

FINAL DRAFT
RECOMMENDATION

56th CIML Meeting

2021

SUBMITTED
FOR CIML
APPROVAL

Revision of R 126:

Evidential breath analyzers

(Information)



ORGANISATION INTERNATIONALE
DE MÉTROLOGIE LÉGALE

INTERNATIONAL ORGANIZATION
OF LEGAL METROLOGY

CIML Preliminary online ballot results

Title: Revision of R 126: Evidential breath analyzers -

Deadline: 2021-07-01






Status: Closed

Voted Yes: 35

Voted No: 1

Abstain: 2

Country	Vote
AUSTRALIA	Voted Yes on 2021-05-31 
AUSTRIA	Voted Yes on 2021-06-23 
BELGIUM	Voted Yes on 2021-04-14
BRAZIL	Voted Yes on 2021-06-23
BULGARIA	Voted Yes on 2021-07-01
CANADA	Voted Yes on 2021-06-24
COLOMBIA	Voted Yes on 2021-06-29
CROATIA	Voted Yes on 2021-06-24
CYPRUS	Voted Yes on 2021-06-18
CZECH REPUBLIC	Voted Yes on 2021-05-31
DENMARK	Voted Abstain on 2021-04-06 
FINLAND	Voted Yes on 2021-06-30
FRANCE	Voted Yes on 2021-06-30 
GERMANY	Voted Yes on 2021-04-14
HUNGARY	Voted Yes on 2021-05-05
INDIA	Voted Yes on 2021-06-14
IRELAND	Voted Yes on 2021-06-24
JAPAN	Voted Yes on 2021-06-28 
KAZAKHSTAN	Voted Yes on 2021-06-02
KENYA	Voted Yes on 2021-06-25
KOREA (R.)	Voted Yes on 2021-06-23
MONACO	Voted Yes on 2021-04-01

NETHERLANDS	Voted No on 2021-06-30 
NEW ZEALAND	Voted Yes on 2021-06-29
NORWAY	Voted Yes on 2021-06-25
POLAND	Voted Yes on 2021-06-16 
PORTUGAL	Voted Yes on 2021-06-28
ROMANIA	Voted Yes on 2021-06-30
RUSSIAN FEDERATION	Voted Yes on 2021-06-28
SAUDI ARABIA	Voted Yes on 2021-06-28
SLOVAKIA	Voted Yes on 2021-06-30
SLOVENIA	Voted Yes on 2021-06-10
SOUTH AFRICA	Voted Yes on 2021-06-29
SWEDEN	Voted Yes on 2021-06-28
SWITZERLAND	Voted Yes on 2021-05-12
TURKEY	Voted Abstain on 2021-06-26 
UNITED KINGDOM	Voted Yes on 2021-06-30 
UNITED STATES	Voted Yes on 2021-07-01 

Template for comments and convener's observations

Date:2021-07-14

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Country Code ¹	Part	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment ²	Comments	Proposed change	Convener's responses
0002 PL	1	3.1.17		ed	Improper font is used for “kth” in the last line.	Change to: “ <i>kth</i> ”.	Accepted - Done
0003 AU	1	5	3 rd sentence	ed	Wording at the end of sentence does not seem right.	Change to “.... In conformity with SI units.”	Accepted - Done
0004 JP 1	1	6.6.2 Maximum permissible errors for subsequent ...	3 rd row of Table 1 MPE for type approval, initial	Ed	β of “5 % of β ” should be italic.	Please make a correction as follows. Present: 5 % of β Correct: 5 % of β	Accepted - Done
0005 PL	1	6.6.2	Table 1	ed	Improper symbol “ β_{alcohol} ” is used in table header.	Change to: “ β ” as defined in clause 3.4.	Accepted - Done
0006 PL	1	6.6.2	Table 1	ed	Improper font for symbol “ β ” is used in the 3 rd row. Italic font shall be used for quantity symbols.	Change to: “ β ”.	Accepted - Done
0007 AU	1	6.8.1		ed	Missing word	Change to “... over a period of 4-hours.”	Accepted - Done
0008 JP5	1	6.10.1 Physical influence factors	(1) description of the table	Ed/tech	Propose to change the expression from “ppm” to “ $\mu\text{mol/mol}$ ”. The abbreviation ppm should be avoided, according to ISO 80000-1.	Methane equivalent: The content of hydrocarbons shall be expressed in ppm <u>$\mu\text{mol/mol}$ methane</u> (CH ₄) equivalent. For the actual test, hydrocarbon can be recalculated by dividing 5 ppm	Accepted - Done According to OIML B 6-2, 4.8: “4.8 Units of measurement The units of measurement in

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² Type of comment: ge = general te = technical ed = editorial

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						<u>μmol/mol</u> by the number of carbon atoms in the molecule.	<i>which the given instrument's measurement results will be presented, as well as their symbols, shall conform with the decisions of the General Conference of Weights and Measures (CGPM), OIML D 2:2007 Legal units of measurement, and, if necessary, the detailed specifications of the appropriate part of ISO/IEC 800001 "</i>
0009 JP 2	1	6.10.1 Physical influence factors	"j" of Table 2 Minimum rated operating conditions	Ed/tech	Propose to change the expression from "Volume fraction" to "mole fraction".	Change the expression as follows. Present: <u>Volume</u> fraction of hydrocarbons (as methane equivalent(1)) in the environment Correct: <u>Mole</u> fraction of hydrocarbons (as methane equivalent(1)) in the environment	Accepted – Done According to OIML B 6-2, 4.8: <i>"4.8 Units of measurement The units of measurement in which the given instrument's measurement results will be presented, as well as their symbols, shall conform with the decisions of the General Conference of Weights and Measures (CGPM), OIML D 2:2007 Legal units of measurement, and, if necessary, the detailed specifications of the appropriate part of ISO/IEC 800001 "</i>
0010 JP 3	1	6.10.1 Physical influence factors	Table 2 j	Ed/tech	Propose to change the expression from "ppm" to "μmol/mol", The abbreviation ppm should be avoided, according to ISO 80000-1	Change the expression as follows. Present: 0 <u>ppm</u> to 5 <u>ppm</u> Correct: 0 <u>μmol/mol</u> to 5 <u>μmol/mol</u>	Accepted - Done According to OIML B 6-2, 4.8:

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							<p><i>“4.8 Units of measurement The units of measurement in which the given instrument’s measurement results will be presented, as well as their symbols, shall conform with the decisions of the General Conference of Weights and Measures (CGPM), OIML D 2:2007 Legal units of measurement, and, if necessary, the detailed specifications of the appropriate part of ISO/IEC 800001 “</i></p>
0011 JP 4	1	6.10.1 Physical influence factors	Table 2 k		Propose to change the expression from “Volume concentration” to “mole fraction”.	<p>Change the expression as follows.</p> <p>Present: <u>Volume concentration</u> of carbon dioxide in the exhaled air Correct: <u>Mole fraction</u> of carbon dioxide in the exhaled air</p> <p>Present: Up to <u>8 %</u> Correct: Up to <u>80 mmol/mol</u></p>	<p>Accepted - Done</p> <p>According to OIML B 6-2, 4.8:</p> <p><i>“4.8 Units of measurement The units of measurement in which the given instrument’s measurement results will be presented, as well as their symbols, shall conform with the decisions of the General Conference of Weights and Measures (CGPM), OIML D 2:2007 Legal units of measurement, and, if necessary, the detailed specifications of the appropriate part of ISO/IEC 800001 “</i></p>
0012	1	6.10.1	Table 2	ed	Improper font for symbol “T” is used in table header. Italic font shall be used for quantity symbols.	Change to: “T”.	Accepted - Done

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PL							
0013 PL	1	6.10.1	Table 2	te/ed	Notation " $U_{nom} - 15\%$ to $U_{nom} + 10\%$ " in f row is not correct.	Change to: " $0.85 U_{nom}$ to $1.10 U_{nom}$ ".	Not accepted. The expression is taken for D11, table 20
0014 PL	1	6.10.1	Table 2	te/ed	Notation " $f_{nom} - 2\%$ to $f_{nom} + 2\%$ " in g row is not correct.	Change to: " $0.98 f_{nom}$ to $1.02 f_{nom}$ ".	Not accepted. The expression is taken for D11, table 21
0015 AU	1	7.1.10.2	Last sentence	ed	No close bracket	Change to "... as described in OIML D 31 [5])."	Accepted - Done
0016 PL	1	7.1.9		te	<i>"the mouthpiece shall prevent droplets and particles from entering the sampling system of the EBA"</i> There is no definition of method how to measure efficiency of such protection and some devices may not require such protection incorporated in mouthpiece design for successful measurement. For some types of instruments (e.g. with fuel cell sensors) mouthpiece conducts whole expiratory breath out of which "sampling system" collects a sample at the end of the breath. "Sampling system" is not necessarily directly connected to a mouthpiece. Also, it may be a probe design that prevents droplets and particles from entering sampling system of such instruments.	Delete last bullet paragraph.	Not accepted. We cannot delete this sentence at this latest stage of the document because it's technical and it should have been approved by Members. In some case, it is right that the mouthpiece is not the only part which prevent droplets and particles from entering the sampling system of the EBA but it participates to this function.

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							It is correct that there is no test defined, but this would be a technical modification which has to be postponed to a future revision.
0017 AU	1	7.2.2.2	a) i	ed	Inconsistent reference	Remove "R 126-1"	Accepted - Done
0018 AU	1	7.2.2.2	c) iv	ed	Inconsistent reference	Change "B.2.1 or B.2.3" to "R126-2, Annex B 2.1 or Annex B 2.3"	Accepted - Done – The word Annex is not necessary. The subclauses are identified as B.2.x
0019 FR	1	7.2.2.2	ii	ed	"Measurement" has been replaced by " <i>breath sample</i> " in the clause ii) whereas the beginning " <i>When applied within a two-measurements cycle</i> " has not been changed. It is not very clear.	Harmonise the wording of the clause accordingly.	Accepted to add " with 2 independent breath samples " to the text : "7.2.2.2 measuring results ii. When applied within a two-measurements cycle with 2 independent breath samples : ... " Done
0020 AU	1	7.2.2.2	Note 1	ed	Missing full stop	" ... invalid measuring conditions. Differences in exhalation..."	Accepted - Done
0021 AT	1	6/6.6.2	Table 1	ed	βalcohol; non-italic font for β in Table 1	β	Accepted - Done
0022 PL	1	Annex A	Table A.1	ed	Row 3.1/4.2 Remarks column: description is not correct. Back pressure requirement is in clause 7.19 not in 4.2	Correct remarks accordingly.	Accepted. Remarks column will be shorten to "revised text" Done
	2	1	3 rd sentence	ed	As with comment 91 from CD3 comments.	Add full stop. "... as specified in Part 1."	Accepted - Done

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0023 AU					Sentence is missing full stop.		
0024 FR	2	2.1		ed	It is indicated <i>"The evaluation shall consist of the examination and tests specified in 2.2 to 2.6"</i> . The part 2.6 relative to <i>"Tests for optional disturbances and requirements"</i> is optional.	Replace by <i>"The evaluation shall consist of the examination and tests specified in 2.2 to 2.5 and if applicable, the tests specified in 2.6."</i>	Accepted - Done
0025 FR	2	2.3.2	Table 2	ed	The line for VLTm deals with "price calculation". It seems not adapted for EBAs.	Delete <i>"rules for price calculation"</i>	Accepted - Done
0026 JP 6	2	2.4.1 Reference conditions	Table 3 Reference conditions	Ed/tech	Change the expression from "ppm" to "μmol/mol". The abbreviation ppm should be avoided, according to ISO 80000-1.	Change the expression as follows. Present: 0 <u>ppm</u> to 5 <u>ppm</u> total <u>volume</u> fraction (as methane equivalent) Correct: 0 <u>μmol/mol</u> to 5 <u>μmol/mol</u> total <u>mole</u> fraction (as methane equivalent)	Accepted - Done According to OIML B 6-2, 4.8: <i>"4.8 Units of measurement The units of measurement in which the given instrument's measurement results will be presented, as well as their symbols, shall conform with the decisions of the General Conference of Weights and Measures (CGPM), OIML D 2:2007 Legal units of measurement, and, if necessary, the detailed specifications of the appropriate part of ISO/IEC 800001"</i>
0027 JP 7	2	2.4.2 Relevant characteristics of human breath	5 th dot point	Ed/tech	Propose to change the expression from "volume fraction" to "mole fraction". Also, change the expression from "%" to "mmol/mol".	Please change expressions as shown below. Present: <u>volume</u> fraction of CO ₂ : up to 5 %. Proposed: <u>mole</u> fraction of CO ₂ : up to 50 mmol/mol	Accepted - Done According to OIML B 6-2, 4.8: <i>"4.8 Units of measurement The units of measurement in which the given instrument's measurement results will be</i>

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							<i>presented, as well as their symbols, shall conform with the decisions of the General Conference of Weights and Measures (CGPM), OIML D 2:2007 Legal units of measurement, and, if necessary, the detailed specifications of the appropriate part of ISO/IEC 800001 “</i>
0028 PL 007	2	2.4.3.1		ed	Typing error in the second line: “0” instead of “O” in CO ₂ symbol	Change to: “CO ₂ ”.	Accepted - Done
0029 JP 8 008	2	2.4.3.1 Characteristics of the test gas	Table 4 Reference gas conditions – Carrier gas	Ed/tech	Propose to change the expression from “Volume fraction” to “mole fraction”. Also, change the expression from “%.vol” to “μmol/mol”. The extra information on the quantity such as “vol” should not be added to symbol %, according to ISO 80000-1.	Please change expressions as shown below. Present: Air containing insignificant concentrations of relevant impurities with a <u>volume</u> fraction of CO ₂ of: <u>(5 ± 0.5) %vol</u> Correct: Air containing insignificant concentrations of relevant impurities with a <u>mole</u> fraction of CO ₂ of: <u>(50 ± 5) mmol/mol</u>	Accepted - Done According to OIML B 6-2, 4.8: “4.8 Units of measurement The units of measurement in which the given instrument’s measurement results will be presented, as well as their symbols, shall conform with the decisions of the General Conference of Weights and Measures (CGPM), OIML D 2:2007 Legal units of measurement, and, if necessary, the detailed specifications of the appropriate part of ISO/IEC 800001 “

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0030 PL	2	2.4.3.1	Table 4	te/ed	Unit "%vol": "vol" is not necessary as the quantity is " <u>Volume</u> fraction". Unify notation of required test gas conditions.	Change: "(5 ± 0.05)%vol" to: "5 % ± 0.05 %".	See answer to JP8 0026/0027
0031 FR	2	2.4.3.1.		ed	Typo error ("0" instead of "O") in the text before the table 4.	Change: "CO ₂ " to "CO ₂ ".	Accepted - Done
0032 JP 9	2	2.4.3.2 Capabilities of the test gas generator	Table 5 Generator types and features	Ed/tech	Propose to change the expression from "Volume fraction" to "mole fraction". Also, change the expression from "%" to "mmol/mol". The extra information on the quantity such as "vol" should not be added to symbol %, according to ISO 80000-1.	Change the expression as follows. Present: <u>Volume</u> fraction CO ₂ : (5 ± 0.5) %vol Correct: <u>Mole</u> fraction CO ₂ : (50 ± 5) mmol/mol	Accepted - Done According to OIML B 6-2, 4.8: "4.8 Units of measurement The units of measurement in which the given instrument's measurement results will be presented, as well as their symbols, shall conform with the decisions of the General Conference of Weights and Measures (CGPM), OIML D 2:2007 Legal units of measurement, and, if necessary, the detailed specifications of the appropriate part of ISO/IEC 800001 "
0033 PL	2	2.4.3.2	Table 5	te/ed	Unit "%vol": "vol" is not necessary as the quantity is " <u>Volume</u> fraction". Unify notation of required generator features.	Change: "(5 ± 0.05)%vol" to: "5 % ± 0.05 %".	See answer to 0032 JP9

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0034 FR	2	2.4.3.2.		ed	It seems it is not the relevant reference for alcohol profiles. The alcohol profiles are described in A.4.2 whereas 2.4.2 deals with relevant characteristics of human breath. The reference shall be identical to the reference in table 5.	Replace <i>"but with flowrate and alcohol profiles described in 2.4.2"</i> by <i>"but with flowrate and alcohol profiles described in A.4.2"</i> .	Accepted - Done
0035 PL	2	2.5.2		te	Mouthpiece shall be changed before each measurement if wet test gas is used to avoid possible influence of water condensation on results and to use EUT during tests in the same way like in routine operation.	Ad: - if wet test gas is used then mouthpiece shall be changed before each measurement.	Not accepted We understand your concerns, but this is a device-specific issue which should not be restricted in the R 126. For most test standard measurement cycles shall be performed. For this, instructions are given in the manual of the respective EBA, which also includes information about the change of mouthpieces
0036 AU	2	2.5.6.1	Table 11 d)	ed	"First test:" and "Second test:" not in bold	Make bold "First test;" and "Second test:"	Accepted - Done
0037 AU	2	2.5.6.1	Table 11 f)	ed	Use of '*'. What does this refer to?	Remove?	Accepted - Done
0038 AU	2	2.5.6.1	Table 11 notes	ed	Note numbers are superscript	Change note numbers at bottom of table to normal script.	Not changed - This is the normal style in OIML documents.
0039 FR	2	2.5.7.10	Table 22	ed	In line <i>"Measurement conditions"</i> , the references R126-2 are not necessary. In other tables, this information has been deleted.	In the sentence <i>"within reference gas conditions as defined in R 126-2, 2.4.3.1, Table 4 and 2.4.3.2, Table 6"</i> , delete R 126-2	Accepted - Done

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0040 JP 10	2	2.5.7.12 Raised fraction of CO ₂ in the test gas	Measurement conditions of Table 24 Raised fraction of CO ₂ in the test gas	Ed/tech	Propose to change the expression from "Volume fraction" to "mole fraction". The extra information on the quantity such as "vol" should not be added to symbol %, according to ISO 80000-1. Measurement conditionsにおいて、	Change the expression as follows. Present: Ethanol concentrations: 0.40 mg/L (test gas no. 4) with <u>CO₂ volume fraction of 8 % vol</u> 0.40 mg/L (test gas no. 4) with <u>CO₂ volume fraction of 5 %</u> (standard test gas) Correct: Ethanol concentrations: 0.40 mg/L (test gas no. 4) with <u>80 mmol/mol CO₂</u> 0.40 mg/L (test gas no. 4) with <u>50 mmol/mol CO₂</u> (standard test gas)	Accepted -Done According to OIML B 6-2, 4.8: <i>"4.8 Units of measurement The units of measurement in which the given instrument's measurement results will be presented, as well as their symbols, shall conform with the decisions of the General Conference of Weights and Measures (CGPM), OIML D 2:2007 Legal units of measurement, and, if necessary, the detailed specifications of the appropriate part of ISO/IEC 800001 "</i>
0041 PL	2	2.5.7.12	Table 24	ed	In measurement conditions row in unit "% vol": "vol" is not necessary as the quantity is " <u>volume</u> fraction".	Change to: "8 %" (delete "vol").	See answer to 0040 JP 10 #
0042 PL	2	2.5.7.12	Table 24	ed	Typing error in measurement conditions row: missing space between "of" and "5"	Change to: "of 5".	
0043 FR	2	2.5.7.3	Table 15	ed	The unit kPa has been replaced by the unit hPa but the numerical value of the uncertainty has not been updated (0.15 kPa has become 0.15 hPa). It is not the same requirement.	Replace 0.15 hPa by 1.5 hPa	Accepted - Done
0044 AU	2	2.5.7.4	Table 16, Acceptance criteria	ed	Extra letter "a" - remove	Remove "a" :...EBA is determined a at the reference..."	Accepted - Done

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0045 FR	2	2.5.7.5	Table 17	ed	In line “ <i>Measurement conditions</i> ”, the references R126-2 are not necessary. In other tables, this information has been deleted.	In the sentence « <i>within reference gas conditions as defined in R 126-2, 2.4.3.1, Table 4 and 2.4.3.2, Table 6</i> », delete R 126-2	Accepted - Done
0046 PL	2	2.5.7.5	Table 17	te/ed	Notation “ $U_{nom} - 15 \% \leq U_{nom} \leq U_{nom} + 10 \%$ ” is not correct.	Change to: “ $0.85 U_{nom}$ to $1.10 U_{nom}$ ”.	Not accepted. We understand your concerns but this expression is harmonized with those in 2.5.7.6 and 2.5.7.7 which are taken from D11 and the BIML advise was not to modify
0047 AU	2	2.5.7.5	Table 17, Test procedure in brief	ed	“Test Sequence:” has become part of list.	Remove “Test Sequence:” from list and renumber list items.	Accepted - Done
0048 FR	2	2.5.7.6	Table 18	ed	In line “ <i>Measurement conditions</i> ”, the references R126-2 are not necessary. In other tables, this information has been deleted.	In the sentence « <i>within reference gas conditions as defined in R 126-2, 2.4.3.1, Table 4 and 2.4.3.2, Table 6</i> », delete R 126-2	Accepted - Done
0049 PL	2	2.5.7.6	Table 18	te/ed	Notations “ $U_{nom1} - 15 \%$ ” and “ $U_{nom2} + 10 \%$ ” are not correct.	Change to: “ $0.85 U_{nom1}$ ” and “ $1.10 U_{nom2}$ ” accordingly.	Not accepted. The expression is taken for D11, table 20
0050 FR	2	2.5.7.7	Table 19	ed	In line “ <i>Measurement conditions</i> ”, the references R126-2 are not necessary. In other tables, this information has been deleted.	In the sentence « <i>within reference gas conditions as defined in R 126-2, 2.4.3.1, Table 4 and 2.4.3.2, Table 6</i> », delete R 126-2	Accepted - Done
0051 PL	2	2.5.7.7	Table 19	te/ed	Notations “ $f_{nom1} - 2 \%$ ” and “ $f_{nom2} + 2 \%$ ” are not correct.	Change to: “ $0.98 f_{nom1}$ ” and “ $1.02 f_{nom2}$ ” accordingly.	Not accepted. The expression is taken for D11, table 21
0052	2	2.5.7.8	Table 20	ed	The sentence “ <i>In case c the voltage shall be reduced until case a or b does occur</i> ” has been added,	Harmonize the bullet with the text: “ <i>All functions shall operate as designed.</i> ”	Accepted - Done

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FR					however, the above bullet are not identified by a°, b.....	<i>at 0.9 × Ubmin: the EUT shall either: a. cease to function (turn itself off), b. not allow any measurements and give an appropriate error message or c. shall measure correctly »</i>	
0053 AU	2	2.5.7.8	Table 20, Acceptance criteria	ed	Dashes to be replaced by a, b, c to work with conditional sentence that follows.	Replace dashes with “a”, “b” and “c”	Accepted - Done
0054 AU	2	2.5.7.9	Table 21, Test procedure in brief & Measuremen t conditions	ed	As with comment 173 of CD3 comments: missing spaces between value and units for -10 °C in point 3) and 4) (Test procedure in brief), and Ambient conditions (Measurement conditions)	Insert space between value and units of -10 °C	Accepted - Done
0001 AU	2	2.5.8.1.1, 2.5.8.1.2, 2.5.8.2.1, 2.5.8.2.2	headings	ed	Some headings have colons, some do not.	Consistent with use of colons.	Accepted - Done
0055 FR	2	2.5.8.1		ed	The sentence “ <i>The procedure provided by the manufacturer must be approved by the national authority, and the manufacturer shall provide the documentation to justify its procedure</i> ” (CD3) has been moved but in the same time it has been modified: the national authority has been replaced by the authority issuing the certificate. (See comment from France 230 FR on CD2 and the text in CD3).	Use the sentence from CD3 : “ <i>The procedure provided by the manufacturer must be approved <u>by the national authority</u>, and the manufacturer shall provide the documentation to justify its procedure</i> ”	Accepted national authority “is the more universal wording which fits all purposes Done
0056 AU	2	2.5.8.1.2	heading	ed	Underlined heading	Remove underline	Accepted - Done
0057	2	2.5.8.12	Table 36, Test level	ed	pulse a and pulse b to have capital P	Make Pulse a and Pulse b	Accepted - Done

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0058 AU	2	2.5.8.12	Table 36, Test level	ed	Should U_s be U_s ? U italic	Change U_s to U_s	Accepted - Done
0059 JP 12	2	2.5.8.17 Vibration (as disturbance)	Table 41 Vibration (as disturbance)	Ed.	"Hz" is missing in Test level.	Add "Hz" as follows. 10 <u>Hz</u> —150 Hz 10 <u>Hz</u> —20 Hz 20 <u>Hz</u> —150 Hz	Accepted - Done
0060 FR	2	2.5.8.2		ed	The sentence " <i>The procedure provided by the manufacturer must be approved by the national authority, and the manufacturer shall provide the documentation to justify its procedure</i> " (CD3) has been moved but in the same time it has been modified: the national authority has been replaced by the authority issuing the certificate. (See comment from France 230 FR on CD2 and the text in CD3).	Use the sentence from CD3 : " <i>The procedure provided by the manufacturer must be approved <u>by the national authority</u>, and the manufacturer shall provide the documentation to justify its procedure</i> "	Accepted - Done
0061 AU	2	2.5.8.2	Table 26, Test level	ed	Second frequency range needs units after 80, to be consistent.	80 MHz – 6 000 MHz	Accepted - Done
0062 FR	2	2.5.8.2 to 2.5.8.6		ed	In the line « <i>Acceptance criteria</i> » of the tables, the sentence « <i>is not providing has been replaced by does not display</i> ». It seems it is not exactly the same requirement: the use of the display for the tests has become mandatory.	Please check what is required and maintain " <i>display</i> " or replace by " <i>providing</i> ".	Accepted to let the word "provide" instead of "display" as it was in CD3 . The sentence will be corrected from 2.5.8.2 to 2.5.8.12 as : " <i>the EUT does not provide display a measurement result.</i> "
0063 JP 11	2	2.5.8.2.2 Test scheme B	Table 26	Ed.	"MHz" is missing in Test level.	Add "MHz" in "Frequency range" of "Test level" as follows.	Accepted - Done

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			Radiated RF electromagnetic fields			80 <u>MHz</u> —6 000MHz	
0064 AU	2	2.5.8.6	Table 30, Test procedure in brief	ed	Should the loads be 50 Ω and 1000 Ω, as in Table 28?	If required, update W with Ω	Accepted - Done
0065 FR	2	2.5.8.7		ed	In the line “Acceptance criteria”, the sentence « <i>It is acceptable that during the disturbance test the EUT does not provide a measurement result has been added</i> ». This sentence has been added between CD2 and CD3 for the table relative to DC mains voltage dips, short interruptions and (short term) variations. But in this document, it is present in the table relative to ripples.	Please check if this sentence shall be applied to the test of ripples or other tests.	The sentence “ <i>It is acceptable that during the disturbance test the EUT does not provide a measurement result has been added</i> » was missing in 2.5.8.7 and shall be applied
0066 AU	2	2.5.8.8	Table 32	ed	For consistency Test method should be at the top of the table.	Move Test Method to the top of the table.	Accepted - Done
0067 AU	2	2.5.8.8, Test level	Table 32	ed	AS with comment 195 in CD3 comments: Capital letter ‘T’ for “test a” through “test j”	Capital letter ‘T’ for “test a” through “test j”	Accepted - Done
0068 UK	2	2.5.9	Table 42	te	Can it be clarified why the A-B-A-B gas test sequence has been introduced into the physiological influence quantities test procedure? Has this been introduced to make it easier for fuel cell based instruments to pass the test? An EBA should give an acceptable response to an ethanol plus an interfering substance gas in normal operation which would not necessarily be preceded by an ethanol gas measurement.	An A-A-A-A-B-B-B-B would be a more suitable test sequence to ensure that EBA can give an acceptable response to an ethanol plus an interfering substance gas without being immediately proceeded by an ethanol gas measurement For acceptance, sensitivity to be calculated on average values.	partly accepted: “(= A-B-A-B-A-B-A-B)” deleted since it was introduced in CD3 as a help by the secretariat.

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					<p>Perhaps an A-A-A-A-B-B-B-B would be a more suitable test sequence.</p> <p>This was not accepted as:</p> <p>“To calculate the sensitivity correctly, you need to calculate the difference from each combination A-B.” If the A and B-measurements are done consecutively, how will you combine the pairs? For acceptance, each single calculated sensitivity shall be within the limits, not only an average value which could mask an outlier.</p> <p>Sensitivity can be calculated based on the A and B averages.</p>		<p>It was not the intention of the secretariat to modify the test sequence at a last stage but just clarify it. This test sequence hasn't been modify since 1998 (it is the same sequence in R126 1998 and R126 2012)</p> <p>Still, this test procedure is prescribed in the sections "test procedure in brief" and can be deduced from "calculation of results". The complete test procedure and the calculation of results were discussed in full detail in the subgroup "interfering substances". It is a pity that at that time period in 2017, UK had temporarily withdrawn its membership of the PG, so they were not involved in the discussions</p>
0069 AU	2	2.5.9	Table 42, Test procedure in brief	te	As indicated by AU and UK in the last comments, including a particular test sequence at this later stage without consultation assumes a incorrect knowledge of currently used test procedures that produce minimum uncertainty of results.	Suggest removing A-B-A-B-A-B-A-B sequence.	See answer to comment 0068 UK
0070 AU	2	2.5.9 (and Part 1 6.11.2)	all	te	On full examination of R126-1 6.11.2 and R126-2 2.5.9, this has become a very complicated way of saying...With these levels of interfering substances the increase in result shall be less than 25%.	There is unlikely to be any change at this stage, but further additions should consider removing the unnecessary over complication of this requirement.	Thanks for your comment. This point would be addressed to a future revision.
0071 AU	2	2.6.3	heading	ed	As with comment 218 in CD3 comments: "Water" heading is highlighted	Remove highlight on heading.	Accepted - Done

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0072 FR	2	A.1.1		ed	Symbols have been simplified in the formula but not in the text above.	Please harmonise γ_{H_2O} and $\beta_{gas(t)}$ in the text like in the formula.	Accepted - Done
0073 FR	2	A.1.2		ed	Symbols have not been simplified in the formula as A.1.1.	Please harmonize the symbols in the part.	Accepted - Done
0074 PL	2	Annex A A.1.1		te/ed	Symbols of ethanol concentration in gas and water phase in the first sentence shall be in line with those in the formula.	Change: " γ_{H_2O} " to: " $\gamma_{(t)}$ " and " $\beta_{gas(t)}$ " to: " $\beta_{(t)}$ "	Accepted - Done
0075 PL	2	Annex A A.1.2		te/ed	Symbols of ethanol concentration in gas and water phase in the Harger's formula shall be in line with those in A.1.1.	Change: " $\gamma_{H_2O(34)}$ " to: " $\gamma_{(34)}$ " and " $\beta_{gas(34)}$ " to: " $\beta_{(34)}$ "	Accepted - Done
0076 PL	2	Annex A A.2		ed	There is a mistake in Note 2: "is not compressed" instead of "is compressed".	Correct accordingly.	Accepted - Done
0077 AU	2	Annex A.1.1	Variables description	ed	As with comment 231 in CD3 comments: End of first variable description – additional space in mg/ L	Remove space before 'L' in 'mg/ L'	Accepted - Done
0078 AU	2	Annex A.1.2	formula	ed	In the Dubowski formula the variables have been simplified, nut not on the Harger formula.	Simplifier the variables in the Harger formula, as with the Dubowski formula.	Accepted - Done
0079 AU	2	Annex A.4.2.1	Figure A.6	ed	As with comment 243 in CD3 comments: Reference incomplete in the Figure. R126-2, 2.5.6.c should be R126-2, 2.5.6.1.c	Update R126-2, 2.5.6.c to R126-2, 2.5.6.1.c	Accepted - Done
0080 PL	2	Annex B B.2.2	Table B.2	ed	There are improper symbols " θ_{m1} " and " θ_{m2} " in Acceptance criteria row.	Change: " θ_{m1} " to " θ_1 " and " θ_{m2} " to " θ_2 ".	Accepted - Done
0081 AU	2	Annex B.1.2	Table B.1, Object of the test	ed	As with comment 251 in CD3 comments: Reference incomplete. 7.1.8 should be R126-1, 7.1.8	Update 7.1.8 to R126-1, 7.1.8	Accepted - Done
0082 AU	2	Annex B.2.1	Text and table B.2	ed	As with comment 260 in CD3 comments. Italic <i>R</i> is used in equation of point c). Then standard R is used in rest of text and Table B.2	Use consistent 'R' or 'R'	Accepted to use "R" - Done

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0083 AU	2	Annex B.2.2	Table B.2, EUT performance	ed	Additional '2' in front of reference	Remove front '2' from '2 2.5.3'	Accepted - Done
0084 AU	2	Annex B.2.4	Table B.3, Measuremen t conditions	ed	As with comment 263 in CD3 comments: Duplicate semi-colons	Remove second semi-colon from '... for the second measurement: :0.25 mg/L...'	Accepted - Done
0085 PL	2	Annex C		ed	11.4.4.14/2.5.7.12 row, Description column: "CO2" instead of "CO ₂ "	Change to: "CO ₂ ".	Accepted - Done
0086 FR	2	B.1.1		ed	The word "constantly" has to be kept for consistency.	Add "constantly" in the sentence " <i>The peak method is applicable only to EBAs which are constantly monitoring the ethanol concentration during the injection of the breath sample</i> ".	Accepted to reintroduce the term "constantly" as it was in CD3. This editorial correction (deleting "constantly"), has been made by the secretariat because the term monitor already implies that it has to be done constantly.
0087 AU	3	C.2	Table of tests 2.5.8.13	ed	The corresponding requirements for 2.5.8.13 Mechanical shocks should be 6.11.1 table 4.	Change table formatting to align Mechanical Shock with correct corresponding requirement	Accepted - Done
0088 PL	3	F	F1-F37	ed	Use lower case " <i>p</i> " instead of " <i>P</i> " as a symbol for atmospheric pressure.	Correct accordingly in Test conditions row	Accepted - Done
0089 AU	3	F.5	Table of results	ed	There are a number of varying tests across influences a) to f). Some results required to be with MPEs, others the give appropriate error messages and not generate results. Table does not reflect the possibilities.	Add a column to be able to indicate EUT response and any displayed error message.	Accepted - Done
0090 AU	3	F.6	Table of results	ed	As some of the options to detect alcohol in the upper respiratory involve tests with two concentrations, the current table does not present a consistent way of recording this.	3 table options specific to the method options	Partly accepted. This sentence will be added : "The table could be adapted to the method used."
0091 AU	3	Test report contents	List of contents – F15	ed	Reference at end of content heading – inconsistent with rest of list	Remove reference 'F.15 Voltage variations of a road vehicle battery (R 126-2- 2.5.7.10)'	Partly accepted Format of the reference will be adapted

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0092 US	All				<p>US votes "yes" with comments on the POB of R126.</p> <p>The 3CD of R126 closed on 16 Feb 2021.</p> <p>Over 400 comments were received on the 3CD from 12 countries. According to the Conveners' statistics, at least 60 or 70 of these comments were considered to be non-editorial ... the Conveners also said that many of these non-editorial comments would significantly improve R126.</p> <p>We received an email from the R126 PG Conveners on 05 March 2021. (We have copied this 05 March email into the end of this US comments document.)</p> <p>This 05 March email carefully outlines the steps that need to be followed in the case of a CD that passes its PG vote, but many non-editorial comments are received (according to the rules of B6). In this case the Conveners said that they planned to implement the "Minor Change Procedure" as laid out in B6 Section 6.5.2.5.</p> <p>The US agrees that implementing the B6 "Minor Change Procedure" was the correct course of action for R126.</p> <p>However, the POB was issued in April 2021 without the PG benefitting from being given the opportunity to review the planned changes to R126 based upon non-editorial comments received on the 3CD.</p> <p>The US wishes to note its objection that the rules and procedures of B6 do not seem to have been followed in this case .</p>		<p>We understand your concerns and we would like to apologise if you feel disappointed by the change of procedure.</p> <p>Indeed, first we decided to follow the minor procedure (our mail of 05 of march) but after discussion with the BIML and further study of the technical comments, we changed our mind and sent this email on the 31rd of March to inform the members of the modification :</p> <p><i>"Dear Colleagues of OIML TC 17/SC 7/p 3,</i> <i>We hope that this message finds you in good health!</i> <i>Following the message dated from March 05th, 2021, we would like to inform you a modification in the procedure. After discussion with the BIML and further study of the technical comments, we have decided that these comments could be considered editorials or not requiring a change procedure.</i> <i>Therefore, it was decided in consultation with the BIML to submit the documents (part 1, 2 and 3) to the POB vote.</i> <i>Kind regards,</i> <i>Laetitia and Regina"</i></p>

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0093 NL	All				See attached note from the Netherlands CIML Member		<p>We are very sorry about your decision to vote negative. The issue of Acetaldehyde was discussed in full detail in the PG as well as in the sub group “interfering substances” with strong arguments pro and contra. In the 2019-PG-meeting in Paris, 50 % of the P-members were in favor, and 50 % were against to include acetaldehyde into the list of interfering substances. Since this was no unambiguous mandate to change the existing list of interfering substances, we had to leave it as it was in the 2012-revision of R 126.</p> <p>So, this issue was closed for this revision with this decision at the 2019-meeting, but for a future edition we would be happy to hear new arguments from the Dutch participants!</p>

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Contact

Matthijs van der Wiel

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Our reference

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Your reference

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Enclosures

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Date 30 June 2021

Subject Explanatory comment with vote for revised R126

Dear mrs. Delette, mrs. Phulpin, mrs. Kluess,

We regret to inform you that the vote that we hereby submit for the preliminary online ballot on R126 is negative. Our primary reason is that acetaldehyde has not been added to Table 5, physiological influence substances, in section 6.11.2 of part 1. We have repeatedly requested this addition. Since we submitted our comments on the 3CD in February this year, the convenors have not communicated with the Dutch representative in TC17/SC7/p3, mr. Paul Kok, concerning this topic.

Yours sincerely,

Matthijs H.D. van der Wiel
CIML Member Assignee for The Netherlands