

Table 9 -- Mercury (Spill or Release)



Instrument Guidance

Regulatory Guidance

Reference

Target Compound	Instrument	Detection Level	Intrinsically Safe (Y/N)	IP	Conversion	Health Guidance Values ¹		Occupational Action Levels		AEGL-1			TEEL-0	ERPG-1	Air Sampling		
						Residential	Commercial	TWA	IDLH	1-hr	4-hr	8-hr	15-min TWA	1-hr	Media	Method	Flow Rate/ Total Volume
Mercury																	
Mercury	Lumex RA-915	0.000002-0.05 mg/m ³	N	NA	NA	0.001 mg/m ³ (1000 ng/m ³)	0.003 mg/m ³ (3000 ng/m ³)	PEL = C 0.1 mg/m ³ S REL = 0.05 mg/m ³ S (vapor), C 0.1 mg/m ³ (other) TLV = 0.025 mg/m ³ S	10 mg/m ³	1.7 mg/m ³ *	0.67 mg/m ³ *	0.33 mg/m ³ *	0.025 mg/m ³ *	NA	Anasorb C300 Tube, 226-17-1A	NIOSH 6009	0.15-0.25 L/min; 48 L
	Lumex RA-915 Light	0.0001-0.1 mg/m ³	N														
	Jerome 431X	0.003 to 0.999 mg/m ³	N														
	Jerome J405	0.0005-0.999 mg/m ³	N														
	Jerome 471	0.00003-0.25 mg/m ³	N														
Dräger Tube	0.00000005-0.000002 mg/m ³	Y															
Radiation²																	
Radiation	Ludlum Model 192	0-5,000 µR/hr	N	NA	NA	NA	NA	60-100 µR/hr*	NA	NA	NA	NA	NA	NA	RADeCO Filter Paper (2")	RSSOP 209/501	α = 2500 ft ³ β/γ = 1250 ft ³
	Ludlum Model 2241-2 w/Pancake Probe	0-100,000 cpm or 0-200 mR/hr	N														
	Ludlum Model 2241-3 w/Pancake Probe	0-100,000 cpm or 0-200 mR/hr	N														
*These are not TWA(s). Normal gamma radiation background is from 5-20 µR/hr; however, higher backgrounds may exist. If readings are 3 times background or greater than 60-100 µR/hr or greater than 300 cpm, then stop work and consult with a Health Physicist. Refer to Hazardous Evaluation Flow Chart for Unknowns in Attachment A.																	



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Notes:

For guidance only. These tables do not supersede a SSHASP at any time or on any response.

¹ EPA and ATSDR Health Guidance Values

² Standard EPA Emergency Response Protocol is to screen for radiation with a Micro-R at all emergency responses. If readings are three times background, responders consult with a Health Physicist. Additional radiation equipment is available to monitor for Alpha, Beta and Gamma, but is not included in this table.

AEGL-1 is the airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic non-sensory effects; however, the effects are not disabling and are transient and reversible upon cessation of exposure.

AEGL-2 is the airborne concentration (expressed as ppm or mg/m³) of a substance above which it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape.

TEEL-0 is the temporary level of concern derived according to a tiered, formula-like methodology; representing concentrations associated with no effects.

ERPG-1 is the acute exposure concentration of the general population for up to 1 hour associated with effects expected to be mild or transient.

Data on tables are from the following sources:

<http://www.epa.gov/oppt/aegl/pubs/chemist.htm>

<http://www.cdc.gov/niosh/npg/npgsyn-a.html>

<http://wiser.nlm.nih.gov/>

<http://www.skinc.com/>

EPA's website used to research AEGLs using the chemical's name or chemical abstracts service registry numbers.

CDC NIOSH Pocket Guide to Chemical Hazards website

WISER website

SKC, Inc. website (Air Sampling Media Part No. is specific to SKC)

*AEGL-2--There are no AEGL-1 for this compound

Acronyms:

≥ -- greater than or equal to

AEGL -- acute exposure guideline levels

ATSDR -- Agency for Toxic Substances and Disease Registry

CDC -- Centers for Disease Control and Prevention

cpm -- counts per minute

EPA -- U.S. Environmental Protection Agency

ERPG -- emergency response planning guideline

IDLH -- immediately dangerous to life and health

IP -- ionization potential

L/min -- liter per minute

mg/m³ -- milligrams per cubic meter

μR/hr -- micro Roentgens per hour

NA -- not available/applicable

NIOSH -- National Institute for Occupational Safety and Health

OSHA -- Occupational Safety and Health Administration

R/hr -- Roentgens per hour

REL -- recommended exposure limit (NIOSH)

S -- skin notation (compound may be absorbed through the skin)

SSHASP -- site-specific health and safety plan

TEEL -- temporary emergency exposure limit

TWA -- time-weighted average

WISER -- Wireless Information System for Emergency Responders

Y w/option - yes with option; see manufacturer's instrument manual for information