



Designation: E 1058 – 85 (Reapproved 1997)

## Standard Test Methods for the Toxic Contamination of the Environment in the Operator Enclosure of Self-Propelled Agriculture Vehicles<sup>1</sup>

This standard is issued under the fixed designation E 1058; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 These test methods may be used to determine the level of specific harmful airborne contaminants within a vehicle operator enclosure under standardized test conditions. The air exchange rate, air pressure relative to ambient conditions, air temperature, and relative humidity maintained within the enclosure during the test are also determined. Operator-introduced contaminants are not addressed by these test methods.

1.2 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

### 2. Referenced Documents

#### 2.1 SAE Standards:

SAE J726 Air Cleaner Test Code (for Fine Dust)<sup>2</sup>

SAE J1012 Recommended Practice Agricultural Equipment Enclosure Pressurization System Test Procedure<sup>2</sup>

#### 2.2 NIOSH Standards:

NIOSH S318 Method for Xylene (Aromatic Hydrocarbons)<sup>3</sup>

NIOSH S327 Method for Formaldehyde (Aldehydes)<sup>3</sup>

NOTE 1—NIOSH P&CAM 354 may also be used.

NIOSH S340 Method for Carbon Monoxide<sup>3</sup>

NOTE 2—General Electric Carbon Monoxide Dosimeter with Support Console may be used.

NIOSH S370 Method for Malathion (Organic Phosphates)<sup>3</sup>

NIOSH *Manual of Analytical Methods*<sup>3</sup>

#### 2.3 OSHA Standard:

OSHA Instruction CPL 2-2.20, Standard Methods for Sampling Air Contaminants<sup>4</sup>

<sup>1</sup> These test methods are under the jurisdiction of ASTM Committee E-35 on Pesticides and are the direct responsibility of Subcommittee E35.26 on Safety to Man.

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<sup>2</sup> Available from Society of Automotive Engineers, 400 Commonwealth Dr., Warrendale, PA 15096.

<sup>3</sup> Available from National Institute of Occupational Safety and Health, 4676 Columbia Parkway, Cincinnati, OH 45226.

<sup>4</sup> Available from Occupational Safety and Health Administration, 219 S. Dearborn, Chicago, IL.

SKC Guide to NIOSH/OSHA Air Sampling Standards<sup>5</sup>

### 3. Terminology

#### 3.1 Definitions of Terms Specific to This Standard:

3.1.1 *aerosols*—small droplets of a liquid or particles of solid matter suspended in air, for example, a mist, fog, or smoke; droplets with  $D_{v,5} \leq 50 \mu\text{m}$ .

3.1.2 *airborne*—carried or suspended by air.

3.1.3 *air conditioning system*—a system that controls or alters the physical condition of air in or entering a specific space.

3.1.4 *air exchange rate*—the rate at which the air in a specific space is removed or replaced, or both.

3.1.5 *air filtering system*—a system for separating and removing undesirable contaminants from air as it is passed through the system.

3.1.6 *air intake*—the design area or opening through which air enters or is taken into a space or system.

3.1.7 *ambient conditions*—existing conditions in the surrounding area.

3.1.8 *breathing zone*—the zone surrounding and immediately in front of operator's face. Assumed to be directly above front edge of operator's seat and 1.2 m above floor of enclosure.

3.1.9 *closed operator enclosure*—a structure for enclosing or enveloping the operator that is sufficiently air-tight to permit modification of the environment within.

3.1.10 *concentration*—the relative content of a component in a mixture or solution.

3.1.11 *contaminant*—an undesirable component in any material or system.

3.1.12 *differential air pressure*—difference in the pressure exerted by air at a specific location relative to another selected location.

3.1.13 *droplet*—a small drop of liquid material.

3.1.14 *dust*—a fine grained particulate substance, suspendable in air, 90 % of which is capable of passing through a 44  $\mu\text{m}$  (U.S. Standard 325 mesh) screen.

3.1.15 *dynamic test*—a test conducted while the test subject is undergoing specified motion.

3.1.16 *eye point*—the specified notional location of the operator's eye (Reference TC23/SC3).

<sup>5</sup> Available from SKC, Inc., RD 1, 395 Valley View Rd., Eighty Four, PA 15330.