

METHOD FOR THE DETERMINATION OF ALDEHYDES AND KETONES IN AMBIENT AIR
USING HIGH PERFORMANCE LIQUID CHROMATOGRAPHY (HPLC)

1. Scope

- 1.1 This document describes a method for determination of individual aldehydes and ketones in ambient air. With careful attention to reagent purity and other factors the method can detect most monofunctional aldehydes and ketones at the 1-2 ppbv level.
- 1.2 Specific compounds for which the method has been employed are listed in Table 1. Several studies have used the same basic method, with minor procedural differences, for analysis of ambient air (1-3).

2. Applicable Documents

- 2.1 ASTM Standards:
D 1356 Definitions of Terms Related to Atmospheric Sampling and Analysis (s)
- 2.2 Other Documents
Ambient air studies (1-3).
U.S. EPA Technical Assistance Document (4)

3. Summary of Method

- 3.1 Ambient air is drawn through a midget impinger containing 10 mL of 2N HCl/0.05% 2,4-dinitrophenylhydrazine (DNPH reagent) and 10 mL of isooctane. Aldehydes and ketones readily form stable 2,4-dinitrophenylhydrazones (DNPH derivatives).

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2. Aldehydes EPA - To5

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