
INTERNATIONAL STANDARD



2209

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

**Liquid halogenated hydrocarbons for industrial use —
Sampling**

First edition — 1973-06-01

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 2209 was drawn up by Technical Committee ISO/TC 47, *Chemistry*.

It was approved in May 1971 by the Member Bodies of the following countries :

Austria	Israel	Spain
Belgium	Italy	Sweden
Egypt, Arab Rep. of	Netherlands	Switzerland
France	New Zealand	Turkey
Germany	Portugal	United Kingdom
Hungary	Romania	U.S.A.
India	South Africa, Rep. of	U.S.S.R.

No Member Body expressed disapproval of the document.

A comprehensive study on sampling of chemical products is under way in Sub-Committee 2, "Sampling of chemical products", of Technical Committee ISO/TC 47. It is anticipated that International Standard ISO 2209 will have to be reviewed in the light of the final results of this study.

Liquid halogenated hydrocarbons for industrial use – Sampling

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).