

Annex to declaration of accreditation (scope of accreditation)
 Normative document: EN ISO/IEC 17025:2017
 Registration number: **K 064**

of **Scott Speciality Gases Netherlands B.V.**
Calibration Laboratory

This annex is valid from: **20-03-2024** to **01-05-2025**

Replaces annex dated: **08-02-2023**

Location(s) where activities are performed under accreditation

Head Office

Takkebijsters 46- 48
 4817 BL
 Breda
 The Netherlands

Location	Abbreviation/ location code
Takkebijsters 46 – 48 4817 BL Breda The Netherlands	Br

HCS code	Measured quantity, Instrument, Measure	Range Amount fractions (mol/mol) ²⁾	CMC ¹⁾ Relative uncertainties	Remarks / Internal Instructions	Location
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RM 2 0 Gas mixtures

Binary mixtures
 ISO 6143 and ISO Guide 35

	CH ₄ in Air	(1·10 ⁻⁶ – 10·10 ⁻⁶) (10·10 ⁻⁶ – 100·10 ⁻⁶)	2.0 % 1.0 %		Br
	C ₃ H ₈ in Air	(10·10 ⁻⁶ – 0.33·10 ⁻²)	1.0 %	(measured as THC)	
	NO in N ₂	(1·10 ⁻⁶ – 5·10 ⁻⁶) (5·10 ⁻⁶ – 0.1·10 ⁻²)	2.0 % 1.0 %		
	NO ₂ in Air	(3·10 ⁻⁶ – 100·10 ⁻⁶) (100·10 ⁻⁶ – 0.1·10 ⁻²)	2.0 % 1.0 %		

¹ Calibration and Measurement Capability (CMC): Demonstrated measurement uncertainty, with coverage probability of 95%, in a given measurement point or measurement range. Measurement uncertainty, *U*, is calculated according to EA-4/02 "Evaluation of the Uncertainty of Measurement in Calibration".

This annex has been approved by the Board of the
 Dutch Accreditation Council, on its behalf,

J.A.W.M. de Haas

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HCS code	Measured quantity, Instrument, Measure	Range Amount fractions (mol/mol) ²⁾	CMC ¹⁾ Relative uncertainties	Remarks / Internal Instructions	Location
	NO _x in N ₂	(3·10 ⁻⁶ – 5·10 ⁻⁶) (5·10 ⁻⁶ – 100·10 ⁻⁶)	2.0 % 1.0 %	(measured as NO)	Br
	NO _x in Air	(3·10 ⁻⁶ – 100·10 ⁻⁶)	3.0 %	(measured as NO ₂)	
	O ₂ in N ₂	(0.4·10 ⁻² – 1.0·10 ⁻²) (1.0·10 ⁻² – 25·10 ⁻²)	2.0 % 1.0 %		
	CO in N ₂	(150·10 ⁻⁶ – 15·10 ⁻²)	1.0 %		
	CO ₂ in N ₂	(200·10 ⁻⁶ – 25·10 ⁻²)	1.0 %		
	SO ₂ in N ₂	(25·10 ⁻⁶ – 50·10 ⁻⁶) (50·10 ⁻⁶ – 0.5·10 ⁻²)	2.0 % 1.0 %		

Natural Gas Mixtures
 ISO 6143 and ISO Guide 35

	CH ₄	(70·10 ⁻² – 92.5·10 ⁻²)	0.1 %		Br
	C ₂ H ₆	(0.3·10 ⁻² – 11·10 ⁻²)	1.0 %		
	C ₃ H ₈	(0.1·10 ⁻² – 0.5·10 ⁻²) (0.5·10 ⁻² – 5·10 ⁻²)	2.0 % 1.0 %		
	iso-C ₄ H ₁₀	(0.05·10 ⁻² – 1·10 ⁻²)	1.0 %		
	<i>n</i> -C ₄ H ₁₀	(0.03·10 ⁻² – 1·10 ⁻²)	1.0 %		
	neo-C ₅ H ₁₂	(0.005·10 ⁻² – 0.01·10 ⁻²) (0.01·10 ⁻² – 0.45·10 ⁻²)	3.0 % 2.0 %		
	iso-C ₅ H ₁₂	(0.005·10 ⁻² – 0.02·10 ⁻²) (0.02·10 ⁻² – 0.5·10 ⁻²)	2.0 % 1.0 %		
	<i>n</i> -C ₅ H ₁₂	(0.005·10 ⁻² – 0.02·10 ⁻²) (0.02·10 ⁻² – 0.6·10 ⁻²)	2.0 % 1.0 %		
	<i>n</i> -C ₆ H ₁₄	(0.005·10 ⁻² – 0.02·10 ⁻²) (0.02·10 ⁻² – 0.03·10 ⁻²) (0.03·10 ⁻² – 0.4·10 ⁻²)	3.0 % 2.0 % 1.0 %		
	CO ₂	(0.05·10 ⁻² – 0.6·10 ⁻²) (0.6·10 ⁻² – 9·10 ⁻²)	3.0 % 1.0 %		
	N ₂	(0.1·10 ⁻² – 0.6·10 ⁻²) (0.6·10 ⁻² – 20·10 ⁻²)	2.0 % 1.0 %		

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Calculated values for Physical Properties
 ISO 6976³⁾

	Molar mass	$N_2 < 20 \cdot 10^{-2}$	0.1 %		Br
	Compression factor	$CO_2 < 9 \cdot 10^{-2}$ $C_2H_6 < 11 \cdot 10^{-2}$	0.1 %		
	Gross Calorific value	other components $< 5 \cdot 10^{-2}$ $CH_4 < 92.5 \cdot 10^{-2}$	0.1 %		
	Relative Density		0.1 %		
	Density		0.1 %		
	Gross Wobbe Index		0.1 %		

Calibration Gas for Motor Vehicle Exhaust Emission Measurements ⁴⁾
 ISO 6143 and ISO Guide 35

	C_3H_8	$(72 \cdot 10^{-6} - 660 \cdot 10^{-6})$ $(660 \cdot 10^{-6} - 3740 \cdot 10^{-6})$	2.0 % 1.0 %		Br
	CO	$(0.225 \cdot 10^{-2} - 5.5 \cdot 10^{-2})$	1.0 %		
	CO ₂	$(2.7 \cdot 10^{-2} - 15.4 \cdot 10^{-2})$	1.0 %		
	O ₂	$(0.45 \cdot 10^{-2} - 1.5 \cdot 10^{-2})$ $(1.5 \cdot 10^{-2} - 22.99 \cdot 10^{-2})$	2.0 % 1.0 %		
	N ₂	Balance gas			

Calibration Gas for Marine Exhaust Emission Measurements ⁴⁾
 ISO 6143 and ISO Guide 35

	CO ₂ in N ₂	$(5 \cdot 10^{-2} - 25 \cdot 10^{-2})$	1.0 %		Br
	SO ₂ in N ₂	$(25 \cdot 10^{-6} - 50 \cdot 10^{-6})$ $(50 \cdot 10^{-6} - 0.3 \cdot 10^{-2})$	2.0 % 1.0 %		

¹⁾ Calibration and Measurement Capability (CMC): Demonstrated measurement uncertainty, with coverage probability of 95%, in a given measurement point or measurement range. Measurement uncertainty, *U*, is calculated according to EA-4/02 "Expression of the Uncertainty of Measurement in Calibration".

²⁾ The composition of the mixtures is being certified, prepared and analysed as mole fraction. Conversion calculations are performed in conformance with ISO14912.

³⁾ Calibration and Measurement Capability (CMC): Demonstrated measurement uncertainty, with coverage probability of 95%, in a given measurement point or measurement range. Measurement uncertainty, *U*, is calculated according to ISO 6976.

⁴⁾ During conversion into volume fractions the following reference conditions are presumed: Temperature: 15°C and pressure: 100,0 kPa.

Calibrations are performed on permanent laboratory premises.