

DRAFT
RECOMMENDATION

TC 16/SC 2
(USA)

INFORMATION

Draft Revision of R 100

Atomic absorption spectrometer systems for
measuring metal pollutants in water

Draft submitted for CIML postal ballot on 2010.07.04.

Voting closes on 2010.10.04.

Draft Revision R 100



ORGANISATION INTERNATIONALE
DE MÉTROLOGIE LÉGALE

INTERNATIONAL ORGANIZATION
OF LEGAL METROLOGY

Voting results

The Secretariat of OIML TC16SC2 (USA) circulated a third CD revision of R100 “Atomic absorption spectrometer systems for measuring metal pollutants in water” in August of 2009.

The following P members voted yes with no no votes or abstentions received.

Austria (comments),
Brazil
Croatia
Romania
Russia
USA

Responses were received from the following O members

Japan (comments)
Czech Republic
Slovakia
Poland

Austrian comments:

Reference [4] is old and needs to be updated:

Working Group 2 of the Joint Committee for Guides in Metrology (JCGM/WG 2) - BIPM, IEC, IFCC, ILAC, ISO, IUPAC, IUPAP and OIML
International vocabulary of metrology — Basic and general concepts and associated terms VIM, 3rd edition, JCGM 200:2008

(Secretariat Response- Agreed)

Page numbers in Table of contents should be corrected

(Secretariat Response- Agreed)

Secretariats responses to Japanese Comments (attached)

No	Country	Section	Comments	Secretariat's Responses
1	Japan	3.5	Whole this section about 'characteristic concentration and characteristic mass' shall be deleted. (Reason) Characteristic concentration and characteristic mass are conveniently used. However, there will be no need to regulate them in this recommendation.	Disagree. This is the standard definition for these terms contained in the terminology section not a regulation.
2	Japan	3.6	"Detection limit" should be replaced with "Instrument Limit of Detection (ILOD)". (Reason) Detection limit (DL) is an ambiguous word in this case, and therefore it is proposed to replace this word with "Instrument limit of detection (ILOD)".	Disagree. This is the identical definition from the 1991 recommendation there is no need to change the term at this stage.
3	Japan	5.4	The sentence "The result shall be equal or less than the value for characteristic concentration given for an AAS flame or a furnace system as specified in Table I and II respectively" should be replaced with "The result of characteristic concentration shall be equal or less than the value for an AAS flame (Table I), or the value for a furnace system (Table II), or the value specified by manufactures of the system ". (Reason) Characteristic concentrations or mass are dependent on each system. Working ranges are dependent on DL. Therefore, characteristic concentration should be only an indicative value dependent on each system. A determination of this value by the manufacturer must be permitted.	Disagree. We are setting minimum performance criteria for system performance in the environmental monitoring area. These specifications are standard for regulators and existed in previous versions of this document. Better performance is acceptable.
4	Japan	5.6	The sentence, "The standard deviation of the mean of the measurement results" should be replaced with "The standard deviation of the measurement results". (Reason) In this calculation, " the mean " is not used or should not be used.	Agreed, text has been changed
5	Japan	5.7	"0.98 for the flame AAS system and 0.95 for the furnace AAS" should be replaced with " 0.998 for the flame AAS system and 0.995 for the furnace AAS". (Reason) "0.98" and "0.95" are too small. In the vicinity of the quantitative upper limit, it is assumed that the value of r may become smaller due to the bending of the analytical curve. However, in this case, it shall be considered separately and they should not be the values to be regulated in the lump. There may be, similarly, systems in which linear analytical curves cannot be obtained, and in such case they should also be considered separately. The linearity should be evaluated by parameter other than the r-value.	We understand that measurement process is intrinsically nonlinear and a normal calibration curve would use a quadratic fitting, We wish to verify approximate linearity simply and without a detailed argument about which model and fitting is better. This is not a calibration. The same approach has been taken in all OIML recommendations in this area.

6	Japan	Table I and II	<p>(1) Values of working range should be revised. (Reason) Working ranges are dependent on DL. In these tables, the lower limits of the working ranges are equal to 10 times of the characteristic concentrations. This estimation is not reasonable because working ranges are dependent on DL.</p> <p>(2) Wavelength of measurement is dependent on the system. The term "nominal value" should be added in the table like "Wavelength (nm) (informative value)". (Reason) Wavelength of measurement is dependent on the system, and the most suitable wavelength should be specified by the manufactures of the system.</p> <p>(3) Add a comment to the columns for characteristic concentration and characteristic mass as "each value is only an example". (Reason) Characteristic concentration and characteristic mass are only signal response. These values may range widely for different instruments. So, these items should not be standardized.</p>	Disagree. These performance tables are standard specifications for AAS systems for environmental water monitoring systems. These are minimum performance specifications and better performance is acceptable
7	Japan	6.3	<p>The range "190 nm to 680 nm" should be replaced with "190 nm to 770 nm". In addition, the sentence "..., extended ranges may be necessary for some applications." should be deleted. (Reason) Range of wavelength was not amended.</p>	Agreed