10-2 (2004)	Acrolein
CAS Nº: 107-02-8	EINECS Nº: 203-453-4
EC-LV (8 h): - Lowest European LV (8h): 0,12 mg/m³ Highest European LV (8h): 0,25 mg/m³	EC-STLV: - Lowest European STLV: 0,24 mg/m³ Highest European STLV: 0,7 mg/m³

SUMMARY OF THE METHOD	
Language: French	**Reference:** **Aldéhydes:** MétroPol Fiche 001, INRS, Paris (2005).
Summary: The method is applicable to aldehyde vapours in air. The sample is collected by pumping air through a sorbent tube containing silica gel impregnated with 2,4-DNPH. After desorption with acetonitrile the sample is analysed by HPLC with UV detection on a C-18 bonded silica column.	
SAMPLING	
Sampler type	Pumped sorbent tube
Sampling substrate	Silica gel impregnated with 2,4-DNPH (250 - 500 mg)
Recommended flow rate	0,2 - 1 l/min
Recommended sampling time	60 - 300 min
Recommended volume	60 l
TRANSPORT AND STORAGE	
Description/conditions of transport and storage incl. specific issues	The samples have to be kept refrigerated, they should be analysed as soon as possible (acrolein hydrazone degrades rapidly on the sampling media as well as in solution).
ANALYSIS	
Sample preparation	The sorbent and the glass wool is transferred into a crimp vial. Acetonitrile (1 - 10 ml) is added, the vial is closed and shaken for several minutes.
Analytical technique	Analysis by HPLC with UV. An external standard (acrolein DNPH-derivative) is used.
METHOD EVALUATION DATA	
Range studied	-
Sampling bias	-
Analytical bias	-
Method bias	-
Sampling precision	not applicable
Analytical precision	-
Method precision	-
Limit of quantification	-
Overall uncertainty (EN 482)	< 20 % (estimated; the description file gives insufficient data for calculation).
Expanded uncertainty (prEN 482)	Insufficient data for calculation.

INFORMATION IN RELATION TO THE VALIDATION	
Is the sample dissolution procedure described widely applicable?	yes
Does the sample dissolution method include wall deposits, where applicable?	no applicable
Was a test gas atmosphere used, where applicable?	Yes (dynamic atmosphere).
How was the recovery determined?	not mentioned
Was the sampler capacity or breakthrough volume determined?	not mentioned
Was temperature and RH considered, where appropriate?	no
EVALUATION	
Rating category	B
Rationale for rating	Up to date methodology, interlaboratory comparisons, but partially validated, brief method description.
Observations	This method is not totally satisfactory mainly because of the rapid degradation of the acrolein derivative, which can lead to underestimation. Further development and validation need to be done. In case of mixtures of aldehydes, addition of 0,03 % diethylamine to the eluent improves the chromatographic resolution. This method has been developed for several aldehydes, before the publication of EN 482. More back-up data exist for this substance but are not included in the MétroPol method description file.
Similar methods	None.