



New Jersey Work Environment Council (WEC) Checklist

Finding Chemical Exposures and Negotiating Fixes

This checklist can help you and your union push management to reduce workers' exposures to hazardous chemicals. Your union's efforts to prod management are vital, because often nothing else works effectively, including OSHA inspections.

OSHA's chemical exposure limits are out-of-date and too weak, except for a few chemicals. Most OSHA inspections of chemical exposures result in no citations, even when workers suffer health symptoms or work-related diseases.

With your union, you can use this seven-step checklist to help find chemical exposures, identify control measures, and compel management to implement fixes.

Under federal law and, for public employees, New Jersey law, issues regarding workplace health and safety are mandatory subjects of bargaining. As part of this obligation, the employer must supply the union with requested safety and health information within a reasonable period. This includes information about chemicals and control measures used in the workplace.

Work in a group and document the results of each step. Keep a notebook and take photos or videotapes, if possible. Draw a floor plan of the workplace and identify chemical exposure "hot spots."

Contact your union and WEC at (609) 695-7100 for help developing an action plan. Consult the *WEC Action Guide* and other resources listed on page 5. Your national union's health and safety department can also assist you.

Step One: Obtain names of workplace chemicals

To start, request the employer's most recent state Right to Know Survey and OSHA Hazard Communication Standard written plan, which must include an inventory of all hazardous chemicals. Also check ingredients on container labels and Material Safety Data Sheets. Your list of chemicals should include:

- Substances brought into the workplace and handled, stored, and used for processing, for example, raw materials, solvents, cleaning agents, glues, resins, paints.
- Substances generated by a process or work activity, for example, from welding, soldering, machining, solvents from painting, dust from sanding.



- Substances produced by the work process including intermediates, by-products, wastes, and combustion and decomposition products.

Step Two: Identify health and safety hazards of chemicals from

- Container labels
- Material Safety Data Sheets www.ilpi.com/msds/faq/index.html
- NJ Hazardous Substance Fact Sheets
<http://web.doh.state.nj.us/rtkhsfs/indexfs.aspx>
- NIOSH Pocket Guide to Chemical Hazards www.cdc.gov/niosh/npg/
- International Chemical Safety Cards www.cdc.gov/niosh/ipcs/icstart.html
- OSHA Topic Pages www.osha.gov/SLTC/index.html. Use the alphabetical drop-down menu of topics or enter a topic and search for it.
- ATSDR ToxFAQs™ www.atsdr.cdc.gov/toxfaqs/index.asp

Step Three: Ask co-workers if they are experiencing symptoms or illness

Talk to co-workers to find out if there are complaints of health symptoms or illnesses from chemicals or other complaints about chemicals.

- Use surveys such as the ones at www.njwec.org/images/pdf's/III-3_surveys.pdf
- Use the CHE Toxicant and Disease Database, a searchable database that summarizes links between chemical contaminants and approximately 180 human diseases or conditions at www.healthandenvironment.org/tddb
- To protect both the privacy and job security of respondents, survey results must not be used in any way that reveals the identities of individual workers

Step Four: Determine exposure potential to chemicals by observing

- The forms of chemical present, for example: aerosol, dust, fiber, foam, gel, granule, liquid, mist, paste, powder, slurry, spray, vapor
- Typical temperatures at which workers handle chemicals compared to the chemical's boiling point
- The dustiness of the chemicals
- The amounts of chemicals present, in best applicable units, for example: pounds, gallons, cubic feet
- Job titles and numbers of workers that handle chemicals on all shifts



- Typical activities performed, and the typical machinery, equipment, and tools used by workers handling chemicals
- Activities that may cause chemicals to become airborne near workers, for example: blending, cleaning, coating, crushing, cutting, drilling, drying, dumping, filtering, grinding, heating, machining, measuring, melting, mixing, molding, packaging, painting, pasting, polishing, pouring, sampling, sanding, sawing, scraping, screening, spilling, splashing, spraying, sweeping, transferring, weighing, wiping, etc.
- Activities that may cause chemicals to contact eyes, skin, hair, gloves, shoes, or clothing

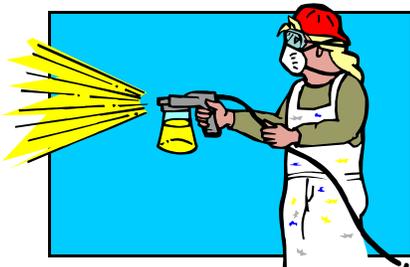
- Settled dust that may be re-suspended into the air
- Open or leaky containers, pipes, pumps, vessels, or sewers from which liquids may evaporate or gases escape
- Storage of food, beverages, gum, tobacco products, or cosmetics where they can be contaminated by chemicals
- Typical number of days per year that workers handle or are exposed to chemicals
- Typical hours per shift that workers handle or are exposed to chemicals
- Sensory perceptions of workers from chemicals, for example, odor or irritation
- Effectiveness or ineffectiveness of existing control measures
- Results of bulk, air, or wipe sampling compared to health-protective levels
- Results of blood or urine tests of workers compared to health-protective levels
- Results of medical testing of workers with personal identifiers removed

Step Five: Negotiate these general good practice control measures

The hierarchy of controls is a series of steps that employers should take to reduce exposure to a chemical, ranked from best to worst in terms of effectiveness. It starts with substituting a safer material, machine, or process; followed by engineering controls like mechanization, enclosure, and ventilation; followed by administrative controls like limiting exposure time and distance, housekeeping, hygiene facilities, medical surveillance and air monitoring; ending with personal protective equipment.



- Substitution of a less hazardous chemical, machine, or process
- Change or alteration to a process
- Isolation or enclosure of a process
- Isolation or enclosure of a worker in a control booth or area
- Remote or robotic control of chemical handling involving exposure
- Wet methods to reduce generation of dust
- General ventilation to provide dilution of airborne chemicals
- Local exhaust ventilation at the point of generation of chemical contaminants
- Properly selected, maintained, and used personal protective equipment



- Chemical protective gloves, for example, butyl rubber, neoprene, and PVC
- Chemical protective clothing, for example, chemical resistant aprons, suits, pants, and jackets
- Chemical protective footwear or coverings
- Chemical protective eye and face coverings
- Respiratory protective equipment
- Regular cleaning of work equipment and areas
- No dry sweeping, dusting, or use of compressed air for cleaning
- Cleaning methods that minimize dust generation, for example, wet wiping and mopping, and vacuum cleaning with a unit with a HEPA filter on the exhaust
- Adequate washing facilities near work areas

- Washing hands and face prior to eating, drinking, use of tobacco products, or application of cosmetics
- No eating, drinking, use of tobacco products, or application of cosmetics in work areas
- A clean lunchroom separate from work areas
- Lockers for storing street clothing and shoes separate from lockers for storing work clothing and shoes

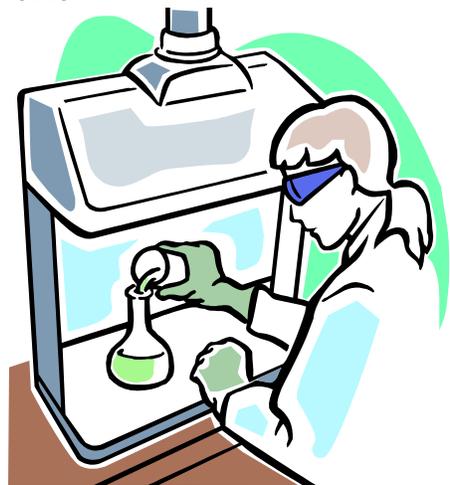


- Regular laundering of work clothing
 - Emergency showers and eye wash stations
 - Facilities to shower at the end of the shift
 - Adjusting work schedules or rotating job assignments so that individual worker exposures are reduced
 - Storage of chemicals in a secure and restricted area
 - Minimization of the amount of chemicals in storage
 - Standard procedures for prompt cleanup of chemical spills and leaks; practice drills of cleanup
 - Continuous air sampling with alarms set at health-protective levels

- Training how to use control measures properly and how to check that they are working

Step Six: Identify and negotiate specific good practice control measures, using guidance from

- NIOSH Hazard Controls and Hazard IDs www.cdc.gov/niosh/pubs/hc_date_desc_nopubnumbers.html
- OSHA eTools www.osha.gov/dts/osta/oshasoft/index.html
- Control Guidance Fact Sheets, United Kingdom Health and Safety Executive www.oehc.uchc.edu/news/Control_Guidance_Factsheets.pdf
- OSHA Topic Pages www.osha.gov/SLTC/index.html Use the alphabetical drop-down menu of topics or enter a topic and search for it
- Industry and trade associations
- Labor unions
- Insurance carriers
- User manuals and other information from manufacturers, suppliers, and installers of process machinery, equipment, tools, and control technology



Step Seven: Negotiate periodic maintenance and evaluation of control measures

- Daily checks that control measures are in use and working properly
- Periodic checks for wear and tear
- Periodic preventive maintenance
- Periodic testing of ventilation systems and other engineering controls against performance specifications
- Bulk, air, and wipe sampling of operations and comparison to health-protective levels
- Blood or urine monitoring of workers and comparison against health-protective levels
- Medical surveillance of workers for symptoms and disease
- Standard procedures for workers to report possible control problems or failures



For More Information



❖ *Preventing Workplace Hazards; An Action Guide for New Jersey Workers and Unions*, New Jersey Work Environment Council, June 2007
www.njwec.org/images/pdf%27s/WECGuide6.05webnew.pdf

❖ *Controlling Chemical Exposure: Industrial Hygiene Fact Sheets - Concise Guidance on 16 Components of Industrial Hygiene Control*, NJDHSS, January 2001 www.nj.gov/health/surv/documents/ihsf.pdf

❖ *Working with Substances Hazardous to Health*, United Kingdom Health and Safety Executive, June 2009
www.coshh-essentials.org.uk/assets/live/indg136.pdf

❖ OSHA Topic Pages - OSHA maintains these pages on many chemicals, from arsenic to wood dust. Each page has links to:

- Applicable OSHA standards, directives and interpretations
- Explanation of how to recognize the hazard
- Examples of possible solutions
- Related Topic Pages, publications, and other resources

To access OSHA Topic Pages, go to www.osha.gov/SLTC/index.html. There is an alphabetical drop-down menu of topics. Or enter a topic and search for it.

This checklist was prepared by Eileen Senn, industrial hygiene consultant for the New Jersey Work Environment Council (WEC).

WEC is an alliance of labor, community, and environmental organizations working together for safe, secure jobs, and a healthy, sustainable environment. WEC links workers, communities, and environmentalists through training, technical assistance, grassroots organizing, and public policy campaigns to promote dialogue, collaboration, and joint action.

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