1,3-Butadiene Fact Sheet

for field use with mobile monitoring instruments

This Field Guide provides a summary of the different mobile monitoring comparison values developed by the Toxicology, Risk Assessment, and Research Division for use in evaluating real-time mobile monitoring data in the field.

***All derived mobile monitoring comparison values are intended to be used as guidance**. Field investigators and mobile monitoring staff should use their own discretion when deciding to mitigate exposure, such as when experiencing health effects or intense odors, regardless of measured concentrations.*

What is 1,3-Butadiene?

- 1,3-Butadiene is a highly volatile, colorless gas with a mild aromatic odor
- 1,3-Butadiene is mainly used in the manufacture of synthetic rubber and thermoplastic resins, as well as molded products (footware, sponges, hoses, etc.)
- 1,3-Butadiene is released into the air from a variety of sources, with the major being mobile (gas and diesel-powered engines)

At What Levels Can 1,3-Butadiene Cause Harm?

Breathing high levels of 1,3-Butadiene for a short period of time can cause respiratory and eye irritation. Exposure of pregnant women to high levels can result in developmental effects (reduction in fetal body weight). Workers exposed to long-term, high concentrations of butadiene in the air have shown a higher occurrence of a blood cancer known as leukemia.

Mobile Monitoring Comparison Values

	1,3 Butadiene
iBDIL (ppb) Orange	40
iHPIL (ppb) Red	1,700
iHBAL (ppb) Purple	5,100
$^{EM}HBAL_{10min}$ (ppb)	2,500
$^{EM}HBAL_{1hr}$ (ppb)	3,400
$^{EM}HBAL_{1sec}$ (ppb)	10,200

iBDIL - instantaneous baseline-derived investigation level

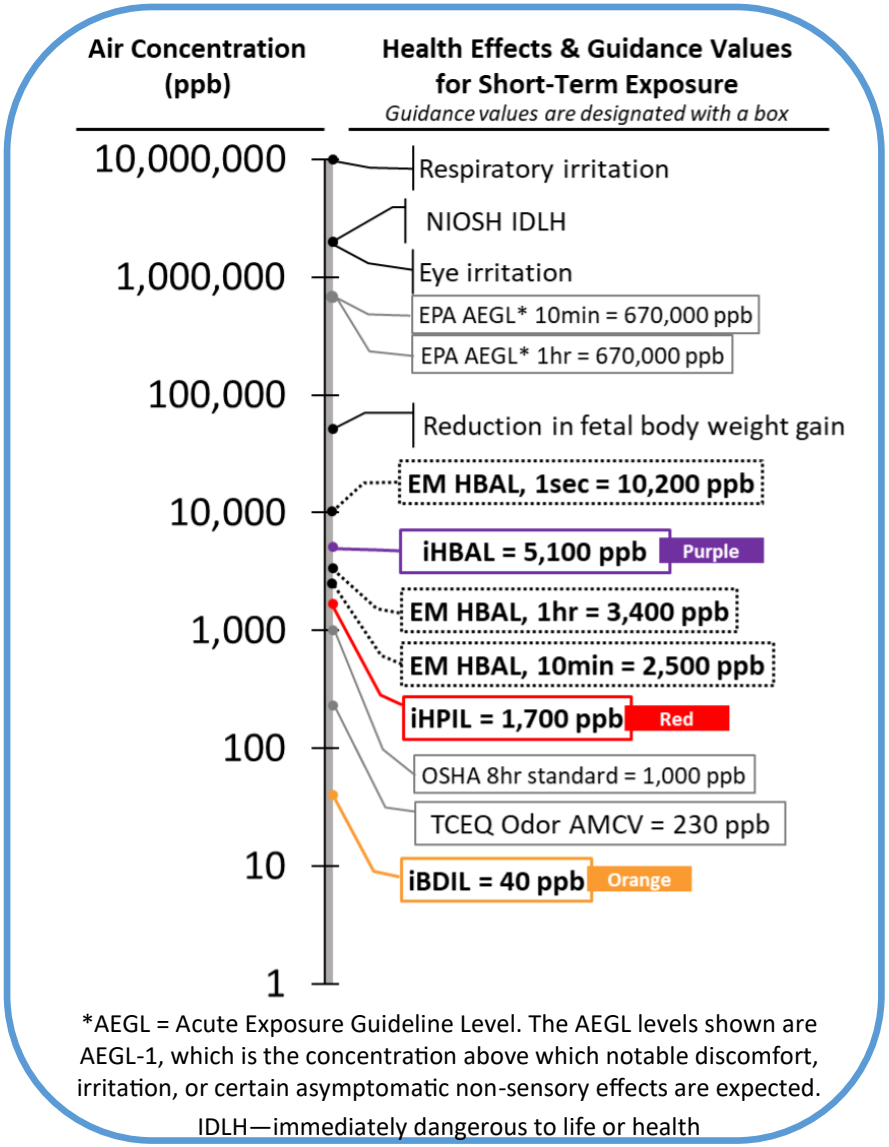
iHPIL - instantaneous health-protective investigation level

iHBAL - instantaneous health-based action level

$^{EM}HBAL_{10min}$ - 10-minute health-based action level for exposure mitigation

$^{EM}HBAL_{1hr}$ - 1-hour health-based action level for exposure mitigation

$^{EM}HBAL_{1sec}$ - 1-second health-based action level for exposure mitigation



*AEGL = Acute Exposure Guideline Level. The AEGL levels shown are AEGL-1, which is the concentration above which notable discomfort, irritation, or certain asymptomatic non-sensory effects are expected.

IDLH—immediately dangerous to life or health

For more information on EPA's AEGL values, please see EPA's website.

All MMCVs are **safe levels**; AEGLs are health effects levels

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