

International Hazard Datasheets on Occupation



Operator, derrick

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 operator, derricks 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 a derrick operator?

A worker who operates, inspects, maintains, cleans, services and assists in erecting, operating or moving derricks; positions and aligns derrick elements.





What is dangerous about this job?

- Derrick operators may fall from heights, suffer electric shock, be injured by sharp working tools or by blows from falling objects or moving elements of the derrick.
- Derrick operators may become entangled in, or crushed by, moving parts of machinery, belts, chains and ropes.
- Derrick operators work in harsh weather or strong sunlight which may cause health problems.

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		
	<ul style="list-style-type: none"> • Falls from heights, esp. when carrying out maintenance work, working from suspended platforms or climbing ladders 	
	<ul style="list-style-type: none"> • Slips, trips and falls (esp. while carrying heavy or bulky loads, or working on wet and slippery surfaces) 	
	<ul style="list-style-type: none"> • Falls of loads on head, feet or other parts of body 	
	<ul style="list-style-type: none"> • Blows to or crushing of head or other parts of the body by swiveling loads, derrick parts, or the counterweight as a result of operator error or misunderstanding signals 	
	<ul style="list-style-type: none"> • Injuries to the whole body or body parts, as a result of tipping or collapse of the derrick or parts thereof (in particular when trying to hoist loads heavier than the rated load, or at boom angles and/or operating radii outside the approved ones) 	
	<ul style="list-style-type: none"> • Entanglement of clothing, hair, beards, hands or feet in moving parts of machinery, belts, gears, ropes, chains, etc. 	
	<ul style="list-style-type: none"> • Entrapment or crushing between moving or rotating structures of the derrick and fixed objects 	

	<ul style="list-style-type: none"> Cuts and injuries caused by sharp instruments and tools during maintenance work 	
	<ul style="list-style-type: none"> Electric shock or electrocution caused by defective installations and equipment or by contact of metal booms of the derrick or chains with overhead power lines 	5
	<ul style="list-style-type: none"> Musculoskeletal injury (esp. of back), resulting from lifting and moving of heavy loads 	6
	<ul style="list-style-type: none"> Burns due to contact with hot exhaust pipes or exhaust gases 	
	<ul style="list-style-type: none"> Fire and explosion hazard when moving flammable or explosive materials 	
	<ul style="list-style-type: none"> Lightning strikes during a storm 	
Physical hazards	<ul style="list-style-type: none"> Exposure to cold and/or heat or strong sunlight as a result of outdoor work 	
	<ul style="list-style-type: none"> Exposure to noise and vibration from the engine (electric, diesel, gasoline or other) and from mechanical equipment 	
Chemical hazards	<ul style="list-style-type: none"> Dermatitis as a result of contact with fuel, lubricants, oils and or other chemicals during drilling and or maintenance work 	
	<ul style="list-style-type: none"> Exposure to oxygen-deficient atmospheres (e.g., from accumulation of exhaust gases) 	
	<ul style="list-style-type: none"> Exposure to engine exhaust gases 	
Biological hazards	<ul style="list-style-type: none"> Bites by snakes and rodents in construction sites 	
	<ul style="list-style-type: none"> Bites by insects or rodents when moving loads containing grains or other bulk foods 	
Ergonomic, psychosocial and organizational factors	<ul style="list-style-type: none"> Repetitive strain injury (RSI) and other musculoskeletal problems as a result of continuous repetitive movements 	
	<ul style="list-style-type: none"> Overexertion during lifting and moving of heavy loads, esp. when working in awkward (bent, etc.) postures 	
	<ul style="list-style-type: none"> Stresses and family problems due to shift-work 	
	<ul style="list-style-type: none"> Operations in remote areas may present psychological stresses due to long hours, fast work-pace, lack of adequate rest, noise/vibration, heat/cold, poor lighting, home worries, etc. 	
	<ul style="list-style-type: none"> Back problems and leg fatigue if sitting in improperly designed chairs 	

Preventive measures

- 1 All persons in the vicinity of a derrick must wear hard hats, safety shoes and other personal protective equipment PPE as appropriate to minimize the effect of blows by falling or moving objects
- 2 Do not use a derrick to hoist workers on a suspended platform
- 3 Install a grab rail round the perimeter of all surfaces on which personnel must stand
- 4 Allow adequate clearance between moving or rotating elements of the derrick and fixed structures to prevent crushing or entrapment
- 5 Check electrical equipment for safety before use; take faulty or suspect electrical equipment to a qualified electrician for testing and repair
- 6 Provide lifting aids for the lifting and transport of heavy loads

Specialized information

Synonyms Derrick operator (any industry); derrick helper; derrick assistant; derrick worker.

Definitions and/or description Operates electric-, diesel-, gasoline-, or steam-powered guy-derrick or stiff-leg derrick (most supported by fixed legs or tripod), to move products, equipment, or materials to and from quarries, storage areas, and processes, or to load and unload trucks or railroad cars: Pushes and pulls levers and depresses pedals to raise, lower, and rotate boom and to raise and lower load line in response to signals. May inspect and lubricate cables, pulleys, guides, and drums. May be known according to material moved as log-yard derrick operator (saw. & plan.); or equipment controlled as stiff-leg derrick operator (wood products, nec.). [DOT]



Related and specific occupations A-frame derrick operator; basket derrick operator; breast derrick operator; Chicago boom derrick operator; crane operator; derrick-barge operator; derrick-boat captain/operator/runner; derrick-car operator; gin pole operator; guy derrick operator; hoist operator; hoisting-machine operator; offshore-platform derrick operator; oilfield (and oil exploration) derrick operator; stiff-leg derrick operator; truck-mounted derrick operator; well-service derrick worker

Tasks Attaching; climbing; communicating; controlling; depressing; descending; drilling; excavating; handling; hoisting; inspecting; lifting; loading and unloading; lowering; lubricating; maintaining; manipulating; moving; observing; operating; perceiving; placing; pushing & pulling; raising; repairing (field repairs); rotating; signaling

Primary equipment used Derricks; miscellaneous auxiliary equipment such as chains, ropes, hooks, sprockets etc.; hand tools for maintenance and lubrication; signaling and communication equipment

Workplaces where the occupation is common Construction sites; oil fields; offshore oil drilling; derrick barges (in river transport); transportation industry in general (road, rail, waterway transport, docks)

- Notes**
1. Operator must know limitations of the derrick being used. Weights of objects being lifted must be known. Accomplish repairs only with manufacturer approved and specified materials.
 2. Hazards intrinsic to the operations carried out at the vicinity of the derrick operator may also effect the operator (e.g.; drilling into rock of high free silica content may produce dust hazardous to the derrick operator too).
 3. Derrick operators and helpers are also exposed to all the environmental and accident hazards of the specific site where the derrick is located. For example: transport (in particular helicopter) accidents, exposure to strong winds, waves and harsh weather, drowning, stresses due to boredom, etc.(e.g., at North Sea offshore oil platforms).



References California Code of Regulations. Subchapter 7 Article 95 - Derricks; Derrick signals. 1999.



OSHA Regulations Standards - 29 CFR. Derricks - 1910.181 15 pp. 1999.

OSHA Regulations Standards - 29 CFR. Cranes and derricks - 1926.550. 16 pp. 1999.

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