



Contents

KOSHA NEWSLETTER | 2012.4



Cover Story

- 01_ KOSHA's Safety and Health Campaign Topics in 2012

KOSHA News

- 02_ Enterprises, independent assessment for the risk level of chemicals

KOSHA provides 4 steps assessment program for evaluating the risk

- 03_ The next ICOH Congress held in Korea, in 2015

ICOH hand over the flag to KOSHA

- 04_ Safe, lively and motivated Seoul

MOU between Seoul and KOSHA for framework to prevent accidents, e.g., fiscal assistance to old facilities

- 05_ KOSHA, Development of OSH materials for migrant workers

- 06_ KOSHA, MOU with the Samsung Electronics Service

Boosting health promotion of workers of both the headquarter and its subcontractors

- 07_ OSHRI's study on the state of vibration workers

With increasing accident trend, focusing on the need to set out standards

- 08_ KOSHA hosted an international seminar at the hall in the KFPA

Introduction for domestic best practice and the system of Japan relating work footing and scaffolds.

Accident Report

- 09_ Example of Serious Accident in Manufacturing

Being caught when processing ore dropped on belt conveyor



KOSHA's Safety and Health Campaign Topics in 2012

29th February

Korea Occupational Safety and Health Agency (KOSHA) selected monthly safety and health campaign topics for the year 2012 and announced action plans for each topic. The campaign topics have been selected to coincide with KOSHA's accident prevention activities and relevant statistics.

The campaign topics have been selected after consulting with the Ministry of Employment and Labor of Korea, based on the nation's occupational accident statistics and accident prevention projects. The topics take into account the accident types and characteristics of Korea, seasonal factors, social issues and so on. In addition, various media sources will be used such as "Escaping Crisis Number One", which is a TV program, radio, newspapers, internet, SNS, and outdoor ad boards. Also, KOSHA-published periodicals and accident prevention materials will reflect the selected topics so that various campaigns and events related to safety and health (e.g. Safety check day) held in worksites share the same theme each month.

► January

- **Accident prevention in winter for the Service industry**

- Motorbike accident prevention
- Slips and trips prevention on snowy or icy surfaces

- Details

Campaign on motorbike accident prevention targeting hotel & restaurant businesses and wholesale & retail industries

► February

- **Prevention of safety accidents in the thawing season**

- Details

Safety management and campaign on: Higher risks of ground subsidence, collapse or fall accidents in construction sites in the thawing season.

► March

- **Prevention of safety accidents involving crush injuries**

- Prevention of injuries in workplaces

- Details

Promotion activities to prevent crushes because of spring tiredness which occurs frequently around the lunch break in March.

**data from OSHRI '2010 weather and occupational injuries*

► April

- **Prevention of fall accidents**

- Details

Intensive promotion on the prevention of falls in the construction industry which record high increase rate during the spring

**data from OSHRI '2010 weather and occupational injuries*

KOSHA Newsletter



► May

- **Prevention of cardiovascular diseases & musculoskeletal diseases (MSDs)**

- Details

Preventing Musculoskeletal diseases in the parcel delivery and quick delivery sector and Visual Display Terminal Syndrome.

► June

- **Prevention of suffocation**

- Details

Campaign on ways to prevent suffocation accidents occurring in confined spaces in summer rainy season (June & July), and inform support measures

► July

- **Prevention of electric-shock in summer monsoon season**

- Details

Campaign for preventing electrocutions, which are frequent in rainy season

► August

- **Protecting workers' health during hot summer**

- Keeping workers healthy in summer; prevention of drowning

- Details

Campaign on the Health protection against summer's heat waves; prevention of ill-health caused by chemical substances; prevention of drowning.
Prevention of burn injuries in service industry.

► September

- **Prevention of serious accidents**

- Details

Focusing on occupational accidents prevention as maintenance is frequently conducted on October.

► October

- **Preventing safety accidents: collapse, destruction, and fall**

- Details

Campaign on the prevention of accidents like collapse and destruction in the construction worksites, which increase in October annually.

► November

- **Preventing cerebro and cardiovascular diseases**

- Details

Provide information about prevention measures and the status of cerebro and cardiovascular diseases: increasing occurrence of the disease is expected due to aging population and high temperature fluctuations

► December

- **Slips and trips prevention**

- Details

Provide information about frequent accidents in winter: heavy snow falls on snowy surface, etc.



Enterprises, independent assessment for the risk level of chemicals

KOSHA provides 4 steps assessment program for evaluating the risk level of dangerous and harmful chemicals

8th March

KOSHA provides assessment program which helps enterprises evaluate chemical substances used in the work places on their own.

KOSHA(President : Baek, Hun-ki) distributes CHARM* to enterprises so that they could estimate the chemical substance's risks by themselves.

*CHARM: Chemical Hazard Risk Management

The program was developed by KOSHA to protect workers from chemical substances and to improve working environment. One of the features of the program is help enterprises to assess the risk easily with existing information on the risky materials and computed result of working environment's hazards

With the input of risk information and exposure level, the assessment program can be categorized by four stages: Minor, Major, Serious and Unacceptable risks.

According to the program, the first level, Minor Risks requires the enterprise to conduct safety and health training on a regular base. The second level, Major Risks, recommends the worksites to improve efficiency of ventilation facilities. When the company is diagnosed with the Serious Risks, it has to set up plans to advance working environment. The Unacceptable Risks, finally, encourages businesses to cease the work immediately or have experts conduct a comprehensive working environment assessment.

Enterprises that are not able to compute working environment, can utilize this program, based on the amount of daily usage of chemical substance, information on emission of dust or gas and MSDS(Material Safety Data Sheet) that the working place has.

The program can be downloaded on the 'hot issue' corner on the website of KOSHA(www.kosha.or.kr) and if you have any questions, contact +82-32-5100-724.

Meanwhile, 95 cases of accidents were reported due to chemical substance and 32 cases among them were fatal. Around 100 cases of accident occurred for recent three years on average because of chemical substances.

Occupational accident cases due to chemicals for the recent three years

	total	2011	2010	2009
Non-fatalities	301	95	113	93
fatalities	78	32	21	25

The Director(Mr. Jeong, Mu Su) of Occupational Health Department said "there are some 40,000 types of chemical substances domestically used and the CHARM would serve as an opportunity for enterprises to evaluate the risk level of the chemical substances.", adding that companies could come up with more effective counter measures to protect workers' health by using this program.



The next ICOH Congress held in Korea, in 2015

ICOH hand over the flag to KOSHA

27th March,

President Hun-Ki Baek of KOSHA declared **the official hosting of the 31st ICOH Congress in Seoul, Korea as the agency took over the congress flag in the closing ceremony of the 30th ICOH Congress held from 18th to 23rd March 2012 in Cancun, Mexico.**

- The 31st ICOH Congress is held for six days in Coex, Seoul Korea from 31st May to 5th June 2015.

The International Congress of Occupational Health is the largest international event held every three years where specialists in the hygiene, nursing and ergonomics from the government, academia and labor industries gather together to promote the occupational health across the world.

The motto of the 30th ICOH Congress was 'Occupational Health for All: From Research to Practice', where experts in the occupational medicine, hygiene, nursing and ergonomics from the government, academia and the business gather together.

Around 1,700 experts in the occupational health participated in the congress and there were ten key-note speeches and 30 semi key-note speeches. The number of special session hosted was 119 with 65 speeches and 528 poster speeches.

KOSHA hosted 4 special sessions including special session on the culture of prevention during the congress, in which international organizations and related associations such as International Labor Organization(ILO), International Society Security Association(ISSA) and German Social Accident Insurance(DGUV) gave presentations on activities and strategies on the culture of prevention through implementing the Seoul Declaration. The participants also discussed ways to promote the Culture of prevention and share information. Around 100 specialists in the occupational health industry participated in the special session.

Further, KOSHA also **hosted the bureau meeting of the ISSA Section for the Culture of Prevention at Hyatt regency Cancun on the 19th March** during the congress.

Participants in the bureau meeting dealt with future activities, ways to expand vice-chair organizations and develop index of culture of prevention. Also, members decided to host the next bureau meeting in February 2013 in Germany.

President Hun-ki Baek said "KOSHA is working hard to make the 31st ICOH Congress successful held in Seoul, Korea, calling on the support from in and outside the country".



Declaring to host the next ICOH Congress
at the closing ceremony



Bureau meeting of ISSA International Section
for a Culture of Prevention



Safe, lively and motivated Seoul

**MOU between Seoul and KOSHA for framework to prevent accidents,
e.g., fiscal assistance to old facilities**

2nd April

KOSHA starts a project that helps Seoulites and workers secure their rights to health and safety.

President Hun-ki Baek and Mayor Won-soon Park, Seoul's mayor concluded memorandum of understanding at Dasan Plaza in Seoul on 2nd April to make Seoul 'safe, lively and motivated'.

Outline of the MOU

- ▶ When: 11:00 a.m., 2nd April, 2012
- ▶ Where: meeting room on the 13th floor of the Dasan Plaza, Seosomun, Seoul
- ▶ Participant: president Hun-ki Baek of KOSHA, Mayor Won-soon Park and relative persons.

KOSHA and Seoul metropolitan government pursues following plans:

- Improvement of old industrial facilities
- Prevention of accidents of street cleaners and public workers
- Enhancement of safety and health of workers in the restaurant and water & sewage treatment plants
- set up of a safety system for construction process ordered by the Seoul metropolitan government

First, when it comes to the improvement of the old facilities, the Seoul metropolitan government and KOSHA give fiscal assistance to some 100 work places in four vulnerable sectors in terms of prevention capability, such as printing, sewing, jewelry and machine industry, located in Seoul metropolitan area.

Second, for the safety of street cleaners, each district office and KOSHA build a network to prevent accidents. Also to help public workers avoid accidents, KOSHA and the Seoul government jointly educate them and check the status of the field.

Third, both KOSHA and the Seoul government examine OSH status when they check meal service center and restaurants, to prevent accidents in the food-service industry. In addition, KOSHA provides facilities such as oxygen meter to prevent suffocation accidents in the contained places, which usually occur in the sewage treatment facilities.

Fourth, the process of construction contract ordered by the Seoul metropolitan government will receive joint examination from KOSHA as well as Seoul. Also, they plan to create a safety and health management system to umbrella agencies of the Seoul metropolitan government such as the construction company, SH corporation, to make a better working environment.

Meanwhile, KOSHA concluded contracts with 290 organizations and enterprises up until now among which 51 are local governments, showing achievements in the accidents prevention.



Achievement case in 2007

KOSHA concluded a memorandum of understanding with Gyung-gi province in July, 2007 to prevent suffocation cases in contained places. After this MOU, fatal suffocation cases during the sewerage construction orderd by the Gyung-gi province, dropped from 5 cases in 2007 to none in 2009.

Achievement case in 2010

KOSHA concluded MOU with Jeju Special Self-Governing Province to focus on prevention activities in service sector and public work project. As a result, accident rates went down to the level of 0.6% from 0.8% which goes beyond the national average.

President Hun-ki Baek said that this MOU will serve as an opportunity to contribute to make Seoul 'safe and sustainable', adding that KOSHA keeps signing contract with other local governments so that it can strengthen the capacity for safety and health.



〈President Hun-ki Baek and mayor of Seoul Won-soon Park signed MOU which aims to make Seoul safe, lively, and motivated.〉





KOSHA, Development of OSH materials for migrant workers

3rd April

KOSHA is preventing occupational injuries and illnesses of migrant workers with various methods. As part of these efforts, KOSHA is making and distributing OSH materials such as poster and books in their languages to help migrant workers in industrial fields of Korea avoid occupational injuries and illnesses. KOSHA has been assisting migrant workers since 2000 to expand prevention activities through safety and health education.

Migrant workers have time to adapt to new working environments during the primary education in which they learn how to understand safety and health signs, wear personal protective equipment, handle with chemical materials safely and prevent musculoskeletal diseases such as back-pain.

In addition, KOSHA published accident prevention guidelines in 13 languages for workers in the manufacturing, construction and service industry, using the materials to educate migrant workers.

Development plan of OSH materials for migrant workers, 2012 year

	Type	No. of copy	Languages
Paper books	2	37,200	10 languages
One Page lesson sheet	15	Electronic file	English
Poster	5	73,450	13 languages
Sticker	10	43,800	13 languages
Video(DVD)	2	6,000	13 languages
Animation(DVD)	2	7,500	13 languages
PPT	5	Electronic file	English

❖The ten languages include : Chinese, Indonesian, Vietnamese, English(Philippine), Bangladeshi, Thai, Russian (Uzbek), Mongolian, Pakistani and Sri Lankan

❖The thirteen languages include: Chinese, Indonesian, Vietnamese, English(Philippine), Bangladeshi, Thai, Uzbek, Mongolian, Pakistani, Sri Lankan, Nepalese, Cambodian and Burma

Also, KOSHA runs the website for migrants where they could download materials if they need. In addition, electronic files continue to be updated on the KOSHA website for them. For details, please contact us (overseas@kosha.net)



KOSHA, MOU with the Samsung Electronics Service

Boosting health promotion of workers of both the headquarter and its subcontractors

6th April

KOSHA begins preventing low back pain, falls and other illnesses and injuries of workers in the service sectors such as home appliance repairing. The Samsung Electronics Service co., Ltd. (President : Yoon Seung-cheol) and KOSHA(President: Baek, hun-ki) signed the memorandum of understanding for mutual cooperation in the area of accidents prevention of the service sector, on the 6th April.

This memorandum of understanding is to settle down self management of safety for some 110 subcontractors as well as the headquarters of the Samsung Electronics Service itself which is the largest electronics and communication service provider in Korea. They are now taking joint steps to protect safety and health of workers of service centers of the Samsung Electronics Service and its partners.

As part of these efforts, KOSHA provides risk assessment, and safety & health consulting to help the company set up the safety and health management system for its subcontractors and partners. For the small-sized subcontractors or partners with less than fifty workers, KOSHA passes through the examination to support safety equipment or financial assistance for improving facilities.

Both parts of the MOU also work together to provide technology and information for workers and training with them to prevent not only accidents like fall which could occur when they deal with heavy electronic goods like refrigerators and washing machines, but also illnesses such as musculoskeletal disorder and cardiovascular diseases.

President Baek said “as workers are the first customers of the company that they are working for, their safety and health should be ensured to deliver the best service finally to end-users.” adding that he expects accidents prevention culture would expand across the related industries as the leading company in the sector sets a good example.



〈Mr. Baek, President of KOSHA(on the right side of the picture) and Mr. Yoon, president of Samsung Electronics Service taking a picture of memorial to do MOU for accident prevention of service related workers〉



OSHRI's study on the state of vibration workers

With increasing accident trend, focusing on the need to set out standards

17th April

There are increasing accident cases reported from using vibration device such as rock drills, chain saws and grinders.

OSHRI in KOSHA(President : Baek, Hunki)pointed out the importance of setting out the standards on the use of and exposure to the vibration device through its report on 'state of workers in the vibration work'.

According to the report, grinders give workers the most vibration a day followed by rock drills, chain saws and impact wrenches, among six vibration device including power hammers.

Table 1) Exposure to vibration by device a day

device	Grinder	Rock drill	Chain saw	Impact Wrench
vibration acceleration	3.3 $\frac{m}{s^2}$ ~11.1 $\frac{m}{s^2}$	7.1 $\frac{m}{s^2}$ ~10.8 $\frac{m}{s^2}$	1.7 $\frac{m}{s^2}$ ~2.8 $\frac{m}{s^2}$	1.5 $\frac{m}{s^2}$ ~1.6 $\frac{m}{s^2}$

*Six vibration devices are: rock drills, power hammers, chain saws, engine cutters, impact wrenches and grinders

The result of the study shows that workers using grinders and rock drills at work in Korea are exposed to vibration twice at most those of their European peers, which is 5.0 $\frac{m}{s^2}$. In addition, the research released six workers out of seventeen(35%) are over-exposed to the vibration.

The EU's limits on vibration exposure at work is 5.0 $\frac{m}{s^2}$ and every product imported and exported with over 2.5 $\frac{m}{s^2}$ must notify information about their vibration level.

Meanwhile, OSHRI's research on notifying information on the vibration level in 10 businesses revealed that eleven domestic products among twenty vibration equipment and device fail to demonstrate information on their vibration with only four imported products that notified the information.

This research targeted 20 types of vibration making equipment or device from ten enterprises in the coal mining, ship building and repairing industry which use more vibration equipment or device than other sectors.

The number of victims from vibration related accidents in Korea has been on the rise since 2008 reporting 70 cases for the past five years. By sectors, the coal mining industry witnessed the most cases followed by shipbuilding and repairing sectors.

KOSHA Newsletter



Table 2) No. of vibration victims in recent five years

	total	2007	2008	2009	2010	2011
No. of victims	70	16	7	9	15	23

Table 3) No. of vibration victims by sectors

	total	coal mining industry	Ship building and repairing	device and equipment manufacturing	Transportation equipment manufacturing	Construction	metal processing	others
No. of victims	70	44	12	3	2	2	1	6

OSHRI underlined the importance of setting out standards on vibration exposure at work to prevent accidents from vibration device or equipment, saying that businesses by themselves have to manage the vibration equipment and device and notify the information on the vibration level.

Mr. Kim, researcher from OSHRI said that with only wearing the gloves, the level of vibration is lowered adding that employers should provide vibration-proof gloves to workers.

Accident cases

case1. A worker who has worked around 20 years with the impact wrench and grinder at the shipbuilding site in Ulsan, complained of vibration hazard from using them but did not get the job transfer, ending up with his fingers problem which was designated as occupational injury as of January, 2012.

case2. A coal miner for over 18 years using rock drills in Kang-won province developed Raynaud's disease in his hands, designated as occupational injury in February, 2012.

* Raynaud's phenomenon is a vasospastic disorder causing discoloration of the fingers. It can be caused with overusing of vibration device or equipment. Chronic, recurrent cases of Raynaud phenomenon can result in atrophy of the skin, subcutaneous tissues, and muscle.



KOSHA hosted an international seminar at the hall in the KFPA

Introduction for domestic best practice and the system of Japan relating work footing and scaffolds.

19th April

The OSHRI of KOSHA(President : Baek, HunKi) hosted an international seminar at the hall in the KFPA(Korea Fire Protection Association) on 20th April under the theme of “ways to improve work footings and scaffolds to reduce fatal fall accidents on the job” where experts and professionals in Japan and Korea participated.

*work footing : the basis or foundation on which workers stand to perform high place work

*scaffold : a temporary structure used to support people and material in the construction or repair of buildings and other large structures

This seminar would be the venue where participants talk about measures to prevent injuries in the construction worksites which record the highest fatalities, focusing especially on ways to improve work footings and scaffolds to prevent falls which account for half of fatal accident in the construction worksites.

※ As for the construction industry, 621 fatalities were reported in this sector among total death cases of 2,114, which is the highest ratio(29.38%), among which 311 cases were fall accidents.

※ Work footings and scaffolds alongside with ladders are two of the major reasons that cause fall accidents at the worksites.

Mr. Choi, Assistant deputy director of Occupational Safety Research Department of OSHRI, releases the result of his research that shows accidents at the work footings usually occur at 3 to 10 meters high and frequent in small-scaled worksites with KRW 2 billion and workers aged over fifty and career of over 10 years.

Dr. Yasuo Toyosawa from Japan's National Institute of Industrial Safety delivered presentation on Japanese activities and new technologies to prevent falls.

※ Daewoo Engineering & Construction also delivers presentation on best practices of using work footings and scaffolds to improve safety. The Korean Society of Safety gives its strategy to accept advanced scaffolding system.

Mr. Kwon, Director of the Safety Research Department from OSHRI who supervises the seminar said that fall accidents usually end up with death as most works are done at the high place, adding that it is important to improve the safety of facilities such as work footings as well as encourage workers to wear personal protective equipment, to prevent fall accidents.

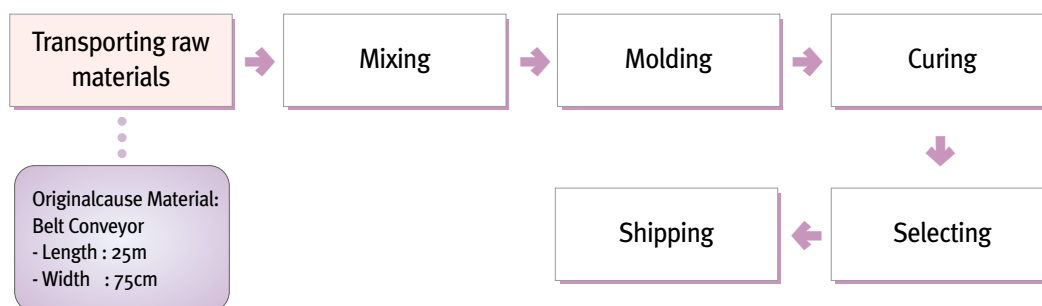


Example of Serious Accident in Manufacturing

Being caught when processing ore dropped on belt conveyor

I. Outline of Accident

- At 16:45 on Dec. 29, 20007 (Sat.)
- In the bottom of belt conveyor in XX factory in Pohang, Gyeongbuk
- Left arm and tool of the victim who processed ore (steelmaking sludge) dropped on belt conveyor
- Are caught in return roller of belt conveyor
- And the victim was dead on 04:00 of Jan. 17, 2008(Thur.) in hospital.
- Process of brick block production

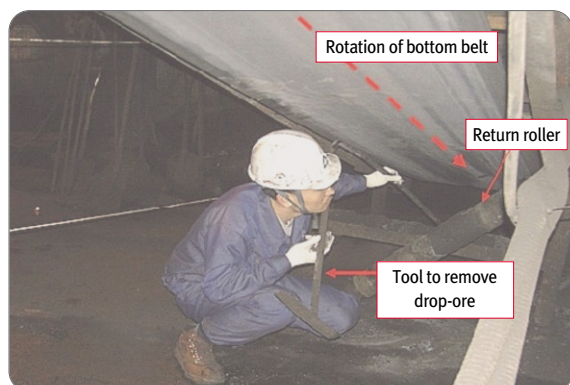


II. Process of Accident

- The victim was assigned with 3 coworkers in the workplace. 2 coworkers was working in operation room, and the victim and other coworker started works such as selection and cleaning.
- When curing platform did not put molded blocks in curing room properly, team leader in operation room opened the door of curing platform, checked error and returned to operation room.
 - In normal work, door of operational section of curing platform is locked. In the day of accident, when there was an error in the operation of curing platform, team leader checked it and returned to operation room but did not locked its door.
 - Belt conveyor where the accident occurred is installed in the end of operational section of curing platform. The victim is presumed that entered the unlocked door and processed dropore alone.
- Team leader in operation room identified suspension of belt conveyor through control panel.
- When checking the site, team leader found out that the left arm and tool of the victim were caught in return roller.
- Team leader rescued the victim, took emergency measures and evacuated to the hospital.
- The victim died in the hospital.
 - Though an emergency stop equipment was installed in the belt conveyor, it was too far from the location where the victim was caught, and nobody saw the victim enter the operational section of curing platform.



- Accident Situation



- Emergency stop equipment of belt conveyor and door of operational section of curing platform



III. Reason of Accident

- Insufficient protection management
 - Dangerous parts including motor, shaft, pulley, flywheel, belt and chain should be protected by a cover or fence, but the rotated part of return roller in the bottom of belt conveyor was not protected by cover or fence.
- Dangerous section was not locked
 - Work manager did not lock and left after checking the machine.
- Dangerous behavior when handling liquid oxygen
 - Because the final outlet of oxygen tank is in the basement with poor ventilation, valve to discharge liquid oxygen should be handled slowly for enough dilution and ventilation. And considering the fact that liquid oxygen “can be ignited when contacted with flammable materials” (see Material Safety Data Sheets, flammable materials should be prohibited. However, the worker conducted a dangerous behavior such as carrying cigarette, a flammable material and it caused the fire.

KOSHA Newsletter



- Install protective equipment
 - Install a cover or fence to protect worker's body from return roller in the bottom of belt conveyor.



IV. Prevention of Accident

- Lock the door thoroughly
 - Door installed to prevent entrance of workers in dangerous section should be locked after repair or maintenance of equipment thoroughly to prevent entrance of workers
- Secure reliable emergency stop equipment
 - Conveyor should have emergency stop equipment that can be operated by worker manually or unconsciously in emergencies. In dangerous places, emergency stop equipment that can be easily operated should be installed.