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Nestlé Quality Assurance Center  
Dublin

# Technical Datasheet

**Analysis Name:** Volatile Organic Compounds (VOC) by Purge and Trap GC-MS

**Method Number:** NQA-00.8350

**Scope of Application:** Method for the determination of volatile organic compounds in infant formula, raw materials and food products. Food products must be aqueous based. The method is not compatible with fats/oils.

All analytes are included for all foods, food products and raw materials, except coffee. Only the analytes labelled as coffee variation are included in the analysis of coffee samples.

**Description:** The volatile content of a sample is determined by purging the sample with helium and then concentrating the sample onto a trap where it is then desorbed onto the GC/MS system. Compound determination is achieved by using retention time and ion identification technique.

**Sample Weight Required:** Minimum of 50 g

**Method Reference:** Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), SW846 EPA8260B, Revision 2.

**Analytical Platform:** Purge and Trap / GC-MS

**Special Information:** Provide a dedicated sample container for volatiles.

Finely granulated coffee samples may not be able to be performed due to an increased risk of equipment damage.

Oils cannot be processed by this method due to the damage it causes to the purge and trap unit.

Although we are sometimes able to achieve a Quantitation Limit of <2 ug/kg for samples it is more common to report <20 ug/kg due to sample matrix interferences.



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Compound	Quantitation Limit
1,2-Dibromo-3-chloropropane	2 µg/kg
1,2-Dibromoethane	2 µg/kg
1,2-Dichlorobenzene	2 µg/kg
1,2-Dichloroethane	2 µg/kg
1,2-Dichloropropane	2 µg/kg
1,3,5-Trimethylbenzene	2 µg/kg
1,3-Dichlorobenzene	2 µg/kg
1,3-Dichloropropane	2 µg/kg
1,4-Dichlorobenzene	2 µg/kg
2-Chlorotoluene	2 µg/kg
4-Chlorotoluene	2 µg/kg
4-Isopropyltoluene	2 µg/kg
Benzene	2 µg/kg
Bromobenzene	2 µg/kg
Bromochloromethane	2 µg/kg
Bromodichloromethane	2 µg/kg
1,1,-Dichloropropene	2 µg/kg
1,1,1-Trichloroethane	2 µg/kg
1,1,2,2-Tetrachloroethane	2 µg/kg
1,1,2-Trichloroethane	2 µg/kg
1,1-Dichloroethane	2 µg/kg
1,2,3-Trichlorobenzene	2 µg/kg
1,2,3-Trichloropropane	2 µg/kg
1,2,4-Trichlorobenzene	2 µg/kg
1,2,4-Trimethylbenzene	2 µg/kg
Bromoform	2 µg/kg
Bromomethane	2 µg/kg
c 1,3-Dichloropropene	2 µg/kg
Carbon Tetrachloride	2 µg/kg
Chlorobenzene	2 µg/kg
Chloroethane	2 µg/kg
Chloroform	2 µg/kg
Chloromethane	2 µg/kg
cis 1,2-Dichloroethene	2 µg/kg
Dibromochloromethane	2 µg/kg



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Dibromomethane	2 µg/kg
Dichlorodifluoromethane	2 µg/kg
Ethylbenzene	2 µg/kg
Hexachlorobutadiene	2 µg/kg
iso-Propylbenzene	2 µg/kg
m&p Xylenes	4 µg/kg
Methylene Chloride	2 µg/kg
n-Butylbenzene	2 µg/kg
n-Propylbenzene	2 µg/kg
Naphthalene	2 µg/kg
o-Xylene	2 µg/kg
sec-Butylbenzene	2 µg/kg
Styrene	2 µg/kg
t 1,2-Dichloroethene	2 µg/kg
t 1,3-Dichloropropene	2 µg/kg
tert-Butylbenzene	2 µg/kg
Tetrachloroethene	2 µg/kg
Toluene	2 µg/kg
Trichloroethene	2 µg/kg
Trichlorofluoromethane	2 µg/kg
Vinyl Chloride	2 µg/kg