PSG Perfect Sample Gas

Issue 11/2026

Flare Gas Monitoring Checklist

Sampling for flare gas analysis: 12 planning points from the Ex zone to the analyzer

Plant / flare _____ Date _____ Checked by _____

No.	Checkpoint	What to look for	OK	Notes
REQUIREMENTS				
1	**Regulation, interval and lag time defined**	RSR, NSPS Ja, EU ETS, Methane Reg.; usually ≥ 4 analyses/h; permitted lag time	☐	
2	**Components and process conditions known**	Heating value, H_2S, olefins/VOCs; pressure, temperature, flow, moisture, dust	☐	
3	**Ex zones along the sample path known**	Zone and temperature class at sampling point, route, conditioning	☐	
GAS SAMPLING PROBE				
4	**Probe Ex-certified, suitable heating**	Holding temperature and temperature class match the zone; limiter or self-limiting heating	☐	
5	**Filter, back purging and materials suitable**	Filter surface/porosity, back purging for dust load; materials for the gas	☐	
6	**Shut-off valve heated, test gas via the filter**	Valve integrated into probe heating; test gas upstream of the filter	☐	
HEATED SAMPLE LINE				
7	**Temperature window defined**	≥ 10 K above water, acid, HC dew point (typ. 150–180 °C); max. analyzer inlet	☐	
8	**Inner core inert for sulfur compounds**	PTFE/PFA or inert-coated stainless steel; stainless steel adsorbs H_2S	☐	
9	**Transitions heated, electrostatics assessed**	No exposed fittings; DIN EN IEC 60079-0, conductive, grounded jacket	☐	
10	**Length, diameter and pressure drop checked**	Short, cut to length on site; pump/analyzer maintain the flow	☐	
CONDITIONING TO THE ANALYZER				
11	**Ex-rated, stable outlet dew point**	Cooler, dryer, pump certified for the zone; constant outlet dew point	☐	
12	**No loss of measured components**	Check wash-out, condensation of heavy HCs; Joule-Thomson at pressure reduction	☐	

Planning flare gas monitoring?

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General guidance – does not replace the operating instructions of the equipment used or the Ex risk assessment.