Agilent Sulfur Chemiluminescence Detector and Nitrogen Chemiluminescence Detector

Specification Guide

Agilent 8355 SCD

MDL[1]	Typical <0.5 pg(S)/sec
MDL (SCD/FID Tandem)	Typical <5.0 pg(S)/sec
Typical selectivity g S/g C[2]	$>2 \times 10^7$
Linearity[3]	$>10^4$
Repeatability	<2% RSD 2 hours <5% RSD 24 hours
Ozone supply gas	Dry oxygen (Ultra Zero grade)
Oxidizer	Ultra Zero grade air
Hydrogen	Ultra Zero grade
Analog output	0–1 V, 0–10 V (Standalone version only)

[1] **MDL:** Burner temperature 800 °C, 8 mL/min lower hydrogen, 38 mL/m upper hydrogen, 50 mL/min air, *tert*-butyl disulfide in SCD checkout sample (5190-7003) as the test compound, 30 m × 0.32 mm, 1 µm DB1 (123-1033), 50 °C for 3 minutes, 25 °C/min to 160 °C, hold 2 minutes, 1 µL splitless injection, fully stabilized burner.

[2] **Selectivity:** Defined as the sensitivity of S over the sensitivity of a selected hydrocarbon. Operating parameters same as MDL. Isooctane (sample solvent) and *tert*-butyl disulfide in the SCD checkout sample are used as the testing compounds. Selectivity performed on a fully stabilized burner.

[3] **Linearity:** Operating parameters same as MDL except 12 mL/min lower hydrogen and 38 mL/m upper hydrogen; 80 °C for 1 minute, 25 °C/min to 160 °C, hold 2 minutes, COC inlet; Test compound: *tert*-butyl disulfide in isooctane. Linearity performed on a fully stabilized burner.

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Agilent 8255 NCD

MDL[1]	Typical <3 pg(N)/sec
MDL (NCD/FID Tandem)[1]	Typical <30 pg(N)/sec
Typical selectivity g N/g C[2]	$>2 \times 10^7$
Typical selectivity g N/g C (NCD/FID Tandem)	$>10^6$
Linearity[3]	$>10^4$
Repeatability	<1.5% RSD 8 hours <2% RSD 18 hours
Ozone supply gas	Dry oxygen (Ultra Zero grade)
Oxidizer	Ultra Zero grade oxygen
Hydrogen	Ultra Zero grade
Analog output	0–1 V, 0–10 V (Standalone version only)

1 **MDL:** Burner temperature 900 °C, 3 mL/min hydrogen, 8 mL/m oxygen, 3-methylindole in NCD checkout sample (5190-7002) as the test compound, 30 m × 0.32 mm, 0.25 µm HP-5 (19091J-413), 50 °C for 3 minutes, 25 °C/min to 250 °C, hold 2 minutes, 1 µL splitless injection, fully stabilized burner. NCD/FID configuration requires oxygen for the oxidizer and helium for the make-up gas.

2 **Selectivity:** Defined as the sensitivity of N over the sensitivity of a selected hydrocarbon. Operating parameters same as MDL. Isooctane (sample solvent) and 3-methylindole in the NCD checkout sample are used as the testing compounds. Selectivity performed on a fully stabilized burner.

3 **Linearity:** Operating parameters same as MDL except oven temperatures (80 °C for 1 minute, 25 °C/min to 180 °C, hold 1 minute, nitrobenzene in isooctane as test compound. Linearity performed on a fully stabilized burner. In the NCD/FID configuration, the FID linearity is 10^6.

Physical Specifications

Power requirements

8255/8355 Detector and Pump	120/220–240 V 50/60 Hz 1,200 VA

Dimensions

Detector	Height: 41.0 cm (16.1 in) Width: 27.0 cm (10.6 in) Depth: 51.1 cm (20.1 in)
8355 SCD weight	22 kg (49 lbs)
8255 NCD weight	24 kg (52 lbs)
Burner	Height: 22.1 cm (8.7 in) Weight: 0.7 kg (1.5 lbs)
Vacuum pump	Height: 26.1 cm (10.3 in) Width: 15.8 cm (6.2 in) Depth: 43.0 cm (16.9 in) Weight: 25 kg (55 lbs)

Environmental conditions

Installation category	II
Pollution degree	2
Ambient temperature	50–104 °F (10–40 °C)
Relative humidity	80% at 87.5 °F (31 °C) 50% at 104 °F (40 °C)
Normal operating environment	Intended for indoor use only
Maximum altitude	2,000 m (6,562 ft)

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