



Institute for
Interlaboratory Studies

Internet: www.iisnl.com

E-mail: iisnl@sgs.com

PETROLEUM PRODUCTS

PROVISIONAL SCOPES

P4P

Proficiency testing schemes for Petroleum
and Petrochemical Products:
Petroleum products

<u>Product</u>	<u>Provisional scope</u>
Gascondensate	Colour Saybolt, Density @ 15°C, distillation (D86), Mercury, Sulfur, Water and Vapour Pressure (DVPE).
Crude Oil	Density @ 15°C, API Gravity, Light Ends, Mercury, Pour Point, Salt, Sediment (D473 and D4807), Sulfur, Viscosity and Water.
Crude Oil Assay	Composition D2892, Density and Sulfur on all fractions and selected parameters on some fractions.
Hydraulic Fluid (used)	Total Acid Number, Density @ 15°C, Flash Point PMCC, Kinematic Viscosity @ 40°C and @ 100°C, Organic Halogens, Water and 20 elements (wear metals: Ag, Al, Ba, Cr, Cu, Fe, Li, Mg, Mn, Mo, Na, Ni, Pb, Sn, Si, Ti, V and additives: Ca, P, Zn).
Lubricating Oil (unused)	Total Acid Number, Total Base Number, Ash (Sulphated), Colour, Conradson Carbon, Residue (CCR), Density @ 15°C, Flash Point COC, Flash Point PMCC, Kinematic Viscosity @ 40°C and @ 100°C, Viscosity Stabinger @ 40°C, Nitrogen, Pour Point, Sulfur, Water and 3 additives: Ca, P, Zn.
Lubricating Oil (used)	Total Acid Number, Total Base Number, Density @ 15°C, Flash Point PMCC, Kinematic Viscosity @ 40°C and @ 100°C, Water and 20 elements (wear metals: Ag, Al, Ba, Cr, Cu, Fe, Li, Mg, Mn, Mo, Na, Ni, Pb, Sn, Si, Ti, V and additives: Ca, P, Zn).
Naphtha	Arsenic, Colour Saybolt, Copper Corrosion 3hrs @ 50°C, Density at 15 °C, Distillation (IBP, 50% recovered, FBP), DVPE, Lead, Mercaptans, Mercury, Methanol, MTBE, TAME, DIPE, sum oxygenates, Organic chlorides, Sulfur and PIONA: n-Paraffins, i-Paraffins, Olefines, Naphthenes, Aromatics, C4 and lighter hydrocarbons and compounds with boiling point >200°C.
Pygas	Benzene, Non aromatics, Bromine number, Density @ 15 °C, Diene Value, Distillation D86 (IBP, 50% recovered, FBP), Existent Gum, Organic Chloride and Sulfur.
Transformer Oil	Density @ 20°C, Dielectric Dissipation Factor & Resistivity, DGA, Specific Resistance, Breakdown Voltage, Furanic Compounds, Interfacial Surface Tension, Colour, Organic chlorides, Organic chlorides and PCBs (total content, 7 individual congeners and Arochlor mixtures). Water and Neutralisation Value (Acid number).

Please note that we offer a broad scope of analysis in our PT schemes in order to fulfill the needs of many laboratories. Each participant is requested to analyse the sample(s) in the way it would normally do in day-to-day practice.

Thus, you are

- not obliged to perform all analyses (and you are allowed to do so if you like).
- free to choose your own method of analysis.



Institute for
Interlaboratory Studies

Internet: www.iisnl.com

E-mail: iisnl@sgs.com

FUELS

PROVISIONAL SCOPES



Proficiency testing schemes for Petroleum
and Petrochemical Products:
Fuels

<u>Product</u>	<u>Provisional scope</u>
Biodiesel B100	EN14214 and ASTM D6751 profiles: Acid value, Carbon residue on 10% residue, CFPP, Copper corrosion, Total Contamination, Density @ 15°C, Flash Points ISO3679 and D93, Iodine number, Kinematic Viscosity @ 40°C, Oxidation stability, Sulfur, Sulfated ash, Water, Calcium, Magnesium, Phosphorus, Potassium, Sodium, Methanol, Glycerides, Glycerol (Free and Total), Total Ester content and Linolenicacid-methylester.
Diesel B5, B10	EN 590 profile and other tests: Ash content, Cetane index (ISO4264), Conradson Carbon Residue on 10% dist. residue, Cloud point, Cold Filter Plugging Point, Density @ 15°C, Flash Point PMCC, Kinematic Viscosity @ 40°C, Lubricity, Oxidation stability, PAH, Sulfur, Total contamination, Water, FAME content and Distillation (IBP, 5%, 10%, 50%, 90%, FBP).
Jet Fuel A1	DERD 2494 & Joint Fueling Check List profiles: Aromatics (FIA), Aromatics (HPLC), BOCLE, Colour Saybolt, Density @ 15°C, D86 distillation, Existent gum, FAME content, Flash point, Freezing point, JFTOT, Mercaptans, MSEP, Naphthalenes, Particle Size Distribution, Smoke point, Specific Energy, Total acidity, Sulfur, Viscosity @ -20°C
Fuel Oil	ISO8217 profile and other tests: Ash, Asphaltenes, Bromine number, Density @ 15°C, Heat of Combustion, Nitrogen, Organic Chloride, Sediments by extraction, D1160 distillation, CHN-Analysis (Total C, H and N), Flash Point PMcc, Conradson Carbon Residue, Micro Carbon Residue, Kinematic Viscosity @ 50°C & 100°C, Potential and Accelerated total sediment, Pour Point (lower & upper), Sulfur, Water, Aluminium, Nickel, Potassium, Silicon, Sodium, Vanadium.
Gasoil	EN 590 profile and other tests: Aromatics, Ash, Cetane index (ASTM D976 and D4737), Cetane number, Derived Cetane Number (DCN), Cloud point, CFPP, Colour ASTM, Conradson Carbon Residue on 10% residue, Copper strip corrosion 3 hrs @ 50°C, Density @ 15°C, Distillation (IBP, 5%, 10%, 50%, 90%, FBP), Flash Point PMCC, Kinematic Viscosity @ 40°C, Lubricity, Nitrogen, Pour Point, Sulfur, Total Acid Number, Total contamination and Water.
Gasoline	EN 228 profile and other tests: API gravity, Aromatics (GC/HPLC), Olefins (GC/HPLC), Benzene, Copper strip corrosion 3 hrs. @ 50°C, Density @ 15°C, Distillation (IBP, 10%, 50%, 90%, FBP), Doctor test, Existent gum, Olefines (FIA), Aromatics (FIA), Lead, Mercaptans, Oxygen content, Oxygenates content (e.g. MTBE, ETBE, Ethanol, IPA, TBA), Oxidation stability, Sulfur, RON and MON, Vapour Pressure (TVP, DVPE).
Biogasoline, E5, E10	Appearance, Aromatics (GC/HPLC), Olefins (GC/HPLC), Benzene, Colour, Conductivity, Copper strip corrosion 3 hrs @ 50°C, Density @ 15°C, Distillation (IBP, 10%, 50%, 90%, FBP), Doctor Test, Existent gum, Olefines (FIA), Aromatics (FIA), Mercaptans, Phosphorous, Oxygen content, Oxygenates content (e.g. MTBE, ETBE, Ethanol, IPA, TBA), Oxidation stability, Sulfur, RON and MON, Vapour Pressure (DVPE).
Biogasoline E85	Acidity, Density, Chloride, pHe, Ethanol, Methanol, MTBE, i-Butanol, D86 distillation, Water.

Please note that we offer a broad scope of analysis in our PT schemes in order to fulfill the needs of many laboratories. Each participant is requested to analyse the sample(s) in the way it would normally do in day-to-day practice.

Thus, you are

- not obliged to perform all analyses (and you are allowed to do so if you like).

- free to choose your own method of analysis.



Institute for
Interlaboratory Studies

Internet: www.iisnl.com

E-mail: iisnl@sgs.com

CHEMICALS

PROVISIONAL SCOPES

P4C

Proficiency testing schemes for
Petroleum and Petrochemical
Products: Chemicals

<u>Product</u>	<u>Provisional scope</u>
Acetic Acid	Appearance, Acetaldehyde, Colour Pt/Co, Chloride, Density @ 20°C, Formic acid, Freezing point, Iron, Nonvolatile Matter, Purity (calculated from freezing point), Purity (calculated from titration), Sulphate and Water.
Acetone	ASTM D329 profile; Acidity, Aldehydes, Alkalinity, Appearance, Anorganic Chloride, Colour Pt-Co, Density @ 20°C, Distillation range, Miscibility (water), Nonvolatile Matter, Purity on dry basis, Diacetonol, Mesityloxide, Permanganate Time Test, Refractive Index and Water.
Benzene	ASTM D2359 profile : Acid wash colour, Acidity, Appearance, Bromine Index, Colour Pt/Co, (relative) Density @ 20°C, Distillation range (IBP, MBP and Dry Point), Total Chlorine, Total Nitrogen, Solidification point, Toluene, Non aromatics and Purity.
Toluene	Colour Pt/Co, Density @ 20°C, Distillation (IBP, MBP and Dry point), Non aromatics, Benzene, Styrene and Purity.
n-Butylacrylate	Appearance, Acidity, Colour Pt-Co, Density @ 20°C, MEHQ, Water, Purity (on dry basis), n-Butanol, n-Butylacetate, n-Butylmetacrylate, n-Butyl-propionate, Di-n-butylether, 2-Ethylhexylacrylate and Isobutylacrylate.
Fuel Ethanol <i>Industrial Grade</i> <i>Bio Ethanol</i>	Acidity, Aldehydes, Anorganic Chlorides, Appearance, Density @ 20°C , Nonvolatile Matter, Organic Chloride, Permanganate time test @ 15°C, pHe, Copper, Phosphorus, Sulphate, Total Sulfur, Water, Purity as received, Purity on dry basis, Acetone, Benzene, n-Butanol, Isopropanol, Methanol, n-Propanol, Isobutanol, n-Pentanol, tert-Amyl alcohol, Iso-amyl alcohol, Other Alcohols and unknown impurities by GC.
Ethanol <i>REN/Food Grade</i>	Density @ 20°C, Water, Purity at dry basis, Strength (in % V/V and %M/M), UV Absorbance (300nm, 270nm, 240nm, 230nm and 220nm).
IPA	Acidity, Anorganic Chloride, Appearance, Density @ 20°C, Colour Pt-Co, Distillation range, Nonvolatile Matter (NVM), Water, Purity and Purity on dry basis, Ethanol, n-Propanolbenzene, Other Alcohols and Methyl Ethyl Ketone (MEK).
Methanol	IMPCA specs: Acidity, Appearance, Carbonylic compounds, Chloride, Carbonisable substances (Pt-Co scale), Colour Pt/Co, Density @ 20°C, Distillation (IBP, DP and range), Hydrocarbons, Miscibility (water), Nonvolatile matter, Permanganate time test @ 15 °C, Specific gravity 20/20 °C/°C, Apparent Specific Gravity 20/20 °C/°C, Sulfur, Total iron, Water (Titrimetric and Coulometric), Ethanol, Trimethylamine, Purity on dry basis, UV (300nm, 268.5nm, 250nm and 220nm)

Please note that we offer a broad scope of analysis in our PT schemes in order to fulfill the needs of many laboratories. Each participant is requested to analyse the sample(s) in the way it would normally do in day-to-day practice.

Thus, you are

- not obliged to perform all analyses (and you are allowed to do so if you like).
- free to choose your own method of analysis.



Institute for
Interlaboratory Studies

Internet: www.iisnl.com

E-mail: iisnl@sgs.com

CHEMICALS

PROVISIONAL SCOPES

P4C

Proficiency testing schemes for
Petroleum and Petrochemical
Products: Chemicals

<u>Product</u>	<u>Provisional scope</u>
MDI (crude)	Appearance, Density @15°C, SG 25/25°C, isocyanate content, isocyanate equivalence, viscosity @25°C, hydrochloric acid.
MMA	Appearance, colour Pt-Co, Density @20°C, water, acidity, inhibitor and purity (impurities methanol, acetone, methylacrylate, methylisobutyrate and ethylmethacrylate).
MTBE	Appearance, Density @ 15°C, Colour Pt/Co, Refractive Index 20°C, Water, Purity as received, Purity on db, and GC- impurities: Diisobutylenes, Methanol, Tert-butanol, C ₄ -, C ₅ - and others.
ETBE	Appearance, Density @ 15°C, Sulfur, Water, Nitrogen, Purity as received , Purity on dry basis and some GC- impurities: Diisobutylenes, MTBE, Ethanol, Tert-butanol, C ₄ -, C ₅ - and others.
MEG	Appearance, Acidity, Free Aldehydes, Ash, Anorganic Chloride, Colour Pt/Co, Density @ 20°C, Specific gravity 20/20, Distillation @ 760 mmHg (IBP, DP and range), Iron, Purity on dry basis, Di ethylene glycol (DEG), Water, and UV transmittance (220, 250, 275, 350 nm).
Phenol	ASTM D2439 profile: Water, solidification point, appearance, molten colour and purity.
Polyether Polyols	Acid Number, Hydroxyl Number, Colour Pt/Co, Acidity, Water, Viscosity @ 100°F and pH.
Propylene Oxide	Appearance, Colour Pt-Co, Water, Density @20°C, Acidity, Non volatile residue, Aldehydes, GC impurities: Propene, Propane, Ethyleneoxide, Methanol, Acetone, n-&t-Butanol
Propylene glycol	Appearance, Acidity, Chloride, Colour Pt-Co, Distillation range, GC purity, DPG, Density @ 20°C, Specific gravity 20/20 °C/°C, Iron and Water.
Styrene	Appearance, Aldehydes, Colour Pt/Co, Inhibitor, Peroxides, Polymers, Sulfur, Water, Purity and Impurities: Benzene, Ethylbenzene, m-&p-Xylenes, Cumene, o-Xylene, n-Propylbenzene, m-&p-Ethyltoluenes, alpha-Methylstyrene, Phenylacetylene, Benzaldehyde and Non aromatics.
o-/p-Xylenes	ASTM D5136 profile on p-Xylene: Purity, Non aromatics, Toluene, Ethylbenzene, m-Xylene, o-Xylene, Appearance, Colour Pt/Co, Distillation (IBP, DP and range), Org. Chloride and Sulfur. On o-Xylene: Purity, Non Aromatics, Benzene, Toluene, p-Xylene, m-Xylene, Ethylbenzene, Styrene, Cumene, Ethyltoluenes (sum), n-Propylbenzene and C ₉ and heavier aromatics.
Mixed Xylenes	Benzene, Toluene, Ethylbenzene, p-Xylene, m-Xylene, O-Xylene, sum p-&m-Xylene, Cumene, sum of C ₉ +aromatics and sum of non aromatics.
VAM Vinylacetate Monomer	Appearance, Acidity, Density at 20°C, Distillation (IBP, MBP, FBP, Range), Water, Purity, Methylacetate, Ethylacetate, Acetone, Acetaldehyde, Benzene, Inhibitor.

Please note that we offer a broad scope of analysis in our PT schemes in order to fulfill the needs of many laboratories. Each participant is requested to analyse the sample(s) in the way it would normally do in day-to-day practice.

Thus, you are

- not obliged to perform all analyses (and you are allowed to do so if you like).
- free to choose your own method of analysis.



Institute for
Interlaboratory Studies

Internet: www.iisnl.com

E-mail: iisnl@sgs.com

CONSUMER PRODUCTS

PROVISIONAL SCOPES

P₂C

Proficiency testing schemes for
Petroleum and Petrochemical
Products:
Consumer Products

<u>Product</u>	<u>Provisional scope</u>
Dried paint	Total lead
Plastics	Total Cadmium, Total Lead, Total Chromium, Chromium (VI), Total Mercury and Total Nickel content.
Plastics	6 individual phthalates (DINP, DEHP, DNOP, DIDP, BBP, DBP).
Plastics	flame retardants PBB & PBDE
Textile	Azo-dyes: 22 banned aromatic amines (scope of CEN/TC 248/wg 18): 4-aminodiphenyl, benzidine, 4-chloro-o-toluidine, 2-naphtylamine, o-aminoazotoluene, 2-amino-4-nitrotoluene, p-chloroaniline, 2,4-diaminoanisole, 4,4'-diaminodiphenylmethane, 3,3'-dichlorobenzidine, 3,3'-dimethoxybenzidine, 3,3'-dimethylbenzidine, 3,3'-dimethyl-4,4'-diaminodiphenylmethane, p-cresidine, 4,4'-methylene-bis-(2-chloroaniline), 4,4'-oxidianiline, 4,4'-thiodianiline, o-toluidine, 2,4-diaminotoluene, 2,4,5-trimethylaniline and 4-aminoazobenzene,-o-anisidine.
Textile	20 Banned Allergenic Dyestuffs: Disperse Blue 1, Disperse Blue 3, Disperse Blue 7, Disperse Blue 26, Disperse Blue 35, Disperse Blue 102, Disperse Blue 106, Disperse Blue 124, Disperse Brown 1, Disperse Orange 1, Disperse Orange 3, Disperse Orange 76 = 37, Disperse Red 1, Disperse Red 11, Disperse Red 17, Disperse Yellow 1, Disperse Yellow 3, Disperse Yellow 9, Disperse Yellow 39 and Disperse Yellow 49.
Textile	Perspired Heavy metals: Antimony, Arsenic, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury and Nickel
Textile	Free Formaldehyde.
Textile	Banned Pesticides (Pyrethroids, Electron-Captive compounds and/or Organophosphorus compounds)
Textile	Orthophenylphenol (OPP), Pentachlorophenol (PCP), tetrachlorophenol-2,3,4,6 and tetrachlorophenol-2,3,5,6 (TeCP).

Please note that we offer a broad scope of analysis in our PT schemes in order to fulfill the needs of many laboratories. Each participant is requested to analyse the sample(s) in the way it would normally do in day-to-day practice.

Thus, you are

- not obliged to perform all analyses (and you are allowed to do so if you like).
- free to choose your own method of analysis.