adherence. Separate MEWP purchased to take care of lighting facility in campus.
- Dust exposure areas are limited where the people are using nose mask as mandatory. Wetting is done to avoid dust formation during critical glass crushing time. RM and batch plant areas covered by dust monitoring as the result is showing that the levels are within the limit.

### V. CONCLUSION

By this term work, I have gone through various literature regarding health and hygiene in industry. And I have come across the system what the company is maintaining in the aspect of health and hygiene. The audit methodology learnt from IS 14489:1998, where it explains how to prepare, start, conduct, gathering evidence, interacting in shop floor people, preparing the report, submitting report to the management with recommendations. Based on that audit criteria prepared and conducted. This term work created awareness to the shop floor people and management in the importance of health and hygiene part and level in which the shop floor is being maintained. All the possible documents verified and recommendation given as per standards. To reduce exposures to heat, cooling vests/cooling jackets can be used to protect the workers when they are exposed to high radiant heat. The vests can be worn on top of the regular uniforms and can be re-cooled upon refrigeration. Light summer clothing during summer combined with cooling vests will protect the workers to a large extent. It was recommended to conduct the personal heat stress exposure assessments to the workers to monitor the core body temperatures during the 8 hour shift period in float and furnace areas to evaluate the effectiveness of the existing local air cooling systems and ventilation systems. This program should be done in consultation with an Occupational Physician. Personal monitoring can be done by checking the heart rate, recovery heart rate, oral temperature, or extent of body water loss. To check the heart rate, count the radial pulse for 30 seconds at the beginning of the rest period. If the heart rate exceeds 110 beats per minute, shorten the next work period by one third and maintain the same rest period. Oral temperature can be checked with a clinical thermometer after work but before the employee drinks water. If the oral temperature taken under the tongue exceeds 37.6°C, shorten the next work cycle by one third. Body water loss can be measured by weighing the worker on a scale at the beginning and end of each work day. The worker's weight loss should not exceed 1.5% of total body weight in a work day. If a weight loss exceeding this amount is observed, fluid intake should increase.

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