

Petrochemical:

Name	Typical concentration
Standard gas for determination of hydrocarbon impurities in Ethylene	CH4 10~100ppm C2H6 50~500ppm C3H8 10~100ppm propylene 10~100ppm isobutane 10~100ppm C2H2 5~50ppm butane 10~100ppm allene 10~100ppm (E)-2-butene 10~100ppm 1-butylene 10~100ppm isobutylene 10~100ppm cis-2-butene 10~100ppm 1,3-butadiene 10~100ppm methyl acetylene 10~100ppm Can compound above two components or more as one kind of standard gas. The concentration is based on the requirement.
Standard material for determination of hydrocarbon impurities in Propylene	CH4 10~1000ppm C2H6 10~1000ppm C2H4 10~1000ppm C3H8 50~5000ppm cyclopropane 10~1000ppm isobutane 10~1000ppm butane 10~1000ppm allene 10~1000ppm C2H2 10~500ppm (E)-2-butene 10~1000ppm 1-butylene 10~1000ppm isobutylene 10~1000ppm cis-2-butene 10~1000ppm 1,3-butadiene 10~1000ppm propyne 10~1000ppm Can compound above two components or more as one kind of standard gas. The concentration is based on the requirement.
Standard gas for determination of carbon monoxide and carbon dioxide in Ethylene/Propylene	CO, CO2 each 2~100ppm Can compound the content from ppm to percentage in other uses.
Standard gas for determination of trace oxygen in Ethylene/Propylene	2~100ppm Can compound the content from ppm to percentage in other uses.
Standard gas for determination of trace Hydrogen in Ethylene/Propylene	2~100ppm Can compound the content from ppm to percentage in other uses.
Standard gas for determination of trace methanol in Ethylene/Propylene	CH4O 10~2000ppm
Standard material for determination of liquefied petroleum gas	CH4, C2H6, C2H4, C3H8, cyclopropane, propylene, isobutane, n-butane, allene, C2H2, trans-butene, 1-butene, isobutylene, cis-butene, isopentane, n-pentane, 1,3-butadiene, propyne, n-hexane typical concentration: 0.2%~30%(mol/mol) Can compound above two components or more as one kind of standard gas. The concentration is based on the requirement.
Standard gas for determination of natural gas	H2, O2, N2, CO2, C2H6, C3H8, isobutane, n-butane, neopentane, isopentane, n-pentane, n-hexane, n-heptane, 1-octane, etc. typical concentration: 0.01%~100%(mol/mol) Can compound above two components or more as one kind of standard gas. The concentration is based on the requirement.
Standard material for determination of hydrocarbon impurities in 1-butene	C3H8, propylene, allene, propyne, isobutane, n-butane, isobutylene, cis-butene, 1,3-butadiene, trans-butene typical concentration: 10~5000mg/Kg The concentration is based on the requirement.
Standard materials for determination of hydrocarbon impurities in Butadiene	C3H8, propylene, isobutane, n-butane, allene, C2H2, trans-butene, isobutylene, 1-butene, cis-2-butene, isopentane, isopentane, 1,3-butadiene, propyne, 1-butyne, vinyl acetylene typical concentration: 10~5000mg/Kg The concentration is based on the requirement.

Standard materials for purity determination of MTBE	CH4O, C2H6O, n-butane, n-pentane, 1,3-butadiene, tert-butanol, dimer, etc. typical concentration: 0.02%~1%wt The concentration is based on the requirement.
Hydrocarbon standard materials	Can compound below two components or more as one kind of standard gas. The concentration is based on the requirement. CH4, C2H6, C3H8, n-butane, isobutane, n-pentane, isopentane, cyclohexane, cyclopropane, epoxyethane, C2H4, propylene, 1-butene, 1,3-butadiene, isobutylene, 1,2-butadiene, cis-2-butene, trans-butene, allene, isoamylene, 1-pentene, cis-2-pentene, trans-2-pentene, 1-hexene, C8H16, C2H2, methyl acetylene, 1-butyne, vinyl acetylene, 4-ethyl cyclohexene, etc.
Benzene and/or its analogies standard materials	nonbenzenoid aromatic hydrocarbon, benzene, toluene, ethylbenzene, paraxylene, meta-xylene, cumene, ortho-xylene, n-propylbenzene, 3-ethyltoluene, 2-ethyltoluene, 4-ethyltoluene, alpha-methylstyrene, phenylacetylene, 1,3-diethylbenzene, p-diethyl benzene, o-diethylbenzene, C10H14, n-butylbenzene, 1,2,4-triethylbenzene, 1,3,5-triethylbenzene, styrene, etc. Can compound below two components or more as one kind of standard gas. The concentration is based on the requirement.
Sulfide standard materials	H2S, SO2, COS, methyl mercaptan, ethyl mercaptan, dimethyl sulfide, methyl disulfide, thiophene, etc. Concentration: 1ppm~percentage
Standard gas for normal composition analysis in gas	H2, O2, N2, CO, CO2, CH4, C2H6, C2H4, C3H8, propylene, etc. typical concentration: 0.1~100%

Pure gas analysis:

Name	Typical concentration
Standard gas for nitrogen analysis	H2, O2, CO, CO2, CH4 typical concentration: 2~100ppm Can compound the content from ppm to percentage in other uses.
Standard gas for oxygen analysis	H2, Ar, N2, N2O, CO, CO2, CH4, etc. typical concentration: 2~100ppm Can compound the content from ppm to percentage in other uses.
Standard gas for helium analysis	H2, N2, O2, CO, CO2, CH4, etc. typical concentration: 2~100ppm Can compound the content from ppm to percentage in other uses.
Standard gas for hydrogen analysis	N2, O2, CO, CO2, CH4 typical concentration: 2~100ppm Can compound the content from ppm to percentage in other uses.
Standard gas for argon analysis	H2, N2, O2, CO, CO2, CH4 typical concentration: 2~100ppm Can compound the content from ppm to percentage in other uses.

Gas alarm:

The concentration range	Balance gas	Uncertain	Remarks
CH4: 0.5~2.5%(10%LEL~60%LEL)	Air	2%	Filling container: 2L, 4L, 8L, 40L aluminum alloy cylinder Standard filling pressure: 10MPa Minimal working pressure: 1MPa Period of validity: 1 year (hydrogen sulfide, sulfur dioxide, chlorine, ammonia is half a year)
C3H8: 0.5~1.5%(10%LEL~60%LEL)	Air	2%	
n-C4H10: 0.5~1.5%(10%LEL~60%LEL)	Air	2%	
i-C4H10: 0.5~1.5%(10%LEL~60%LEL)	Air	2%	
C4H8O: 1.8%	Air	2%	
H2: 0.2~2%(10%LEL~60%LEL)	Air	2%	
O2: 21%	N2	2%	
CO: 50~150ppm	N2 or Air	2%	
H2S: 1~100ppm	N2 or Air		
SO2: 1~50ppm	N2 or Air		
C2H4O: 1~100ppm	N2 or Air		
Cl2: 1~100ppm	N2 or Air		
NH3: 10~100ppm	N2 or Air		

Vehicle exhaust gas monitoring:

The concentration range	Balance gas	Remarks
C3H8 500~10000ppm	N2	Filling container: 2L, 4L, 8L, 40L aluminum alloy cylinder Standard filling pressure: 10MPa Minimal working pressure: 1MPa Period of validity: 1 year Uncertain: 2%
C3H8 500~10000ppm CO 0.5~8%	N2	
C3H8 0.1~8% CO 3~5% CO2 9~15%	N2	
C3H8 0.1~8% CO 3~5% CO2 9~15% NO 300-3000ppm	N2	
NO 0.1~0.5%	N2	

Earthquake monitoring:

The concentration range	Balance gas	Remarks
He: 0.1% Ar: 1.0% H2: 0.1% CO2: 25% CH4: 1.0%	N2	Filling container: 2L, 4L, 8L, 40L aluminum alloy cylinder. Standard filling pressure: 10MPa Minimal working pressure: 1MPa Period of validity: 1 year
He: 1% Ar: 1.5% H2: 0.5% CO: 2.5%	N2	
CO: 5% CO2: 15% CH4: 5% He: 0.1% H2: 0.1% Ar: 0.1%	N2	

Electric power industry:

Name	Typical concentration
Standard gas for determination of gases dissolved in transformer oil	H2(100~1000), CO(100~1000), CO2(500~5000), CH4(30~300), C2H6(30~300), C2H4(30~300), C2H2(30~300), etc. The concentration of nitrogen or argon gas balance can be adjusted.
H2S Standard gas in SF6	5~1000ppm
CO Standard gas in SF6	5~1000ppm
SO2 Standard gas in SF6	5~1000ppm
Impurity analysis in SF6	H2(5ppm), O2(5ppm), Ar(5ppm), N2(5ppm), CO(5ppm), CO2(5ppm), CF4(10ppm), C2F6(10ppm), C3F8(10ppm), SF6
Impurity analysis in SF6	H2S(100ppm), SOF2(50ppm), SO2F2(100ppm), COS(100ppm), CS2(100ppm), He(balance)

Environmental monitoring:

Name	Typical concentration
Carbon monoxide standard gas	2~30ppm, 31~500ppm, 501ppm~10%, 11~50% Can compound the content from ppm to percentage in other uses.
Carbon dioxide standard gas	2~50ppm, 51~1000ppm, 1001ppm~16% Can compound the content from ppm to percentage in other uses.
Sulfur-dioxide standard gas	1~1000ppm Can compound the content from ppm to percentage in other uses.
Hydrogen sulfide standard gas	1~1000ppm Can compound the content from ppm to percentage in other uses.
Nitrogen monoxide standard gas	2~1000ppm Can compound the content from ppm to percentage in other uses.
Nitrogen dioxide standard gas	2~1000ppm Can compound the content from ppm to percentage in other uses.
Hydrochloric acid standard gas	5~1000ppm Can compound the content from ppm to percentage in other uses.
Ammonia standard gas	10~1000ppm Can compound the content from ppm to percentage in other uses.

Formaldehyde standard gas	2~50ppm
Benzene and its analogies	C6H6(75mg/m3), C7H8(150mg/m3), C8H10(150mg/m3), para-xylene (150mg/m3), m-xylene(150mg/m3), ortho-xylene(150mg/m3), isopropylbenzene(150mg/m3), styrene(150mg/m3)
TVOC standard gas	standard gas with 23~54 components

Medical and healthy:

Uses	Concentration range	Gas balance	Remarks
Blood determination	CO2 5~10%	N2	Filling container: 2L, 4L, 8L, 40L aluminum alloy cylinder Standard filling pressure: 10MPa Minimal working pressure: 1 MPa Period of validity: 1 year Uncertain: 2%
	CO2 5%	N2	
	O2 10~20%	N2	
	He 9~13%	N2	
	N2 6~8%	O2	
Determination of cerebral circulation	CO2 5~10%	Air	
Determination of pulmonary function	CO 0.2%	Air	
	He 10%		
	CO 100~900ppm	N2	
	O2 20%		
	CO 0.2~0.3%	N2	
	He 10%		
	O2 20%		
	CO 0.2%	N2	
	N2O 15%		
	O2 20%		
	CO 0.3%	N2	
	CH4 0.3%		
	C2H2 0.3%		
	O2 21%		
	CO 0.3%	N2	
	CH4 0.3%		
	O2 21%		
Anesthesia	N2O 14~30%	Air	
Sterilization	C2H4O 5%~25%		
The culture of bacteria gas	H2 5%~10%	N2	
	CO2 5%~10%		
	CO2 4%~10%	O2	