
Methods of sampling and test for halogenated hydrocarbons

Part 1. Sampling of liquid products

Méthodes d'échantillonnage et d'essai des hydrocarbures halogénés
Partie 1. Echantillonnage des produits liquides

Verfahren für die Probenahme und Prüfung von halogenierten Kohlenwasserstoffen
Teil 1. Probenahme von flüssigen Erzeugnissen

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National foreword

This Part of this British Standard is identical with ISO 2209 'Liquid halogenated hydrocarbons for industrial use — Sampling'. It has been prepared under the direction of the Chemicals Standards Committee in order to provide methods of sampling and test for halogenated hydrocarbons.

For some years the United Kingdom has participated in the work of preparing methods of sampling and test applicable to halogenated hydrocarbons for industrial use, organized by Sub-committee 12 'Halogenated hydrocarbons and amines' of Technical Committee 47 'Chemistry' of the International Organization for Standardization (ISO). As international agreement is reached on the methods, it is proposed to publish them as Parts of this British Standard.

Terminology and conventions. The text of the international standard has been approved as suitable for publication, without deviation, as a British Standard. Some terminology and certain conventions are not identical with those used in British Standards; attention is especially drawn to the following.

Wherever the words 'International Standard' appear, referring to this standard, they should be interpreted as 'British Standard'.

Cross-references. The following international standards are referred to in the text and for each there is a corresponding British Standard; these are as listed below:

| International standard | Corresponding British Standard |
|------------------------|--|
| ISO 842 | BS 4726 Methods for sampling raw materials for paints and varnishes (technically equivalent) |
| ISO 3165* | BS 5309 Methods for sampling chemical products Part 1 Introduction and general principles (related) |

This standard specifies methods of sampling only and should not be used as a specification defining limits of purity. Reference to this standard should indicate that the methods of sampling used comply with the requirements of BS 5598 : Part 1.

*ISO 3165 is no longer at the stage of draft, as indicated in the text; it was published in 1976.

British Standard

Methods of sampling and test for halogenated hydrocarbons

Part 1. Sampling of liquid products

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies sampling procedures for liquid halogenated hydrocarbons for industrial use, with the exception of liquefied gases.

NOTE – For the sampling of liquid halogenated hydrocarbons intended to be used as raw materials for paints and varnishes, see ISO 842, *Raw materials for paints and varnishes – Sampling*.

The methods are applicable to products not contaminated by an extraneous phase (water, solid deposits, etc). However, accidental pollution is also considered and an initial examination is provided for checking phase homogeneity.

Three cases are considered, namely :

- small containers (cans, drums);
- large containers (cylinders, tanks);
- continuous sampling.

2 PRINCIPLE

Formation of a blended bulk sample, representing the whole of the batch, by mixing several elementary samples. The number and the method of taking of the elementary samples will depend on the number and capacity of vessels containing the product.

3 APPARATUS

Three main types of apparatus can be used for sampling, as appropriate :

3.1 Usual apparatus, of steel or glass, with a capacity of 250 to 500 ml (for example, a pipette, as in Figure 1) for sampling from a small vessel.

3.2 Closeable device, with a capacity of 500 to 1 000 ml (for example, a steel sampler with a ground closure, as in Figure 2) used mainly for sampling from large containers.

A ballast bottle with a cork stopper can also be used, but not for bottom sampling (for example, a bottle as in Figure 3).

3.3 Continuous samplers (for example as in Figure 4), connected to the flowline of the product, such as when delivering the batch to the tank.

4 PROCEDURE

WARNING

A number of hazards may arise in the sampling of volatile solvents. They include flammability and toxicity.¹⁾

Flammability

The lower-boiling solvents are flammable and the following precautions are advised :

- 1) Care must be taken to see that all sampling equipment used for these substances is made of low-energy spark generating material such as beryllium-copper alloys or glass. If an earth connection can be made to large containers, this should be done.
- 2) All regulations regarding "controlled" or "flammable" areas in which the samples are being drawn must be strictly adhered to.

Toxicity

Vapour from lower-boiling solvents is toxic and precautions should be taken to avoid its inhalation.

It is recommended that two persons should be present when samples are drawn from large containers such as storage tanks, road tanks or rail tanks.

Before sampling from rail tanks it should be ensured that no shunting operations are likely.

In order to allow for the high coefficient of expansion of certain products and to allow for the need ultimately to mix the samples thoroughly to obtain representative test samples the containers should be filled to between about 80 and 90 % of their total capacity.

Contacts with the skin, spillage on clothing, etc. should be avoided as far as possible during sampling. The correct treatment for any harmful material should be known beforehand and the appropriate treatment antidote should be at hand.

4.1 General

All sampling operations shall be carried out carefully and with a due regard for cleanliness.

It is essential in the case of some products to work away from moisture, dust, smoke, etc.

1) With regard to safety precautions, see also ISO 3165, *Sampling of chemical products – Safety* (at present at the stage of draft).