Mobile Monitoring Comparison Values for Instantaneous Data

for field use with instruments that cannot average data in real-time or for in-motion measurements

Chemical(s) DUVAS COLOR	UNITS	iBDIL ORANGE	iHPIL RED	iHBAL PURPLE	$^{EM}HBAL_{1sec}$ N/A
Acetylene	ppb	80	25,000	75,000	150,000
Ammonia	ppb	--	850	2,550	5,100
Benzene	ppb	80	180	540	1,080
1,3-Butadiene	ppb	40	1,700	5,100	10,200
Butane	ppb	--	92,000	276,000	552,000
1-Butene	ppb	110	27,000	81,000	162,000
C3-C4 Saturated	ppb	960	--	--	--
Chlorine	ppb	--	70	210	420
Cyclohexane	ppb	120	1,000	3,000	6,000
Ethylbenzene	ppb	350	20,000	60,000	120,000
Ethylene Dichloride	ppb	--	540	1,620	3,240
Ethylene Glycol	ppb	--	1,900	5,700	11,400
Ethylene Oxide	ppb	--	910	2,730	5,460
Formaldehyde	ppb	--	44	132	264
n-Hexane	ppb	340	5,400	16,200	32,400
Hydrochloric Acid	ppb	--	440	1,320	2,640
Hydrogen Sulfide	ppb	--	70	210	420
Isobutane	ppb	280	33,000	99,000	198,000
n-Octane	ppb	160	4,100	12,300	24,600

Chemical(s) DUVAS COLOR	UNITS	iBDIL ORANGE	iHPIL RED	iHBAL PURPLE	$^{EM}HBAL_{1sec}$ N/A
Propane [a]	ppb	540	--	--	--
Propylene [a]	ppb	--	--	--	--
Sodium Hydroxide	ppb	--	5	15	30
Styrene	ppb	60	5,100	15,300	30,600
Sulfur Dioxide	ppb	70	--	--	--
Sulfuric Acid	ppb	--	30	90	180
Toluene	ppb	70	4,000	12,000	24,000
Vinyl Chloride	ppb	--	72,000	216,000	432,000
Xylenes + Ethylbenzene	ppb	60	5,000 [b]	15,000 [b]	30,000 [b]
Xylenes	ppb	--	5,000	15,000	30,000
$PM_{2.5}$	$\mu g/m^3$	--	105	--	--
PM_{10}	$\mu g/m^3$	--	450	--	--
Associated Actions		Conduct source investigation/ characterization	Consider stationary monitoring	Consider stationary monitoring & evaluation for $^{EM}HBAL$ levels	Consider exposure mitigation if 1 sec value > level

[a] Simple asphyxiant, non-toxic in ambient air; [b] Values are based on xylenes; "--"no value available; ppb – parts per billion; N/A – not applicable

***iBDIL** – instantaneous baseline-derived investigation level;* ***iHPIL** – instantaneous health-protective investigation level;*

iHBAL** – instantaneous health-based action level;* ^{EM}HBAL**$_{1sec}$ – 1-second exposure mitigation health-based action level*

***Special Note for Nephelometer:** The nephelometers may be used to provide $PM_{2.5}$ and PM_{10} estimates during fires, smoke events, and/or emissions events resulting from incidents where PM-related air quality impacts are expected. The nephelometers are not intended for use to assess nuisance complaints. $PM_{2.5}$ and PM_{10} are NAAQS compounds; instantaneous and exposure mitigation HBAL levels could not be derived for these compounds.*

Note: If a value does not exist and one is needed for screening, please contact the Toxicology Division for a trip-specific value at TOX@tceq.texas.gov or 512-239-1795.

Basis of instantaneous mobile monitoring comparison values and recommended actions if exceeded:

Comparison Value (Acronym)	DUVAS Caterpillar Color [a]	Basis	Recommended Actions with Exceedance
Concentrations below instantaneous comparison values	**GREEN**	N/A	No associated action
Instantaneous baseline-derived investigation level (iBDIL)	**ORANGE**	10× baseline level	Source investigation/characterization
Instantaneous health-protective investigation level (iHPIL)	**RED**	1× selected AHBCV	• Stationary monitoring or canister sample (30-min to 1-hour) • Source investigation/characterization
Instantaneous health-based action level (iHBAL)	**PURPLE**	3× selected AHBCV	• Increased vigilance for exceedance of an exposure mitigation value • Stationary monitoring (5-10 min) • Stationary monitoring or canister sample (30-min to 1-hour) • Source investigation/characterization

[a] *Colors represent values that are ≥ the appropriate comparison value; AHBCV – acute health-based comparison value; DUVAS – Differential Ultra-Violet Absorption Spectrometer; N/A – not applicable*

Basis of exposure mitigation values and recommended actions if exceeded:

Comparison Value (Acronym)	Basis	Recommended Actions
10-min health-based action level for exposure mitigation ($^{EM}HBAL_{10min}$)	Lower of 3×AHBCV [a], ½ STEL [b], or ½ C [c]	Consider exposure mitigation for staff
1-hour health-based action level for exposure mitigation ($^{EM}HBAL_{1hr}$)	2×AHBCV	Consider exposure mitigation for staff
1-sec health-based action level for exposure mitigation ($^{EM}HBAL_{1sec}$)	3×$^{EM}HBAL_{1hr}$	Consider exposure mitigation for staff

AHBCV – acute health-based comparison value; C – occupational ceiling value; STEL – 15-minute short-term occupational exposure limit