

Research on Industrial Accident Prevention Promises a Better Future

Research findings over the past two years made public: projects cover topics such as preventing serious industrial accidents and responding to environmental changes in labor and society.

- The Occupational Safety and Health Research Institute (OSHRI, Director General Kim Eun-A) has released reports on 79 research projects that covered a wide range of topics, from preventing serious industrial accidents to addressing environmental changes in Korean labor and society. Last year, OSHRI focused on research aimed at helping to reduce the incidence of serious accidents on industrial sites as well as to respond preemptively to the changing labor and social environments.
- The Institute's competencies were focused particularly on researching the establishment the new government administration's mid-/ long-term policy on industrial accident prevention as well as the revision of relevant laws.
- The groundwork was laid for establishing a Roadmap for Reducing Serious Industrial Accidents, essential for creating a self-regulated occupational safety and health system. One of these projects, "Building an Industrial Accident Response and Prevention System for New Risk Factors," offered a plan for protecting workers engaged in new forms of employment. Another studied the adoption of an ESG-based occupational safety and health index.
- In addition, OSHRI examined ways to induce companies to fulfill their occupational safety and health obligations as well as approaches for raising the effectiveness of the Serious Disaster Punishment Act. The Institute analyzed the actual safety conditions within new industries and new job classifications such as contract workers and platform workers and researched the kinds of legal revisions needed.

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- Other research projects covered ways to respond to fatal accident issues and bolster program operability in the workplace. OSHRI presented practical measures for managing risk at worksites, establishing the basis for revising occupational safety and health regulations after analyzing structural collapse accidents over the past five years, and offering a risk assessment checklist that can be carried out effectively in every part of an industrial location.
 - Ongoing research has been conducted on protecting workers from the new kinds of risk brought on by the COVID-19 pandemic and changes in industrial structures and employment forms. Importantly, measures to protect essential workers and other new job categories exposed to workplace dangers, measures to prevent industrial accidents resulting from the rapid growth of employment in the eco-friendly area, and work environments amid the rapid rise in people working from home.
 - OSHRI was also devoted to efforts to lower the number of industrial fatalities in Korea, a key task for the Korea Occupational Safety and Health Agency. For example, the Institute sought to prevent accidental fall in the workplace, developing a safer alternative to portable ladders in cooperation with startup enterprises and disseminating these new platforms to small and medium-sized enterprises.
 - The original text of 79 research reports now being released as well as the 2022 Occupational Safety and Health Research Summaries, a condensed version covering the key points, are accessible on the Institute's website (<https://oshri.kosha.or.kr>).
- * The original texts and its summaries are only provided in Korean
- OSHRI Director General Kim Eun-A says: "The research reports published every year cover studies that are necessary for the government and KOSHA to carry out their industrial accident prevention projects. The topics for projects are recommend by specialists from every field. Going forward, OSHRI will continue to pursue research on developing policy platforms for resolving pending issues with respect to preventing various types of industrial accidents while at the same time reducing the frequency of serious accidents as a whole."

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Reference

List of Research Projects Conducted in 2022

	Research Area	Research Project Name
1	Policy Regulation	Measures to Protect Workers According to the Occupational Safety and Health Act in Response to the Changing Employment and Labor Environment
2	Policy Regulation	Characteristic Analysis of Workplaces that Experience Fatal Accidents: With the Focus on Offering Effective Oversight
3	Policy Regulation	Use Corporate Financial Data to Analyze Characteristics of Enterprises that Experience Fatal Accidents
4	Policy Regulation	Actual Industrial Accident Conditions and Protection Measures for Freight Transportation Workers
5	Policy Regulation	Legislative Measures for Protecting People Who Work from Home: With the Focus on International Comparison
6	Policy Regulation	Measures to Establish Assessment Processes for Specific Industrial Accident Project Characteristics
7	Policy Regulation	Measures to Improve Occupational Safety and Health Amid the Structural Changes in Labor and Industry and the Transition of Labor
8	Policy Regulation	Analysis of Industrial Accident Risk Factors at Service Providers
9	Policy Regulation	Research on Building Safety and Health Manage Systems and Establishing Support Measures by Business Type and Operational Scale
10	Policy Regulation	Survey of the Actual Conditions of Occupational Safety and Health Training at Worksites Inside and Outside Korea and Measures to Raise Onsite Training Operability

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	Research Area	Research Project Name
11	Policy Regulation	Measures to Bolster Links between Worksite Inspections and Supervision
12	Policy Regulation	Analysis of Industrial Safety Oversight Systems Outside Korea
13	Policy Regulation	Analysis of Case Studies on the Handling of Serious Industrial Accidents Outside Korea
14	Policy Regulation	Research on the Effectiveness Assessment of Selecting on the Basis of Quantitative Workplace Data Worksites at High Risk for Industrial Accidents and Improvement Measures
15	Policy Regulation	Measures for Building an Accident Prevention System that Aims at a Preemptive Response to New Risk Factors
16	Policy Regulation	Measures for Proliferating a Culture of Workplace Safety through Labor-Management Participation
17	Policy Regulation	Research on Efficient Restrictive Measures Aimed at Industrial Accident Prevention
18	Policy Regulation	Nurturing Consultants Developing Training Programs to Support the Building of Occupational Safety and Health Systems
19	Policy Regulation	Measures for Proliferating Self-regulated Occupational Safety and Health Systems through ESG Management
20	Industrial Safety	Examination of Measures for Getting All Organizational Divisions at Industrial Sites to Participate in Risk Assessment and Defining the Roles of Each (Focusing on Analysis of Recent Fatal Accident Case Studies)
21	Industrial Safety	Examination of Standards for Proposing Changes in Programs for Preventing Noxious or Dangerous Risk Factors in Manufacturing

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22	Industrial Safety	Examination of Safety Standards on Ladderway Structures
23	Industrial Safety	Predicting the Risk Factors and Improving the Safety Standards Related to New and Renewable Energy Sources
24	Industrial Safety	Analysis of Risk Factors when Working with Portable Ladders and Development of an Alternative (Work Platforms)
25	Industrial Safety	Effective Implementation of Steps to Prevent Accidents at Subcontractors and Improvement Measures
26	Industrial Safety	Subcontracting Ban Aimed at Providing Substantial Protection of Workers at Contractors when Engaged in Noxious or Dangerous Operations and Efficient Enforcement Measures for Approving Subcontractors
27	Industrial Safety	Establishment of Measures for Strengthening Safety Manager Qualification Standards
28	Industrial Safety	Survey on the Actual Implementation of Safety Measures by Workers in Special Employment Types as well as Deduction of Improvement Plans, Examination of Effective Supervision Plans
29	Industrial Safety	Examination of Occupational Safety and Health Management Costs, Appropriation Standards in Construction
30	Industrial Safety	Development of Manuals for Occupational Safety and Health Measures at Small-scale Construction Sites
31	Industrial Safety	Regulatory Improvements for Preventing Industrial Accidents Due to Collapses During Construction Projects
32	Industrial Safety	Improvement of Safety Synthetic Fiber Rope Use in Hanging Scaffold Operations

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33	Industrial Safety	Analysis of Fatal Accident Causes in Diving Operations and Establishing Safety Plan: Focus on Opinion Statements by Accident Investigators
34	Industrial Safety	Survey of the Actual Implementation of Accident Prevention Measures by Franchise Organization Head Offices, Establishment of Improvement Measures
35	Industrial Safety	Research on Fire and Explosion Dangers Related to Non-uniform Gas Mixers at Locations with Explosion Risk
36	Industrial Safety	Safety Management Plan for Emulsification Process in Waste Plastic Pyrolysis
37	Industrial Safety	Examination of the Appropriateness of Subjects for Safety Belt Installment and Operation Test Cycle, Establishment of Improvement Measures
38	Industrial Safety	Establishment of Measures to Improve Installation Standards for Emergency Exits at Workplaces where Hazardous Materials are Produced and Handled
39	Occupational Health	Development of Guidelines and Statistical Analysis Methods for Causal Inference of Occupational Diseases: Development of Korean Language Guidelines on Health Impact Assessments of Complex Exposures
40	Occupational Health	Analysis of Inappropriate Medical Examinations, Hearing Tests for Workers, Development of Guide for Resolving Problems
41	Occupational Health	Improvement of Quality Control Standards for Breathing Tests during Special Medical Examinations
42	Occupational Health	Determination of Occupational Safety and Health Conditions for Care Providers, Establishment of Health Protection Plan
43	Occupational Health	Cancer of the Central Nervous System in Plastic Production Workers

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44	Occupational Health	Development of Standard Samples for Assessing Biological Exposure to Carbon Disulfide
45	Occupational Health	Factual Survey on Various High Risks for Developing Cardiovascular Diseases
46	Occupational Health	Analysis of Correlation of Risks Used by National Insurance System for Developing Cardiovascular Diseases
47	Occupational Health	Research on Case Studies for Improving Musculoskeletal Disorder Prevention by Business Category
48	Occupational Health	Research on Response Plan According to Changes in Occupational Health Environments (Policy Forum)
49	Occupational Health	Research on Emotional Labor Protection Plan for Workers at In-store Vendors in Various Retail Businesses
50	Occupational Health	Research on Plan to Step Up Organization and Use of Health Management Card System
51	Occupational Health	Analysis of the Current Operational State of the Occupational Disease Monitoring System
52	Occupational Health	Research on the State of Measures by Business Owners to Prevent Infectious Diseases and Stop Their Spread
53	Occupational Health	Creation of a Work Manual for Institutions Dedicated to Health Management, Update of Work Manual for Health Management Personnel
54	Occupational Health	Research on Plan to Revise Classification Standards for (Occupational) Diseases and (Industrial) Accidents
55	Occupational Health	Plan to Manage Work Environments through the Use of Direct-reading Equipment (I): Focus on Using PID Sensors to Assess Organic Chemical Compounds

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56	Workplace Environment	Predictions for Workers at Risk of Acute Poisoning with the Enforcement of the Serious Accidents Punishment Act
57	Workplace Environment	Research on the Construction of a Facial Size Database for Koreans, Selection Standards for Breathing Masks (II)
58	Workplace Environment	Current State of the Domestic Rechargeable Battery Industry and Plan for Controlling the Handling of Chemical Substances
59	Workplace Environment	Research on Pilot Project for Comprehensive Work Environment Assessment (III)
60	Workplace Environment	Research on Plan to Improve Measures for Preventing Health Hazards during Extremely Hot or Cold Weather
61	Workplace Environment	Research on the Actual Condition of Rest Facilities at Worksites and Support Plan Establishment
62	Workplace Environment	Development of a Guide for Creating a Healthy At-home Working Environment
63	Workplace Environment	Plan to Improve Operations after Survey on the Actual Exposure to Harmful Factors by Workers in Aquaculture Industry
64	Workplace Environment	Research on Worker Exposure to Plasticizers and Subsequent Effects on Health
65	Industrial Chemicals	Use of Material Safety Data Sheets to Deduce Policy for Managing Chemical Substances
66	Industrial Chemicals	Plan to Approach Risk Assessment through Dermal Exposure to Chemical Substances
67	Industrial Chemicals	MSDA Improvement Plant through Analysis of Heavy Metal Content in Inorganic Paint

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68	Industrial Chemicals	Creation of a Process for Responding Systematically to Occupational Disease from Chemical Substance Exposure
69	Industrial Chemicals	Application of a Government Support Project Model to Manage Chemical Substances at Small-scale Workplaces
70	Industrial Chemicals	Improvement of Socio-economic Analysis Plan Based on Chemical Substance Regulations in the Occupational Safety and Health Act
71	Industrial Chemicals	Survey on the Effects of Changes in Chemical Substance Regulations Related to Metal Product Detergents and the Establishment of an Improvement Plan: Focus on Halogenated Solvent Cleaners
72	Industrial Chemicals	Direction of Revision in Standards on Exposure to Chromium and its Chemical Compounds
73	Industrial Chemicals	Toxicity Research on Inhaled ABS Nanoparticles from 3D Printers (I)
74	Industrial Chemicals	Use of Metallization Analysis to Research Hereditary Carcinogenesis
75	Industrial Chemicals	Study on Carcinogenic Chemical Substances through Dielectric Comparison with Cancer Potency Factors
76	Industrial Chemicals	Research on Introduction of Benchmark Doses to Raise the Utility of Inhalation Toxicology Test Results
77	Industrial Chemicals	Research on Building a System Based Toxicologic Pathology Application to Assess Harmfulness of Chemical Substances
78	Industrial Chemicals	Research on Predicting Short-term Cancer Development Using In Vitro Cell Transformation Assay
79	Industrial Chemicals	Research on Improving the Reliability of Carcinogenic Inhalation Toxicology Testing through the Ethical Use of Laboratory Animals.