Method Summary

Determination of Phenols by GCMS

Scope and Range

Gas analysis is used environmentally to investigate gas emissions from boreholes, trial pits, spill troughs and landfill sites.
This method is used for the determination of the hydrocarbons, specifically methane, ethene, ethane, propane, isobutane, butane, isopentane, pentane, hexane and heptane gas samples using a low level method, 1-1000ppm v/v and a high level method, 1000-40,000ppm v/v. Methane can be analysed up to 50% v/v.

References

ASTM D 1945-91 Standard Test Method for Analysis of Natural Gas by
Gas Chromatography.

Principle

Samples are supplied in polyvinyl fluoride bags, Greshams, plastic gas bombs or pressurised gas cylinders.
A known volume of the sample is introduced into the gas chromatograph via the gas sample loop within the injection system and is analysed by temperature programmed gas chromatography.
The gas components are separated according to their boiling points, detected using a Flame Ionisation Detector (FID) and identified from their retention times.
The analytes are then quantified against a three point calibration curve.
Results are reported to 3 significant figures.

Interferences

Flame ionisation is a non-specific means of detection, therefore, any substances, that co-elute from the chromatographic column with any of the components of interest will interfere with this determination.