

Roger L. Wabeke

MSc, MScChE, CIH, CHMM^M, PE

WAYNE STATE UNIVERSITY

42 Years of Industrial Hygiene, Toxicology, Safety Engineering Experience

Steel manufacturing

Blast furnaces

Coke ovens and powerhouses Marine transportation and shipping Iron and stainless steel making Steel rolling/hot and cold mills Furnace, oven, and ladle repair Scrap, slag, and fly ash handling Basic oxygen furnaces Inoculation and drossing Refractory handling and repair Tar and light oil processing Furnace charge batch mixing Air pollution device maintenance

Metal machining

Copper, zinc, and brass foundries Lead-acid battery manufacturing Recreational vehicle manufacturing Paint, wood, and metal sanding Mold cleaning and preparation Air conditioner manufacturing Tungsten carbide tool manufacturing Plastics injection extrusion Plastics injection molding Secondary scrap smelters Resin mixing and applications Hazardous waste treatment Reprographics and printing processes

Dental materials manufacturing Mercury handling and processing Polyurethane foaming and machining Roofing and building maintenance Confined space processes and entry Blueberry harvesting/processing Upholstery manufacturing Acid and alkali metal cleaning Asphalt paving and roofing Waste water treatment Glass bronzing and treating Fibrous glass handling Scrap metal baling

Bakeries

Engine testing and calibration Pipe fitting and pipe covering Iron ore mining and shipping Semiconductor manufacturing

Highway paving

Parts packaging operations

Pig farms

Robotics manufacturing

Uranium enrichment processing

Residential homes

Night clubs

Sewage treatment plants Potato chip manufacturing Gvnsum minina

Gray iron and steel foundries

Core and pattern making

Molten metal pouring

Cope, drag, and flask making

Casting cleaning Mold making

Cupola maintenance and rebuilding

Scrap handling Electric arc furnaces Inoculation and drossing Refractory handling and repair Sand drying and handling Furnace charge batch mixing

Casting shakeout Electroplating

Steel (zinc, chromium, tin)

Plastics (chromium) Automobile service stations Solvent vapor degreasing Powder metallurgy processes Refrigerator manufacturing Transmission repair shops

Chemical research and synthesis Transportation loading and unloading

Trucks Rail cars

Great Lakes ore and grain boats

Locomotives

Carpentry and woodworking

Isocyanate handling

Mortuaries and pathology laboratories

Glass manufacturing Electron beam welding Cake decorating Metal pickling operations

Non-destructive testing

Metal forging Case hardening

Architectural glass manufacturing

Pulp and paper mills Zinc melting and purification

Drv cleaners

Cardboard manufacturing

Electrical capacitor maintenance

Wood/plastic die model making

Plastics formulation

Grain handling and processing Photographic processes/darkrooms

Railroad car repair shops

Aluminum ingot and alloy casting Community fire departments

Indoor air quality

Cotton processing

Homes, auditoriums Schools, places of worship Office buildings, arenas

Paint manufacturing Automobile manufacturing

Tractor manufacturing

Grinding, polishing, and buffing

Adhesives application Machinery cleaning

Vinyl resins manufacturing Truck and van manufacturing

Satellite manufacturing

Welding, soldering, and brazing Spray finishing operations

Paints Adhesives Solvents Isocvanates Metalworking fluids

Parting compounds, powder coatings

Lead-arsenic solder grinding Rubber tire manufacturing Railroad tank car painting

Radio and television manufacturing

Parking deck coating

Asbestos handling and removal Chemical and physical analyses Electronic parts manufacturing Electrical equipment repair

Aluminum melting and die casting

Transmission manufacturing Diatomaceous earth calcining Boiler repair and maintenance Hospitals and health care centers Modular building construction Building construction sites

Petroleum refineries

Zinc die casting

Animal parts rendering plants

Abrasive blasting Post offices

Diesel locomotive maintenance

Metal stamping Magnet manufacturing Diazo film manufacturing Silk screening and printing

Air pollution controls' maintenance

Naval vessels Newspaper printing Industrial lasers Bervllium machining Automobile repair shops

Floor tile removal and installation

Steam boiler maintenance Molten tin purification

Cl₂ diaphragm cell manufacturing Infant formula manufacturing Galvanized pipe manufacturing

Soft drink hottling plants

Copper smelting Engine and transmission repair Furniture manufacturing HVAC system maintenance Steel bolt manufacturing Diesel locomotive servicing Sausage making Automobile shredding Citrus juice processing Chemical manufacturing Cigarette lighter manufacturing Asbestos abatement Chlorine, bleaches Liquefied propane gas odorization Railroad tank car re-lining Sawmills and lumber yards Drywall manufacturing Caustic soda Chlorinated solvents Fuel tank manufacturing Movie theaters Diamines Drafting film manufacturing Module building construction Pesticide applications Isocyanates (TDI, MDI, HMDI) **Pharmacies** Phosgene Museums Automotive service stations Detergents Hyperbaric tunneling operations Tool jig manufacturing Dinitro aromatics "Lost wax" metal casting Tool grinding Steam turbine repairs and calibration Soda ash Model train manufacturing Calcium chloride Light bulb manufacturing Coffee bean roasting Prisons and correctional facilities Solvent extractions of spices Ferric chloride Sodium bicarbonate Floor surfacing and coating Mattress manufacturing Portland cement **Breweries** Synthetic detergents Drywall installation Quaternary amines Community noise evaluations Pesticides Spark plug manufacturing Brick laving Vinyl and polyester resins Gasoline engine manufacturing Navy ships at sea Polyols and polyethers Catalytic converter manufacturing Thermometer manufacturing Alkyl and aryl sulfonates Waste materials incineration Epoxy floor coating Lime and limestone Diesel engine manufacturing Garbage and trash recycling Calcium hypochlorite Medical research laboratories Chemistry laboratory design Ammonia, ammonium sulfate Aluminum wheel manufacturing Aircraft maintenance Hydrogen sulfide Plastic fluorination processes Animal toxicological testing Cyanides Alcoholic spirits manufacturing Aluminum extrusion Aromatic amines Biological research facilities Dental prosthesis clinics Chlorinated rubber Nickel alloy battery manufacturing Polyurethane floor coating Alkyl epoxides Mechanical road sweeping Asphalt batch mixing Hydrogen Wire drawing Gaming casinos Aliphatic alcohols Tool and die manufacturing Scrap metal shredding Truck axle manufacturing **Phenolics** Gasoline truck filling racks Aromatics and polynuclears Pharmaceutical manufacturing Coffee roasting Hydroxycellulosics Lobster and crab harvesting Industrial radiography Organic catalysts Stone quarrying Concrete paving Bus terminals Dispersants and emulsifiers Vocational training centers Hydrochloric acid Sign painting Animal carcass incineration Lignins and sugars Trash recycling Ship repair and breaking Calcium carbonate Fruit processing Cotton fabric bolt dyeing Fertilizers Explosives manufacturing Wire cloth manufacturing Paints and coatings Stainless steel anodizing Welding of all types (stick, MIG, Mercury amalgams Hazardous waste sites TIG, electron beam, laser, Coal tar chemicals Wood preservation submerged arc, flux-cored, Aircraft parts prototype mfng. resistance, pulsed arc, Meat packing and processing plasma arc, thermal spray-Dry wall installation Ball-point pen manufacturing Petroleum transportation Restaurants and cafeterias ing, oxyfuel, friction, etc.) Rubber hose manufacturing Dairy products manufacturing Furniture restoration Copper pot manufacturing PCB handling and disposal Granite and marble quarries Glutaraldehyde sterilization Anti-neoplastic agents Vegetable processing, canning Electrical conduit manufacturing Coal tar and pitch processing Gun marksmanship ranges Refrigeration plants Silica flour processing Zinc smelting and die casting Butcher shops Engine oil filter manufacturing Nursing homes Electric power generation Greenhouse horticulture Ceramic tooth manufacturing Sign painting Anti-neoplastic drug manufacturing Poultry farms/egg production Steel drum manufacturing Office buildings Salt mines Clean room assembly operations Screw machine manufacturing Ozone destructive testing Day care and nursing facilities Wave soldering processes Nail manufacturing Molten aluminum purification Polyurethane manufacturing Agriculture Soy bean oil extraction, processing Mental health clinics tilling Spice processing Radiator manufacturing harvesting

Coal mines
Soy bean meal manufacturing
Plastics formulating
Medical patient decontaminations
Drain tile laying
Slaughter houses

Aircraft restoration Copper sculpting Jewelry making Wig manufacturing Floral greenhouses Sheep vaccine innoculation Retail bread delivery School bus maintenance Print shops Investment casting Plywood manufacturing Plastics formulation Meat products wrapping/sealing Casket vault manufacturing Tree felling Trash and garbage collection Lumber mill bark stripping Beauty parlors, cosmetology Public building sanitation Steam boiler maintenance Pottery manufacturing Pulverizing and micronizing Frozen fish sectioning Waitressing

Railroad box, hopper, tank car painting Stenciling Polyurethane slab casting Confined space entry Bolt and nut manufacturing Poultry (chickens, turkeys) raising threshing
combining
fertilizing
Lumber mills
Blow molding
Terpene extraction, distillation