

# Deviating Sample Policy

## Holding Times, Storage Conditions & Sample Containers

The definition of a deviant sample is one which, by virtue of handling conditions or time elapsed between taking the sample and analysis, is suspect as regards giving a result which is representative of the circumstances prevailing at the time of sampling. In this respect, since storage requirements and maximum elapsed time between sampling and analysis differ for each determinand, a sample may be classified as deviant for some determinands but not others.

If the sampling time and the storage conditions since sampling are known then a definitive decision may be made as to whether the sample is deviant, and for which determinands, when it reaches the laboratory.

If there is no information on sampling time/date and/or about storage conditions before the sample is received at the laboratory then a sample must automatically be classed as deviant for all determinands in the first instance. If information can be obtained from the client on storage conditions or sampling time which allows the assumption of deviancy to be lifted, for some or all determinands, then the sample may be reclassified as non-deviant for relevant determinands.

Please be aware that a sample which is not classed as deviant when received at the laboratory may become so for one or more determinands by virtue of being held within the laboratory system as part of routine testing procedures.

## Information for Determination of Deviancy

The tables below are used when determining whether a sample is, or may be, deviant as regards specific determinands. Note that the 'maximum holding time' in these tables refers to the time between *sampling and analysis*. Hence a sample, *on receipt*, will only be deviant as regards holding time if the time from sampling to receipt *already* exceeds the maximum holding time.

We will carry out a further check at sample authorisation/reporting to detect instances where a sample has become deviant due to the time elapsed as per the routine laboratory procedures involved as part of the analysis.


Additional requirements for the assessment of sample deviancy are based upon the type of container(s) used and the temperature recorded on receipt at the laboratory.





## Deviating Sample Codes

- a** – The date and /or time of sampling has not been provided, therefore it is not known if the time lapse between sampling and analysis has exceeded the acceptable holding time(s)\*.
- b** – The test item was received in a container which has not been recommended\*.
- c** – On receipt, the temperature of the sample received was found to fall outside the recommendations of BS ISO 18512:2007, Soil Quality. Guidance on long and short term storage of soil samples\*.
- d** – The sample was received in a container that had not been filled as recommended\*.
- e** – The delay between sampling and sample receipt is greater than the recommended holding time for the analyte of interest in this matrix\*.
- f** – The delay between sampling and analysis is greater than the recommended holding time for the analyte of interest in this matrix\*.

\* In accordance with the requirements of Technical Policy Statement TPS 63; UKAS Policy on Deviating Samples, all UKAS accredited testing laboratories are required to notify their clients that calibration or test results may be invalid where samples are found to be deviating. It is the opinion of ACSE that the term invalid should be interpreted as 'not fully representative of the sample taken at source'.

**Table 1: Accredited Water Analysis**

Determinand	Method Ref	Acceptable Container	ACSE Container	Preservation	Maximum Holding Time	Other Comments
<a href="#">Ammonium</a>	<a href="#">MT/ACSE/203</a> & 211	<a href="#">Plastic or glass.</a>	<a href="#">250ml Plastic Bottle + Preservative</a> 	<a href="#">Water to be filtered.</a> <a href="#">Acidify to pH 1-2 with H<sub>2</sub>SO<sub>4</sub>.</a> <a href="#">Cool 5±3°C</a>	<a href="#">21 Days</a>	

Determinand	Method Ref	Acceptable Container	ACSE Container	Preservation	Maximum Holding Time	Other Comments
<b>Anions (Cl, SO<sub>4</sub>)</b>	MT/ACSE/204	Plastic or glass.	1 Litre Plastic Bottle 	Cool 5±3°C	28 days	
<b>Anions (F)</b>	MT/ACSE/204	Plastic, but not PTFE	1 Litre Plastic Bottle 	Cool 5±3°C	28 days	
<b>Anions (PO<sub>4</sub>)</b>	MT/ACSE/204	Plastic, glass or borosilicate glass.	1 Litre Plastic Bottle 	Cool 5±3°C	24 hours	
<b>Anions (NO<sub>3</sub>)</b>	MT/ACSE/204	Plastic or glass.	250ml Plastic Bottle + Preservative 	Acidify to pH 1-2 with HCl. Cool 5±3°C	7 days	



Determinand	Method Ref	Acceptable Container	ACSE Container	Preservation	Maximum Holding Time	Other Comments
<b>Anions (NO<sub>2</sub>)</b>	MT/ACSE/204	Plastic or glass.	1 Litre Plastic Bottle 	Cool 5±3°C	24 hours	
<b><u>BOD</u></b>	<u>MT/ACSE/306</u>	<u>Plastic or glass.</u>	<u>1 Litre Plastic Bottle</u> 	<u>Cool 5±3°C</u>	<u>24 hours</u>	<u>Fill the container to minimise headspace.</u> <u>Keep samples in dark.</u>
<b><u>COD</u></b>	<u>MT/ACSE/307</u>	<u>Plastic or glass.</u>	<u>250ml Plastic Bottle + Preservative</u> 	<u>Acidify to pH 1-2 with H<sub>2</sub>SO<sub>4</sub>.</u> <u>Cool 5±3°C</u>	5 days	
<b>Cyanide (Total, Free and Complex)</b>	MT/ACSE/206	Plastic or glass.	180ml Amber Glass Jar 	Adjust to pH 11-12 with NaOH. Cool 5±3°C	6 days	Keep samples in dark.

Determinand	Method Ref	Acceptable Container	ACSE Container	Preservation	Maximum Holding Time	Other Comments
<b>Electrical Conductivity</b>	MT/ACSE/303	Plastic or borosilicate glass.	1 Litre Plastic Bottle 	Cool $5\pm 3^{\circ}\text{C}$	24 hours	Fill container completely to exclude air.
<b>Metals by ICP (except Mercury)</b>	MT/ACSE/205 & 208	Plastic.	250ml Plastic Bottle + Preservative 	Acidify to pH 1-2 with $\text{HNO}_3$ . Cool $5\pm 3^{\circ}\text{C}$	28 days	
<b><u>Mercury</u> by FIMS or ICP-MS</b>	<u>MT/ACSE/202</u> & 208	<u>Plastic or borosilicate glass.</u>	<u>250ml Plastic Bottle + Preservative</u> 	<u>Acidify to pH 1-2 with <math>\text{HCl}</math>.</u> <u>Cool <math>5\pm 3^{\circ}\text{C}</math></u>	28 Days	<u>Due to Hg potentially adhering to the bottle, recommended.</u>
<b><u>pH</u></b>	<u>MT/ACSE/301</u> <u>MT/ACSE/308</u>	<u>Plastic or glass.</u>	<u>1 Litre Plastic Bottle</u> 	<u>Cool <math>5\pm 3^{\circ}\text{C}</math></u>	<u>1 day</u>	<u>Fill container completely to exclude air.</u>

Determinand	Method Ref	Acceptable Container	ACSE Container	Preservation	Maximum Holding Time	Other Comments
<a href="#">Phenol Index</a>	<a href="#">MT/ACSE/109</a>	<a href="#">Borosilicate glass (amber) with PTFE liner. Solvent washed.</a>	<a href="#">180ml Amber Glass Jar</a> 	<a href="#">Acidify to &lt;pH4 with H<sub>2</sub>SO<sub>4</sub>.</a> <a href="#">Cool 5±3°C</a>	<a href="#">21 days</a>	
<a href="#">Suspended Solids</a>	<a href="#">MT/ACSE/305</a>	<a href="#">Plastic or glass.</a>	<a href="#">1 Litre Plastic Bottle</a> 	<a href="#">Cool 5±3°C</a>	<a href="#">2 days</a>	
<a href="#">TOC/DOC</a>	<a href="#">MT/ACSE/103</a>	<a href="#">Plastic or Glass.</a>	<a href="#">250ml Plastic Bottle + Preservative</a> 	<a href="#">Acidify to pH 1-2 with H<sub>2</sub>SO<sub>4</sub>.</a> <a href="#">Cool 5±3°C</a>	<a href="#">8 days</a>	
<b>Total Dissolved Solids</b>	MT/ACSE/304	Plastic or glass.	1 Litre Plastic Bottle 	Cool 5±3°C	7 days	





Determinand	Method Ref	Acceptable Container	ACSE Container	Preservation	Maximum Holding Time	Other Comments
<a href="#">Water Soluble Sulphates by DA</a>	<a href="#">MT/ACSE/207</a>	<a href="#">Plastic or glass.</a>	<a href="#">1 Litre Plastic Bottle</a> 	<a href="#">None</a>	<a href="#">28 days</a>	Water to be filtered.




**Table 2: Accredited Soils and Granular Waste Analysis**

Determinand	Method Ref	Acceptable Container	ACSE Container	Preservation	Maximum Holding Time	Other Comments
pH	MT/ACSE/301 <a href="#">MT/ACSE/308</a>	Glass or plastic.	1 Litre Plastic Tub 	Cool 5±3°C	7 days	For wet soil. Dried soil may be kept 6 months at 5±3°C.
Total Extractable Metals (ICP)	MT/ACSE/201 & <a href="#">210</a>	Glass or plastic.	1 Litre Plastic Tub 	Cool 5±3°C	6 months	

Determinand	Method Ref	Acceptable Container	ACSE Container	Preservation	Maximum Holding Time	Other Comments
TPH	MT/ACSE/105	Glass.	180ml Amber Glass Jar 	Cool 5±3°C	7 days	Extended to 1 month if sample dried by adding sodium sulphate.
BTEX	MT/ACSE/101	Glass. Fill container to minimum headspace.	180ml Amber Glass Jar 	Cool 5±3°C	4 days	
PAH	MT/ACSE/108	Glass.	180ml Amber Glass Jar 	Cool 5±3°C	14 days	
Loss on Ignition	MT/ACSE/302	Glass or plastic.	1 Litre Plastic Tub 	None	28 days	



Determinand	Method Ref	Acceptable Container	ACSE Container	Preservation	Maximum Holding Time	Other Comments
<b>WAC Leachate Preparation</b>	LP/ACSE/101	Glass or plastic.	1 Litre Plastic Tub 	Cool 5±3°C	28 days	
<b>TOC</b>	MT/ACSE/102	Glass or plastic.	1 Litre Plastic Tub 	Cool 5±3°C	28 days	
<b>PCBs</b>	MT/ACSE/110	Glass.	180ml Amber Glass Jar 	Cool 5±3°C	28 days	
<b>Water Soluble Sulphate, Acid Soluble Sulphate, Total Sulphur, Acid Soluble Sulphide</b>	BS EN 1744-1 (2009 + A1 2012)	Glass or plastic.	1 Litre Plastic Tub 	Cool 5±3°C	1 month	

Determinand	Method Ref	Acceptable Container	ACSE Container	Preservation	Maximum Holding Time	Other Comments
<b>Mercury</b>	MT/ACSE/202 & <u>210</u>	Glass or plastic.	1 Litre Plastic Tub 	Cool 5±3°C	6 months	
<b>Phenol Index</b>	MT/ACSE/109	Glass or plastic	1 Litre Plastic Tub 	Cool 5±3°C	10 days	
<b>Cyanide (Total, Free and Complex)</b>	MT/ACSE/206	Glass or plastic	1 Litre Plastic Tub 	Cool 5±3°C	28 days	

Please contact us if you require further information or assistance in the supply of suitable containers for your analysis.

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