

Water quality — Vocabulary —

Part 2

ICS 01.040.13; 13.060.01

National foreword

This British Standard is the UK implementation of ISO 6107-2:2006+A1:2012. It supersedes BS ISO 6107-2:2006 (BS 6068-1.2:2006), which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee EH/3, Water quality.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Water quality — Vocabulary — Part 2

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 6107-2 was prepared by Technical Committee ISO/TC 147, *Water quality*, Subcommittee SC 1, *Terminology*.

This fourth edition cancels and replaces the third edition (ISO 6107-2:1997), of which it constitutes a minor revision.

ISO 6107 consists of a series of nine parts, under the general title *Water quality — Vocabulary*. The first eight parts do not have individual part titles, but the ninth part is an index of the first eight parts and is entitled:

— *Part 9: Alphabetical list and subject index*

Introduction

The definitions in any part or edition of ISO 6107 are not necessarily identical to those in the standards concerned, or to those in standard scientific text books or dictionaries. These definitions have been formulated for technical purposes, as well as for the understanding and benefit of the non-expert in the field. Although every effort has been made to ensure that the definitions are technically correct, they may not include all the details covered by the definitions in the standards. Language and expressions may not always be in line with strict scientific nomenclature. The definitions in this vocabulary are, therefore, not intended for purposes such as legal proceedings and contractual specifications. ISO cannot accept liability for consequences which may result from the use of these definitions for unintended purposes. ISO 6107 is restricted to definitions for selected terms which appear in International Standards of ISO/TC 147, *Water quality*.

Water quality — Vocabulary —

Part 2

Scope

This part of ISO 6107 defines terms used in certain fields of water quality characterization.

NOTE In addition to the terms and definitions in the three official ISO languages (English, French and Russian), this part of ISO 6107 gives the equivalent terms and their definitions in the German language; these are published under the responsibility of the member bodies of Germany (DIN), Austria (ON) and Switzerland (SNV). However, only the terms and definitions given in the official languages can be considered as ISO terms and definitions.

Terms and definitions

1 absolute salinity

S_a
ratio of mass of dissolved material in seawater to the mass of seawater

NOTE In practice, this quantity cannot be measured directly and a **practical salinity** (85) is defined for reporting oceanographic observations.

2 acidity

quantitative capacity of aqueous media to react with hydroxyl ions

3 aggressive water

water having a negative Langelier index

See **Langelier index** (58).

4 aggressivity

tendency of a water to dissolve calcium carbonate

See **Langelier index** (58).

5 alkalinity

quantitative capacity of aqueous media to react with hydrogen ions

6 anionic surface active agent

surface active agent (138) which ionizes in aqueous solution to produce negatively charged organic ions, which are responsible for the surface activity

[ISO 862:1984]

7 apparent selectivity

⟨microbiological measurement⟩ ratio of the number of target colonies to the total number of colonies in the same sample volume calculated mathematically as selectivity, F

NOTE Selectivity is calculated as follows:

$$F = \log (a/n)$$

where

a is apparent concentration of presumptive target types estimated by counting colonies;

n is concentration of total colonies.

8 application range

range of concentrations routinely measured by a method

9 automatic sampling

process whereby samples are taken either discretely or continuously, independently of human intervention, and according to a predetermined programme

10 available chlorine

total available chlorine

terms commonly used in characterizing strong solutions of sodium hypochlorite and chlorine water and dilutions of them used for chlorination

11 bioassay

technique for evaluating the biological effect, either qualitatively or quantitatively, of various substances in water by means of changes in a specified biological activity

12 biochemical oxygen demand BOD

mass concentration of dissolved oxygen consumed under specified conditions by the biological oxidation of organic and/or inorganic matter in water

13**bottom sediment**

solid material deposited by settling from suspension onto the bottom of bodies of water, both moving and static

See ISO 5667-12.

14**break-point chlorination**

addition of chlorine to water to the point where free available residual chlorine increases in proportion to the incremental dose of chlorine being added

NOTE At this point, all of the ammonia has been oxidized.

15**canal**

artificial watercourse constructed, usually, to join rivers, lakes or seas, and often of a size suitable for navigation

NOTE Most canals have low flow and poor mixing characteristics.

16**categorical characteristic**

method performance characteristic numerically expressed as a relative frequency based on presence/absence (P/A) or plus-minus (+/–) classification

17**cationic surface active agent**

surface active agent (138) which ionizes in aqueous solution to produce positively charged organic ions which are responsible for the surface activity

[ISO 862:1984]

18**check valve**

mechanical valve which allows fluids to pass in one direction only

NOTE The pressure of fluids flowing through the valve in one direction has the effect of opening the valve, and in the other direction of closing it.

19**chemical oxygen demand****COD**

mass concentration of oxygen equivalent to the amount of dichromate consumed by dissolved and suspended matter when a water sample is treated with that oxidant under defined conditions

20**chloramines**

derivatives of ammonia formed by substitution of one, two or three hydrogen atoms with chlorine atoms (monochloramine NH_2Cl , dichloramine NHCl_2 , nitrogen trichloride NCl_3) and all chlorinated derivatives of organic nitrogen compounds

21**chlorination**

process of adding to water either gaseous chlorine or compounds from which hypochlorous acid or hypochlorite ions are formed, in order, for example, to arrest bacterial plant or animal growth, to oxidize organic matter, to assist coagulation or to reduce odour

NOTE The main purpose is usually disinfection.

22**chlorine demand
chlorine requirement**

difference between the amount of chlorine added to a sample of water or waste water and the amount of total residual chlorine remaining at the end of a specified contact period

23**clarification**

process in which particles are settled out in a large quiescent tank releasing clearer water as effluent

24**clarifier
settling tank
sedimentation basin**

large tank where settling of suspended matter takes place

NOTE The clarifier is often equipped with mechanical scrapers to gather the solid residue for removal from the bottom of the tank.

25 colloidal suspension

suspension containing particles, often electrically charged, which do not settle but may be removed by coagulation

26 colony

localised visible accumulation of microbial mass developed on or in a solid nutrient medium from a viable particle

NOTE Frequently, microcolonies from nearby viable particles, before becoming visible, fuse into one macrocolony. The number of visible colonies is, therefore, usually an underestimate of the number of viable particles.

27 colony-forming unit CFU colony-forming particle CFP

single, or aggregate of, microbial cells, cluster of spores, or piece of mycelium which produces a single colony when cultured on an appropriate solid growth medium

NOTE 1 In ISO 13845, this term is considered a misnomer and is not used because it mistakenly equates the number of colonies observed to the number of living entities seeded on the medium.

NOTE 2 Growth unit, viable particle, **propagule** (90) and **germ** (90) are terms with the same meaning, but convey the original idea better and apply not only to colony count methods but also to most probable number (MPN) and presence/absence (P/A).

28 combined chlorine

that portion of the total residual chlorine present in the form of chloramines, organic chloramines and nitrogen trichloride

29 composite sample

two or more samples or sub-samples, mixed together in appropriate known proportions (either discretely or continuously), from which the average value of a desired characteristic may be obtained

NOTE The proportions are usually based on time or flow measurements.

30 confirmed colony count verified colony count

presumptive colony count corrected for false positives

NOTE The confirmed colony count is mathematically calculated as

$$x = r_+c = (k/n)c$$

where

- c is the presumptive count;
- r_+ is the true positive rate;
- n is the number of presumptive positives isolated for confirmation;
- k is the number confirmed.

31 contact stabilization

modification of the activated sludge process whereby previously aerated activated sludge is brought into contact with raw sewage for a short period of time (e.g. 15 min to 30 min)

NOTE The sludge, after contact, is settled out and returned to a separate tank where it is aerated for a longer period of time (6 h to 8 h).

32 continuous sampling

process whereby a sample is taken continuously from a body of water

33 corrosivity

ability of a water to attack various materials by means of chemical, physico-chemical or biochemical action

34 dense non-aqueous phase liquids DNAPL

organic compounds that have a low water solubility and a density greater than that of water, for example, chlorinated hydrocarbons such as trichloroethane