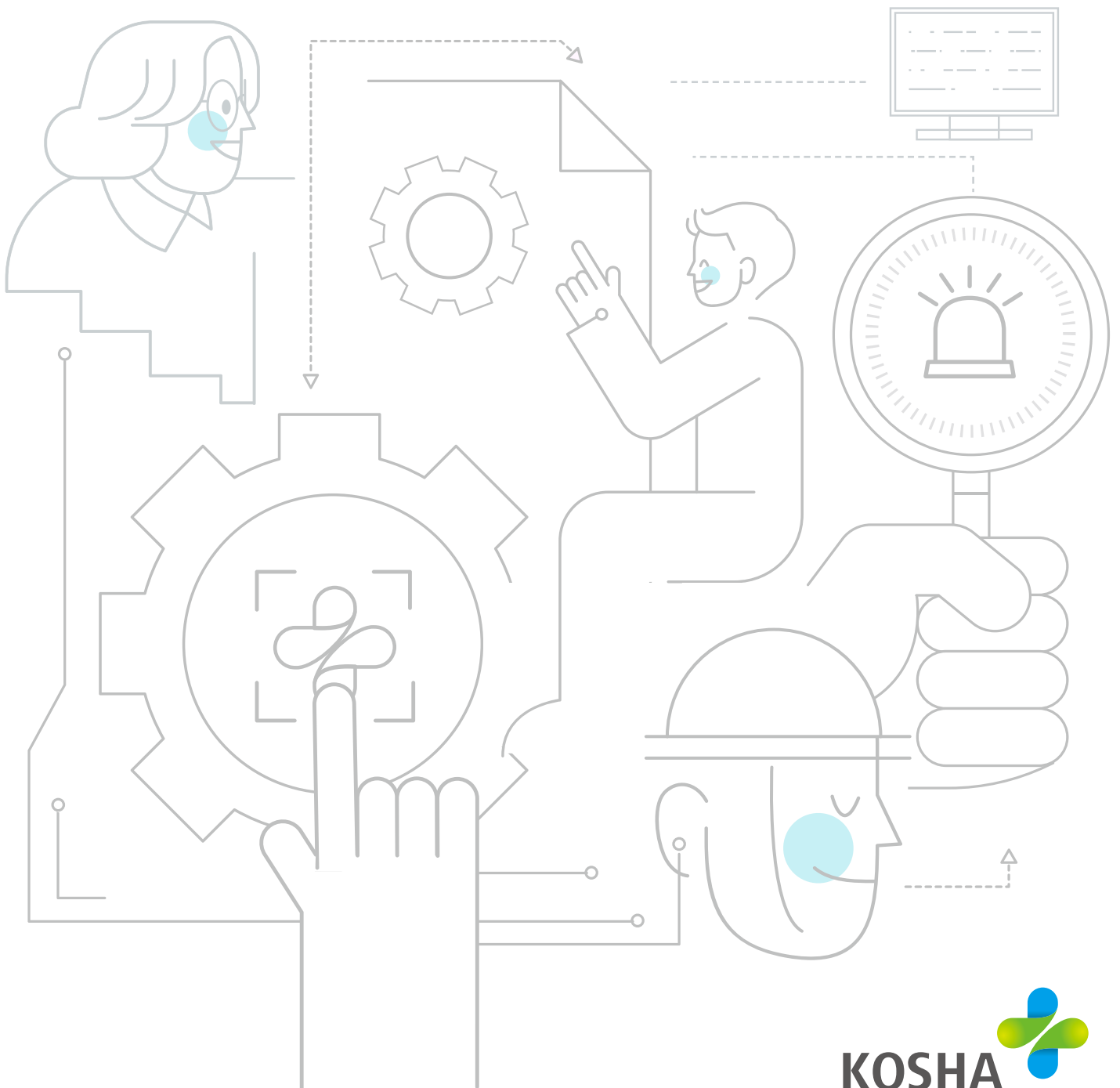


Protecting Worker's  
Life and Health

# KOSHA NEWS

Vol. 122

APRIL 2023



# KOSHA NEWS

Protecting Worker's Life and Health

vol. **122**

## Contents

---

Rush to Receive "K-Ladder" S-Mark for Accident Prevention, Technology Transfer to Private Sector	03
Answers to Your Occupational Safety and Health Questions Just a Click Away	04
Finding Out about Our Worksite Risk Assessment via E-learning	06
"Confident of Reducing Industrial Accidents at Small-sized enterprises"	07
Research on Industrial Accident Prevention Promises a Better Future	09

---

## OSHRI

# Rush to Receive “K-Ladder” S-Mark for Accident Prevention, Technology Transfer to Private Sector

## Nine manufacturers seek tech transfers; a support program under consideration to make the new ladder more accessible.

- KOSHA's Occupational Safety and Health Research Institute has been involved in the research and development of a new product that can replace conventional A-frame ladders in an effort to prevent fatal accidents when ladders are used at work. OSHRI completed the development of a specialized active work mobile ladder with platform (K-ladder) last year.
- The K-Ladder recently received the S-Mark certification following the authorized agency assessment, verifying the product's safety and reliability. It has also been selected as a best practice of the government's positive administration policy.
- KOSHA convened a meeting on February 24 (Friday) to ascertain the opinions of domestic ladder makers, and representatives from more than twenty companies enthusiastically took part. The participants got to see the newly developed K-Ladder for the first time and were briefed on a survey covering ladder operation improvements as well as on the R&D processes with regard to the new ladder.
- OSHRI is scheduled to sit down with the ladder makers to examine ways to accelerate the dissemination of the K-Ladder in workplaces. A financial support program is being considered to allay the cost of ladder purchases and technology may be transferred by granting of industrial property rights on the K-Ladder.
- Director of Occupational Safety research bureau Moon Hyung-soo says: “Numerous fatal accidents occur during work operations that involve the use of ladders. We are about to step up the dissemination of the K-Ladder to help prevent these deaths.”

# Answers to Your Occupational Safety and Health Questions Just a Click Away

## Offering a “Smart Search Service” that applies AI and bigdata to facilitate your search for legal information.

- On the 27<sup>th</sup> (Monday), the Korea Occupational Safety and Health Agency (KOSHA, President Ahn Jong-ju), which operates under the Ministry of Employment and Labor, unveiled the Occupational Safety and Health Legal Smart Search System, which allows anyone to find legal information related to the prevention of industrial accidents.
- Previously, people had to go to the KOSHA website or the Korea Law Information Center to seek out legal content piecemeal. This situation prompted KOSHA to develop the Smart Search System in order to improve data accessibility. Now a user can input a single word into the search, and links to various legal content\* and media reports\*\* related to the search topic are identified simultaneously.
  - \* Including the Occupational Safety and Health Act and lower statutes; notifications, directives, and regulations issued by the Ministry of Employment and Labor; and KOSHA Guide.
  - \*\* Checklists, educational materials, accident case studies, posters, health & safety certification marks, and so on.
- What differentiates this particular system from conventional ones is the search function\* that applies artificial intelligence and includes the content of thesaurus and word dictionaries to encompass synonyms of the specific search phrase inputted. This allows users who are unfamiliar with legal jargon to use the system easily and conveniently. Going forward, the AI-based customization capability will be further improved to include a function upgrade that augments the “definition search” capability so that the system can pinpoint as closely as possible the contents that the user wants.
  - \* (E.g.) the search phrase “protection equipment” will yield materials on safety belts, dust masks and safety certification, while inputting “COVID-19” into the search will show items on infectious disease prevention.



## OSHTI

# Finding Out about Our Worksite Risk Assessment via E-learning

**KOSHA's Occupational Safety & Health Training Institute (OSHTI, Director General Choe Sang-yeol) offers its Risk Assessment Specialist Program (Theory) online in order to support the establishment of self-regulated accident prevention at worksites.**

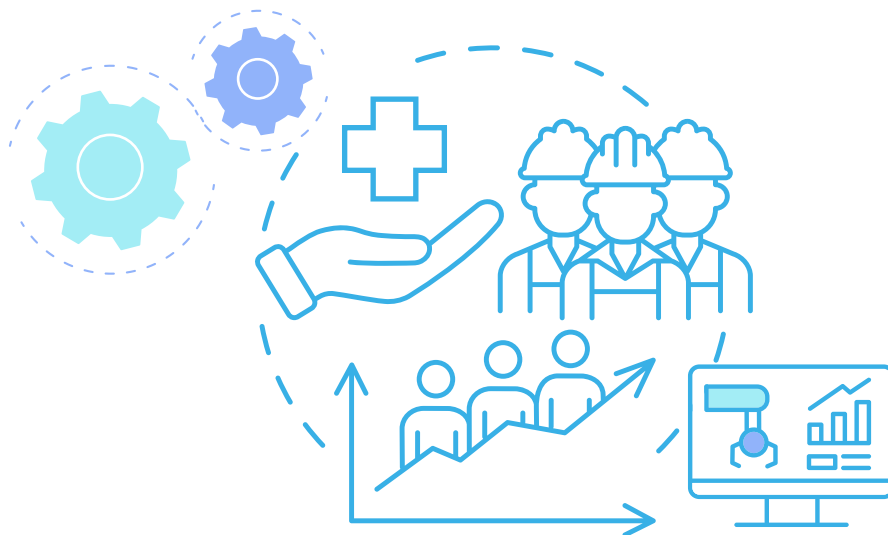
- At the end of last year, KOSHA announced a roadmap for reducing serious accidents in the workplace, driving up demand for training on assessing risk at worksites. OSHTI developed an e-learning version of the Risk Assessment Specialist Program (Theory) to address the limited availability of in-classroom training opportunities.
- OSHTI is working to nurture risk assessment specialists, providing in-classroom training in both theory and practice to over 120 people in 2022. This year, the number of trainees has swelled tenfold to 1,200
- The e-learning program consists of 8 one-hour lessons\* that proceed from the basic concept of risk assessment to the types of assessment methods and chemical substance assessment case studies. The course is run over a week, with as many as 500 participants in each cycle.
  - \* Course makeup (8 lessons): general (3 hours, understanding risk assessment, procedures, and methods), occupational safety (3 hours, types & understanding of risk assessment methods), occupational health (2 hours, methods & case studies of chemical substance risk assessment)
- Training applications may be submitted through the OSHTI Online Training Center ([www.safetyedu.net](http://www.safetyedu.net)), starting from March 2nd. All people who are working at industrial sites are eligible for the program free of charge.
- KOSHA's Occupational Safety & Health Training Institute Director General Choe Sang-yeol says: "The reduction of serious accidents in the workplace begins with an understanding of the noxious or dangerous factors on site as well as a risk assessment that establishes a reduction strategy. More people handling tasks at worksites can easily approach risk assessment through our e-learning program, and we remain dedicated to building self-regulated accident prevention programs at industrial sites around the country."

# “Confident of Reducing Industrial Accidents at Small-sized enterprises”

- **Job training is provided to personnel working in the program to support Small-sized enterprises with technology to protect worker safety and health.**
- **More than 850 people from over 230 organizations took part and completed the training over four days (April 4, 5, 6, and 11).**
- The Ministry of Employment and Labor (MOEL, Minister Lee Jung Sik) and the Korea Occupational Safety and Health Agency (KOSHA, President Ahn Jong-ju) are providing technical support free of charge to private sector agencies involved in accident prevention. This program is aimed at reducing fatal accidents at the worksites of small-scale corporations that lack adequate safety infrastructure.
- In January 2023, KOSHA recruited non-government agencies dedicated to accident prevention to participate in a project to support Small-sized enterprises with occupational safety and health technology. More than 310 of these agencies applied for the project, and over 230 were selected after passing a qualification inspection.
- Representatives from these private sector agencies are scheduled to visit the worksite of each small-scale enterprise at least twice (for a total of 400,000 visits) before the end of this year, providing them with technical support. Manufacturing operations with no more than ten employees, construction outfits that work on projects valued at under 100 million won, and service enterprises that employ a maximum of fifty people are targeted for this support, as they are considered to be at particularly high risk of accidents.
- The MOEL and KOSHA conducted four days of job training (on April 4, 5, 6, and 11) for the occupational safety and health managers who are tasked with visiting the selected worksites. This training is aimed at ensuring that the small-scale enterprises are provided with quality technology support. More than 850 trainees from over 230 agencies took part in the program.

## “Confident of Reducing Industrial Accidents at Small-sized enterprises”

- The government aims to reduce the number of fatal accidents in Korean workplaces this year, and private sector agencies are tasked with risk assessment-based technical support in order to realize this goal. In essence, an industrial accident prevention service will be offered that accommodates the requirements and capabilities of the recipient enterprises.
- KOSHA President Ahn Jong-ju says: “We are providing high technical support related to occupational safety and health in order to reduce the number of persons killed in accidents at Small-sized enterprises. The Ministry of Employment and Labor and Korea Occupational Safety and Health Agency are physically unable to inspect and provide guidance to all the workplaces in the country. Therefore, we have been working to involve excellent non-government agencies dedicated to accident prevention in order to ensure that more Small-sized enterprises are able to receive the technical support they need to boost their occupational safety and health efforts.”





# 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.

## Research on Industrial Accident Prevention Promises a Better Future

- 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."

## Research on Industrial Accident Prevention Promises a Better Future

### 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

## OSHRI

## Research on Industrial Accident Prevention Promises a Better Future

	Research Area	Research Project Name
11	<b>Policy Regulation</b>	Measures to Bolster Links between Worksite Inspections and Supervision
12	<b>Policy Regulation</b>	Analysis of Industrial Safety Oversight Systems Outside Korea
13	<b>Policy Regulation</b>	Analysis of Case Studies on the Handling of Serious Industrial Accidents Outside Korea
14	<b>Policy Regulation</b>	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	<b>Policy Regulation</b>	Measures for Building an Accident Prevention System that Aims at a Preemptive Response to New Risk Factors
16	<b>Policy Regulation</b>	Measures for Proliferating a Culture of Workplace Safety through Labor-Management Participation
17	<b>Policy Regulation</b>	Research on Efficient Restrictive Measures Aimed at Industrial Accident Prevention
18	<b>Policy Regulation</b>	Nurturing Consultants Developing Training Programs to Support the Building of Occupational Safety and Health Systems
19	<b>Policy Regulation</b>	Measures for Proliferating Self-regulated Occupational Safety and Health Systems through ESG Management
20	<b>Industrial Safety</b>	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	<b>Industrial Safety</b>	Examination of Standards for Proposing Changes in Programs for Preventing Noxious or Dangerous Risk Factors in Manufacturing

## OSHRI

## Research on Industrial Accident Prevention Promises a Better Future

	Research Area	Research Project Name
22	<b>Industrial Safety</b>	Examination of Safety Standards on Ladderway Structures
23	<b>Industrial Safety</b>	Predicting the Risk Factors and Improving the Safety Standards Related to New and Renewable Energy Sources
24	<b>Industrial Safety</b>	Analysis of Risk Factors when Working with Portable Ladders and Development of an Alternative (Work Platforms)
25	<b>Industrial Safety</b>	Effective Implementation of Steps to Prevent Accidents at Subcontractors and Improvement Measures
26	<b>Industrial Safety</b>	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	<b>Industrial Safety</b>	Establishment of Measures for Strengthening Safety Manager Qualification Standards
28	<b>Industrial Safety</b>	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	<b>Industrial Safety</b>	Examination of Occupational Safety and Health Management Costs, Appropriation Standards in Construction
30	<b>Industrial Safety</b>	Development of Manuals for Occupational Safety and Health Measures at Small-scale Construction Sites
31	<b>Industrial Safety</b>	Regulatory Improvements for Preventing Industrial Accidents Due to Collapses During Construction Projects
32	<b>Industrial Safety</b>	Improvement of Safety Synthetic Fiber Rope Use in Hanging Scaffold Operations

## OSHRI

## Research on Industrial Accident Prevention Promises a Better Future

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

## OSHRI

## Research on Industrial Accident Prevention Promises a Better Future

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

## OSHRI

## Research on Industrial Accident Prevention Promises a Better Future

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



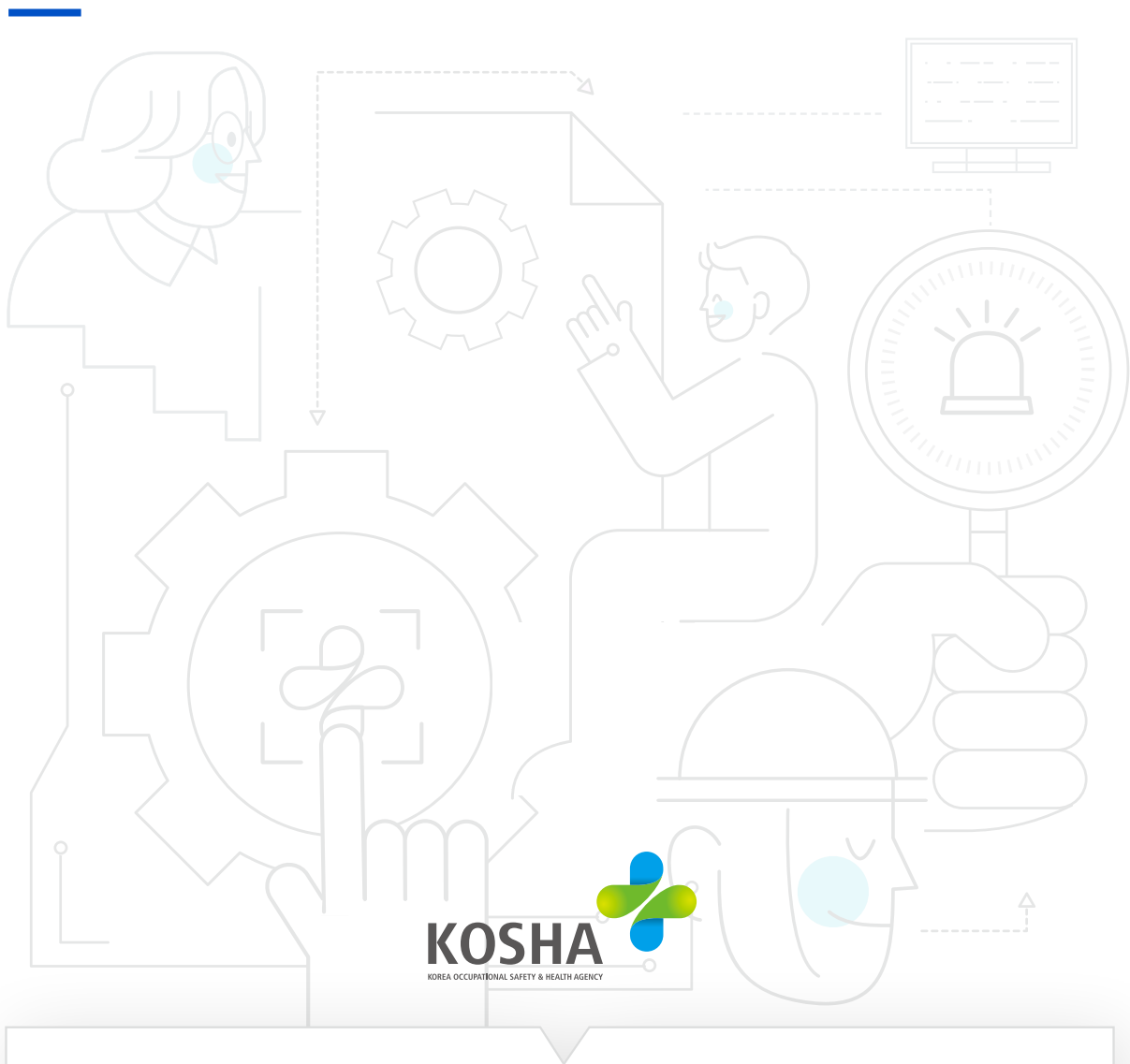
## OSHRI

## Research on Industrial Accident Prevention Promises a Better Future

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

# KOSHA NEWS

Protecting Worker's Life and Health



## Published by

**Korea Occupational Safety and Health Agency**

400 Jongga-ro, Jung-gu, Ulsan,  
44429 Republic of Korea

**Tel.** +82 52 7030 745

**Fax.** +82 52 7030 326

**E-mail.** [overseas@kosha.or.kr](mailto:overseas@kosha.or.kr)

**Web(Kr).** [www.kosha.or.kr](http://www.kosha.or.kr)

**Web(En).** <http://www.kosha.or.kr/english/index.do>