International Hazard Datasheets on Occupation

Repair person, electrical appliance

What is a Hazard Datasheet on Occupation?

This datasheet is one of the International Datasheets on Occupations. It is intended for those professionally concerned with health and safety at work: occupational physicians and nurses, safety engineers, hygienists, education and Information specialists, inspectors, employers ' representatives, workers' representatives, safety officers and other competent persons.

This datasheet lists, in a standard format, different hazards to which repair person, electrical appliances may be exposed in the course of their normal work. This datasheet is a source of information rather than advice. With the knowledge of what causes injuries and diseases, is easier to design and implement suitable measures towards prevention.

This datasheet consists of four pages:

- Page 1: Information on the most relevant hazards related to the occupation.
- Page 2: A more detailed and systematized presentation on the **different hazards** related to the job with indicators for preventive measures (marked as and explained on the third page).
- Page 3: Suggestions for **preventive measures** for selected hazards.
- Page 4: **Specialized information**, relevant primarily to occupational safety and health professionals and including information such as a brief job description, a list of tasks, notes and references.

Who is an electrical appliance repair person?

A worker who repairs electrical home appliances - toasters, cookers, lamps, irons, etc.

What is dangerous about this job?

- Electrical appliance repairperson may accidentally come into contact with live wires or defective instruments receiving an electric shock.
- Electrical appliance repairperson often work long hours in seated postures, do many repetitive movements, and sometimes have to handle heavy and bulky appliances. All these may cause back, leg, arm and hand pain.

Hazards related to this job

Specific preventive measures can be seen by clicking on the respective in the third column of the table.

Accident hazards 	• Falls from height while installing or repairing hanging lamps, buzzers, outdoor units of "split" air conditioners, ceiling fans, etc.	1
	• Slips, trips and falls on the level, esp. on wet, slippery and greasy floors, while moving heavy appliances	2
	• Electric shocks caused by contact with live wires or defective instruments	
	• Mechanical injuries caused by exposed rotating parts of appliances under repair (e.g., fans)	
	• Acute poisoning and/or chemical burns as a result of using solvents, adhesives and other chemicals	
	• Fire risk due to use of flammable solvents, adhesives, etc.	3
	• Burns caused by contact with hot elements of appliances under repair (e.g., irons), molten metals (while soldering or brazing), or as a result of sudden release of vapors from appliances under repair (e.g., from coffee makers)	4
	• Cuts and punctures caused by working tools, sharp edges of parts of appliances under repair, puncture wounds from metal wires, etc.	5
	• Risk of road accidents, while driving to/from customer premises	

Physical hazards 	• Exposure to radiation while repairing microwave ovens	
	• Increased exposure to very low frequency (VLF) and extremely low frequency (ELF) electromagnetic fields (EMF) [See Note]	
Chemical hazards 	• Chronic toxicological effects associated with welding and soldering operations and materials such as lead	
	• Chronic poisoning as a result of exposure to fluorohydrocarbons, methyl chloride and other substances used in refrigerators, air conditioners, etc.	
Biological hazards 	• Biological hazards may be encountered while repairing appliances that were used by sick persons (e.g., hair dryers, electric tooth-brushes, electrical shavers, etc.), or were operated in a contaminated atmosphere (e.g., vacuum cleaners)	6
Ergonomic, psychosocial and organizational factors 	• Acute musculoskeletal injuries caused by physical overexertion and awkward posture while moving and installing heavy appliances	7
	• Cumulative trauma disorders, including carpal tunnel syndrome, caused by long-time repetitive work involving primarily hand, arm, and finger movement (in appliance repairers engaged in repair work on assembly line, or in repetitive workbench operations)	
	• Visual discomfort and eye strain as a result of viewing small parts of appliances under poor illumination conditions (e.g., inside an appliance)	8
	• Psychological stress as a result of work under time pressure and dealing with unsatisfied customers	

Preventive measures

1. Inspect ladder before climbing. Never climb on a shaky ladder or a ladder with slippery rungs
2. Wear safety shoes with non-skid soles
3. Substitute flammable solvents, glues, cleaners etc., for non-flammable ones
4. Use heat-insulating gloves to handle hot parts
5. Use metal-mesh or other cut- or stab-resistant gloves in all work with sharp knives or other sharp tools
6. Wear a respirator when emptying dust from vacuum cleaners
7. Learn and use safe lifting and moving techniques for heavy or awkward loads; use mechanical aids to assist in lifting
8. Install effective general and local illumination; consult a lighting expert

Specialized information

Synonyms Appliance-service representative; small-appliance repairer

Definitions and/or description Repairs electrical appliances, such as toasters, cookers, percolators, lamps, and irons, using handtools and electrical testing instruments. Examines appliance for mechanical defects and disassembles appliance. Tests wiring for broken or short circuits, using voltmeters, ohmmeters, and other circuit testers. Replaces defective wiring and parts, such as toaster elements and percolator coils, using handtools, soldering iron, and spot-welding equipment. May compute charges for labor and materials. May assist electrical-appliance servicer (any industry) in repairing such appliance as refrigerators and stoves [electrical-appliance

repairer (any industry)] [DOT]

Related and specific occupations

Appliance repairer [and occupations according to specific appliances, e.g.: food-mixer repairer; heating-element repairer; toaster-element repairer; vacuum-cleaner repairer; etc.]; assembler (household appliances); electrical-appliance preparer [and occupations according to specific appliances, e.g.: coffee-maker preparer; electric-refrigerator preparer; washing-machine preparer; etc.]; electrical-appliance servicer [and occupations according to specific appliances]; fixer; household-appliance installer; maintenance man; mender; repairman; serviceman; troubleshooter; uncrater

Tasks

Adjusting; advising (customers); aligning; applying; assembling, disassembling and reassembling; assisting; bending; bolting; boring; brazing; calculating (costs, wiring parameters, etc.); calibrating; checking; cleaning; computing (charges, etc.); connecting; cutting; demonstrating (appliances in operation); determining (repair requirements); drilling; driving; earthing; estimating (costs); examining (appliances); fastening; filing; fitting; fixing; gluing; hammering; handling; identifying (defects); installing; inserting; insulating; joining; keeping (records); lifting; loading and unloading; locating (shorts and grounds, etc.); lubricating; maintaining (stock of parts); marking; measuring (dimensions, electric parameters); mend-ing; mounting; moving (heavy appliances); observing (appliance in operation, instrument readings); operating (appliances, equipment); painting; placing; polishing; preparing; recording (details of repair); removing; repairing; replacing; screwing and unscrewing; sealing; selecting; servicing; setting; soldering; splicing (cables); stripping (wires); testing; touching up (paint defects); tracing (electrical circuits); transporting; troubleshooting; uncrating; using (tools, skills, etc.); washing; welding; wiring; wrapping (wires with tape)

Primary equipment used

Drills; electrical spare parts and accessories (e.g. capacitors, coils, resistors, fans, cables, wires, heating-elements, etc.); handtools (e.g. cutters, pliers, screwdrivers, wrenches, etc.); ohmmeters, oscilloscope and other circuit testers; pulse generator; soldering irons; spot-welding equipment; etc.

Workplaces where the occupation is common

Electrical appliance repair shops; electrical appliance preparation, service and repair departments (at factories, companies/agents repair and service shops, etc.); electromechanical workshops or departments of hospitals, technical schools, big companies, etc.

Notes

There exist conflicting opinions as to whether exposure to VLF and ELF EMF is hazardous to health. So far, no convincing proof of such hazard has been obtained

References

Encyclopaedia of Occupational Health and Safety, 3rd Ed., ILO, Geneva, 1983, Vol. 1, various chapters.

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Electricity at Work: Safe Working Practices. HS(G) 85, HSE (UK), 1993.

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