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จากบรรณาธิการ

รายงานประจำสัปดาห์ฉบับที่แล้วได้นำ เรื่อง เกี่ยวกับพิษของสารที่เกิดจากสิ่งแวดล้อม และการประกอบอาชีพ ฉบับนี้จึงได้คัดเอาเรื่อง "NIOSH Recommendations for Occupational Safety and Health Standards" จาก MMWR ฉบับ July 19, 1985 Vol.34/No.15 มาเพื่อเป็นแนวทางสำหรับการปฏิบัติงานด้านสุขภาพอนามัยของผู้ที่เกี่ยวข้องกับโรงงานอุตสาหกรรม และสารเคมีต่าง ๆ ต่อไป

NIOSH Recommendations for Occupational Safety and Health Standards

Definitions of abbreviations and terms used in this publication:

Action level	the level of exposure at which certain provisions of the proposed standards must be initiated, such as periodic measurements of worker exposure, training of workers, and medical surveillance (if appropriate for the particular substance)
CFR	Code of Federal Regulations
CIB	Current Intelligence Bulletin
dBa	decibel, weighted according to the A scale, which approximates the response of the human ear
ECG	electrocardiogram
J/cm ²	joules per square centimeter
μg/m ³	micrograms per cubic meter
mg/m ³	milligrams per cubic meter
mppcf	millions of particles per cubic foot
mW/cm ²	milliwatts per square centimeter
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
PEL	permissible exposure limit (OSHA)
ppb	parts per billion
ppm	parts per million
REL	recommended exposure limit (NIOSH)
(Skin)	potential contribution to overall exposure by the cutaneous route including mucous membranes and eyes
TWA	time-weighted average
WBGT	wet bulb globe temperature

SUMMARY OF OSHA REGULATIONS AND NIOSH RECOMMENDATIONS FOR OCCUPATIONAL SAFETY AND HEALTH STANDARDS, 1985

Potential Hazard*	OSHA Standard	NIOSH Recommendations	
		NIOSH Recommended Exposure Limit(s) [†]	Health Effect(s) Considered
Acetylene (July 1976)	2,500 ppm (10% of lower explosive limit)	No exposure > 2,500 ppm (2,662 mg/m ³)	Asphyxia
Acrylamide (October 1976)	0.3 mg/m ³ , 8-hr TWA (Skin)	0.3 mg/m ³ TWA	Skin, eye, and nervous system effects
Acrylonitrile (September 1977; revised March 1978 as part of NIOSH testimony at OSHA hearing)	2 ppm, 8-hr TWA; 10 ppm ceiling (15 min) (Skin)	1 ppm 8-hr TWA; 10 ppm ceiling (15 min) (Skin)	Brain tumors; lung and bowel cancer
Aldrin/dieldrin (Special Hazard Review September 1978)	0.25 mg/m ³ , 8-hr TWA (Skin)	Lowest reliably detectable level; 0.15 mg/m ³ TWA by NIOSH-validated method	Cancer
Alkanes (C5-C8) (March 1977)	Pentane: 1,000 ppm (2,950 mg/m ³); n-hexane: 500 ppm (1,800 mg/m ³); n-heptane: 500 ppm (2,000 mg/m ³); octane: 500 ppm (2,350 mg/m ³), 8-hr TWA	All are TWA values: Pentane: 120 ppm (350 mg/m ³); hexane: 100 ppm (350 mg/m ³); heptane: 85 ppm (350 mg/m ³); octane: 75 ppm (350 mg/m ³) mixtures not to exceed 350 mg/m ³ TWA;	Skin and nervous system effects
			Aldrin/dieldrin no longer produced in U.S.; skin contact to be prevented
			Action level defined as 200 mg/m ³ for these substances

Employers to check for and inform workers of contaminants such as arsine and phosphine

Skin and eye contact to be prevented

Chest X-ray required; first-aid and medical kits to be available during use; skin contact should be prevented

Aldrin/dieldrin no longer produced in U.S.; skin contact to be prevented

Action level defined as 200 mg/m³ for these substances

All are ceiling values (15 min) singly or mixtures: pentane: 610 ppm (1,800 mg/m ³); hexane: 510 ppm (1,800 mg/m ³); heptane: 440 ppm (1,800 mg/m ³); octane: 385 ppm (1,800 mg/m ³)				
Allyl chloride (September 1976)	1 ppm (3 mg/m ³), 8-hr TWA	1 ppm (3.1 mg/m ³) TWA; 3 ppm (9.3 mg/m ³) ceiling (15 min)	Liver, kidney, and lung effects	Urine, blood, and pulmonary function testing required
Ammonia (July 1974)	50 ppm (35 mg/m ³), 8-hr TWA	50 ppm (34.8 mg/m ³) ceiling (5 min)	Respiratory irritation	Eye contact should be prevented
Animal rendering processes (Occupational Hazard Assessment March 1981)	Existing OSHA PEL's or NIOSH REL's for specific hazards are applicable		Mechanical injury; burns; heat stress; infections from biologic agents; chemical hazards	Guidelines for engineering controls and work practices to reduce injury and illness presented
Antimony (September 1978)	0.5 mg/m ³ , 8-hr TWA	0.5 mg/m ³ TWA	Irritation; heart and lung effects	Chest X-ray, pulmonary function testing, and electrocardiogram required
Arsenic, inorganic (September 1974; revised June 1975; reaffirmed July 1982 as part of NIOSH testimony at OSHA hearing)	10 µg/m ³ , 8-hr TWA	2 µg As/m ³ ceiling (15 min)	Lung and lymphatic cancer; dermatitis	Chest X-ray required

*Date recommendation was transmitted to OSHA is in parentheses.

†NIOSH TWA recommendations are based on exposures up to 10 hours unless otherwise noted.

NIOSH Recommendations				
Potential Hazard*	OSHA Standard	NIOSH Recommended Exposure Limit(s) [†]	Health Effect(s) Considered	Comments
Arsine (CIB August 1979)	0.2 mg/m ³ (0.05 ppm), 8-hr TWA	2 µg As/m ³ ceiling (15 min)	Sudden extensive hemolysis	Workers to be warned of working with arsenic compounds in presence of freshly formed hydrogen
Asbestos (January 1972; revised September 1976; revised March 1984 as part of NIOSH testimony at Congressional hearing; reaffirmed June 1984 as NIOSH testimony at OSHA hearing)	2 million fibers/m ³ over 5 µm in length, 8-hr TWA; 10 million fibers/m ³ ceiling	100,000 fibers/m ³ over 5 µm in length, 8-hr TWA in a 400 liter air sample	Asbestosis; lung cancer; mesothelioma	None
Asphalt fumes (September 1977)	See Coal-tar products	5 mg/m ³ ceiling measured as total particulate (15 min)	Eye and respiratory irritation	Medical surveillance required; skin contact to be prevented
Benzene (July 1974; revised August 1976; revised July 1977 as part of NIOSH testimony at OSHA hearing)	10 ppm, 8-hr TWA; 25 ppm acceptable ceiling; 50 ppm maximum ceiling (10 min)	1 ppm (3.2 mg/m ³) ceiling (60 min)	Blood changes including leukemia	Blood testing required

(อ่านต่อฉบับที่ 8: Vol. 17 No. 8)