

## JATOP Glossary

No.	Term	Description	Related WG
1	Num 10· 15 mode	Test method used in Japan for emissions certification and fuel economy determination under hot start conditions, which consists of two driving cycles: 10 and 15 mode cycles. This method has been sequentially applied to each vehicle category since 1978.	Biofuel/ Gasoline vehicle research WG
2	11 mode	Test method used in Japan for emissions certification under cold start conditions, which consists of 11 vehicle operationa modes. This method has been applied with the implementation of 1975 regulations.	Biofuel/ Gasoline vehicle research WG
3	2005 regulations	Emissions regulations applied to diesel vehicles to be sold in Japan since October 1, 2005.	Biofuel/ Diesel vehicle research WG
4	2009 regulations	Emissions regulations to be implemented after the 2005 regulations, which are applied to gasoline and diesel vehicles to be sold in Japan, and mandatory to meet the requirements by 2009 or 2010.	Air quality research steering group
5	A Accelerated oxidation test	Test method for oxidation stability for B5 blends	Biofuel/ Diesel vehicle research WG
6	Acetaldehyde	Aldehyde expressed by the reactions: CH <sub>3</sub> CHO, which is one of the PRTR substances emitted from motor vehicles.	Biofuel/ Gasoline vehicle research WG
7	Acid number	The mass of potassium hydroxide in mg that is required to neutralize acid components in 1g of sample oil, and classified into two types: total acid number that represents the quantity of total acid components, and strong acid number that represent the quantity of strong acid components. There are relatively few cases where the presence of strong acid number causes a problem, therefore, acid number may refer to total acid number.	Biofuel/ Diesel vehicle research WG
8	Acroleine	Aldehyde expressed by the reactions: CH <sub>2</sub> =CHCHO, which is one of the PRTR substances emitted from motor vehicles.	Biofuel/ Gasoline vehicle research WG
9	Airflow model	Model to simulate 3D wind flow based on air pressure gradient, land and sea breeze, etc.	Air quality research steering group
10	AMS	Acronym of Aerosol Mass Spectrometer, which is an analyzer for aerosol composition distribution by particle size, which determines aerodynamic diameter of aerosols through measurements of Time of Flight (TOF) using laser, and then analyzes volatile substances that are vaporized by rapid heating using an electron ionization.	Air quality research steering group
11	ASTM	Acronym of American Society for Testing and Materials, which is the world's largest private nonprofit organization for international standardization., that develops and issues industrial standards called ASTM standards.	Biofuel/ Diesel vehicle research WG
12	B BEIS2	BEIS is an acronym of Biogenic Emissions Inventory System, which is a US EPA model to estimate emissions from vegetation. For BEIS2, the version 2 model, emissions are estimated from leaf area.	Air quality research steering group
13	Benzaldehyde	Aldehyde expressed by the reactions: C <sub>6</sub> H <sub>5</sub> CHO, which is one of the PRTR substances emitted from motor vehicles.	Biofuel/ Gasoline vehicle research WG
14	BG	Abbreviation of background, which means the hinterland, or an area away from roads in the case of the analysis of roadside air quality.	Air quality research steering group
15	BHT	Acronym of Butylated HydroxyToluene (also known as dibutylhydroxytoluene), which is a typical phenolic antioxidant.	Biofuel/ Diesel vehicle research WG
16	BPT	Acronym of Balance Point Temperature	Biofuel/ Diesel vehicle research WG

No.		Term	Description	Related WG
17		BVOC	Acronym of Biogenic Volatile Organic Compound, which is a non-methane volatile organic compound emitted from vegetation, and consists primarily of isoprene and monoterpene.	Air quality research steering group
18	C	Catalyst-out emissions	Emissions measured at downstream of catalyst	Biofuel/ Diesel vehicle research WG
19		CFPP	Acronym of cold filter plugging point, which is used as an indication of the lowest temperature at which engine operates or diesel fuel.	Biofuel/ Diesel vehicle research WG
20		CFR engine	A single cylinder engine with variable compression ratio developed by the Cooperative Fuel Research (CFR) Committee (USA)	Biofuel/ Diesel vehicle research WG
21		CI	Acronym of Cetan Index, which is an indicator of ignition quality, and calculated from density and distillation characteristics.	Biofuel/ Diesel vehicle research WG
22		CI.1 Motor-driven cycle	Motorcycle having engine displacement of less than 50 cc	Biofuel/ Gasoline vehicle research WG
23		CI.2 Motor-driven cycle	Motorcycle having engine displacement ranging from 50 to 125 cc	Biofuel/ Gasoline vehicle research WG
24		CMAQ	Acronym of Community Multiscale Air Quality Modeling System, which is the main body of the Models-3 developed by US EPA.	All WGs Air quality research steering group
25		CN	Acronym of Cetan Number, which is an indicator of ignition quality, and measured on a CFR engine.	Biofuel/ Diesel vehicle research WG
26		Common rail	Accumulator that stores highly pressurized fuel to regulate the amount of fuel injected freely, regardless of engine speed or load, and from which fuel is distributed to each injector under the control of ECU.	Biofuel/ Diesel vehicle research WG
27		COP	Acronym of Conference of the Parties	All WGs
28		CP	Acronym of Cloud Point, which is the temperature at which the fuel becomes cloudy due to the precipitation of wax.	Biofuel/ Diesel vehicle research WG
29		CVT	Acronym of Continuously Variable Transmission (an infinite variable transmission or a transmission with continuously variable gear ratios), which is a power transmission mechanism that allows continuous changes in gear ratios using a mechanism other than gears.	Biofuel/ Gasoline vehicle research WG
30	D	DBL	Acronym of Diurnal Breathing Loss, which means evaporative emissions from vehicles parked for 24 hours under the conditions simulating the ambient air temperatures in the laboratory.	Biofuel/ Gasoline vehicle research WG
31		DCN	Acronym of Derived Cetane Number, which is an indicator of ignition quality, and measured using Ignition Quality Tester (constant-volume combustion vessel).	Biofuel/ Diesel vehicle research WG
32		Denuder method	A fractional collection method for gas and particle phase species, which is used for removing gaseous components that might affect the analysis results of fine particles (PM <sub>2.5</sub> ) or for measuring concentrations of gaseous components that cause secondary particle formation.	Air quality research steering group
33		DI	Acronym of Direct Injection. A combustion method that is characterized by direct injection of fuels into combustion chamber, which is contrasted with indirect injection (IDI) method. DI engines are mainly applied to heavy-duty engines because of higher thermal efficiency than IDI engines, in which fuel economy is in particular emphasized. However, the application is being shifted to light-duty engines in these years.	Biofuel/ Diesel vehicle research WG Biofuel/ Gasoline vehicle research WG
34		Disadvantage score	Indicator of driveability, in which the score increases with degradation of driveability (disadvantage)	Biofuel/ Gasoline vehicle research WG

No.		Term	Description	Related WG
35		DOC	Acronym of Diesel Oxidation Catalyst (Oxidation catalysts for diesel engines)	Biofuel/ Diesel vehicle research WG
36		DPF	Acronym of Diesel Particulate Filter, which is a trap for collecting particulate matter in exhaust emissions from diesel engines, and the generic term for components that are installed in vehicle exhaust system to trap particulate matter in exhaust emissions. A ceramic honeycomb monolith used as a carrier of the oxidation catalyst, with both ends sealed in an alternation manner, which is the typical structure of DPFs. Developing measures for increased exhaust pressure due to the formation of deposits of PM (DPF regeneration method) and ensuring sufficient durability such as the strength of the components (reliability) are required for practical use.	All WG Biofuel/ Diesel vehicle research WG Air quality research group
37	E	E0	Gasoline with no ethanol blended (conventional gasoline)	Biofuel/ Gasoline vehicle research WG
38		E3	A blend of 3 percent ethanol and 97 percent gasoline	Biofuel/ Gasoline vehicle research WG
39		E10	A blend of 10 percent ethanol and 90 percent gasoline	Biofuel/ Gasoline vehicle research WG
40		EC	Acronym of Elemental Carbon. Carbon components are classified into two groups: inorganic carbon and organic carbon Elemental carbon is an inorganic carbon that is formed during incomplete combustion of hydrocarbons at high temperatures and under other conditions, which is mainly emitted during combustion of fossil fuels in boilers and engines.	Air quality research steering group
41		EGR	Acronym of Exhaust Gas Recirculation	Biofuel/ Diesel vehicle research WG Air quality research group
42		E/I	Acronym of Emission Inventory, which means the emissions estimate data in terms of air quality evaluation.	Air quality research steering group
43		Engine-out emissions	Emissions measured at downstream of engine (upstream of catalyst)	Biofuel/ Diesel vehicle research WG
44		EP	End point of distillation	Biofuel/ Gasoline vehicle research WG
45		Epoxy resin	Resin that can be used for vehicle fuel systems	Biofuel/ Diesel vehicle research WG
46		ETBE	Acronym of Ethyl Tertiary Butyl Ether, which is an oxygenated fuel produced through reactions of ethanol with isobutylene.	Biofuel/ Gasoline vehicle research WG
47		Existent gum content	The amount of residue when the gasoline evaporates and after washing with solvent	Biofuel/ Gasoline vehicle research WG
48	F	FAME	Acronym of Fatty Acid Methyl Ester, which is produced through methyl esterification of oils and fats, including rapeseed soy and palm oils.	Biofuel/ Diesel vehicle research WG
49		FKM	Fluororubber that can be used in vehicle fuel systems	Biofuel/ Diesel vehicle research WG
50		Formaldehyde	Aldehyde expressed by the reactions: HCHCO, which is one of the PRTR substances emitted from motor vehicles.	Biofuel/ Gasoline vehicle research WG
51		FTD	Acronym of Fischer-Tropsch Diesel ( FT synthesized diesel fuel )	Biofuel/ Diesel vehicle research WG
52	G	G-BEAMS	Acronym of Georeference-Based Emission Activity Modeling System (Nansai et al., 2004), which is an emissions estimating method. Under JATOP, a software has been developed by applying this method to estimate emissions from non-auto sources.	Air quality research steering group

No.	Term	Description	Related WG
53	General monitoring	General air pollution monitoring station, where ambient air pollution is continuously monitored (24-hour monitoring) in accordance with the Air Pollution Control Law, Article 22.	Air quality research steering group
54	GHG	Acronym of Greenhouse Gas, which is the generic term for gas in the atmosphere that has greenhouse effects by absorption of infrared emitted from the surface of the Earth.	All WGs
55	GVW	Acronym of Gross Vehicle Weight, which means the total weight of a vehicle measured under the conditions that passengers of the riding capacity are riding in the vehicle with maximum luggage/cargo capacity.	Air quality research steering group
56	H HBD	Acronym of Hydrogenated Biodiesel	Biofuel/ Diesel vehicle research WG
57	HEV	Acronym of High-Emitter Vehicle, which means a vehicle with excessive emissions under normal driving conditions because of emission system failure, in the case of motor vehicle emission inventory under JATOP.	Air quality research steering group
58	H-NBR	Acronym of Hydrogenated nitrile rubber, which can be used for vehicle fuel systems.	Biofuel/ Diesel vehicle research WG
59	HSL	Acronym of Hot Soak Loss, which means evaporative emissions from vehicles parked for an hour in the laboratory after driving in the specified test cycles.	Biofuel/ Gasoline vehicle WG
60	I IBP	Acronym of Initial boiling point	Biofuel/ Gasoline vehicle research WG
61	IP	Acronym of Induction Period	Biofuel/ Diesel vehicle research WG
62	IQT	Acronym of Ignition Quality Tester developed by the Southwest Research Institute (SwRI) and the Advanced Engine Technology (AET). A device to determine the ignition quality (derived cetane number: DCN) based on ignition timing retard measured using a constant volume combustion vessel, and the ignition quality of middle distillates can be, in large part, determined in a short time.	Biofuel/ Diesel vehicle research WG
63	IR	Infrared (IR) spectroscopy, which is a technique to determine characteristics of the objects by irradiating infrared light to the measuring objects, and dispersing transmitted (or reflected) light to obtain spectral information.	Air quality research steering group
64	Isoprene	Hydrocarbon that has two double bonds and the molecular formula of C <sub>5</sub> H <sub>8</sub> . The most common hydrocarbon is a colorless liquid that is highly volatile at room temperatures, which is naturally formed in plants and animals, and in human bodies as well.	Air quality research steering group
65	ISORROPIA	One of the latest versions of equilibrium model for inorganic aerosols developed by Dr. KUMAR et. al of the Electric Power Research Institute (EPRI) and incorporated into UAM-AERO.	Air quality research steering group
66	J JATOP	Acronym of Japan Auto-Oil Program	All WGs
67	JCAP	Acronym of Japan Clean Air Program	All WGs
68	JC08	Transient test cycle for chassis dynamometer emissions testing to be conducted under 2005 regulations.	Biofuel/ Gasoline vehicle research WG Biofuel/ Diesel vehicle research WG
69	JE05	Transient test cycle for engine dynamometer emissions testing to be conducted under 2005 regulations.	Biofuel/ Diesel vehicle research WG
70	JIS	Acronym of Japanese Industrial Standards, which is the industrial standards developed based on the Industrial Standardization Law, following the report's recommendations by the Japanese Industrial Standards Committee and established by the competent minister, and is also one of the national standards.	Biofuel/ Gasoline vehicle research WG

No.		Term	Description	Related WG
71	L	Light motorcycle	Motorcycle having engine displacement ranging from 125 to 250 cc	Biofuel/ Gasoline vehicle research WG
72	M	MEGAN	Acronym of Model of Emissions of Gases and Aerosols from Nature, which is a software on estimation of plant emissions developed by the National Center for Atmospheric Research (NCAR) in the US.	Air quality research steering group
73		Meteorological model	Model to perform airflow simulations, and estimate ambient temperature, humidity, mixed height, as well.	Air quality research steering group
74		MON	Acronym of Motor Octane Number, which is an indicator of antiknock quality for gasoline, and represents the characteristics of conventional gasoline engine in high speed range. Measurements are made on a standard CFR engine at 900 rpm.	Biofuel/ Gasoline vehicle research WG
75		Monoterpene	Hydrocarbon which is composed of isoprene units, and a biogenic substance produced from plants, insects, fungi, etc. which has a scent similar to roses or citrus, and is frequently used in perfumes and other products.	Air quality research steering group
76		MOP	Acronym of meeting of the Parties	All WGs
77		Multiscale model	Air quality/ meteorological model which covers a wider range from East Asia to urban roadside sites under this research program.	Air quality research steering group
78	N	Nanoparticle Ultrafine particle Fine particle	Particle classification by particle size (particle diameter), where particles having a diameter of 50 nm or less are classified as nanoparticles, those having a diameter of 100 nm or less as ultrafine particles, and those having a diameter of 2.5 $\mu$ m or less as fine particles, respectively.	Air quality research steering group
79		NBR	Acronym of Nitrile rubber, which is used for vehicle fuel systems.	Biofuel/ Diesel vehicle research WG
80		NBR· PVC	A blend of nitrile rubber and polyvinyl chloride(PVC), which is used for vehicle fuel systems.	Biofuel/ Diesel vehicle research WG
81		Neat biodiesel fuel	100% biodiesel fuel that is not blended with petroleum diesel fuel	Biofuel/ Diesel vehicle research WG
82		Nesting	Method for simulating air quality by changing the grid cell size of air quality simulation models; the size of the areas to be focused on is reduced, while the size of the peripheral areas is expanded. Simulations are performed individually for the areas of fine grid cells and those of coarse grid cells, which improves simulation efficiency.	Air quality research steering group
83		NH <sub>4</sub> <sup>+</sup>	(Ammonium ion)	Air quality research steering group
84		NIES	Acronym of the National Institute for Environmental Studies (Japan)	Air quality research steering group
85		NMHC	Acronym of Non-Methane hydrocarbons, which is a generic term for hydrocarbons other than methane (Saturated fatty acid hydrocarbon, unsaturated hydrocarbons and aromatic hydrocarbons). Methane has low photochemical activity, so that the indicators are used in developing measures for photochemical oxidants.	Biofuel/ Gasoline vehicle research WG
86		NM VOC	Acronym of Non-Methane Volatile Organic Compounds	Air quality research steering group
87		NO	Nitric oxide	Air quality research steering group
88		NO <sub>2</sub>	Nitrogen dioxide	All WGs Air quality research steering group
89		NO <sub>3</sub>	Nitrate	Air quality research steering group

No.		Term	Description	Related WG
90		NO3-	Nitrate ion	Air quality research steering group
91		NSR	Acronym of NOx Storage Reduction, which is a catalyst employing a system where NOx is stored and then reduced under certain conditions to reduce NOx emissions.	Biofuel/ Diesel vehicle research WG
92	O	O3	Ozone	Air quality research steering group
93		OA	Acronym of Organic Aerosol	Air quality research steering group
94		OC	Acronym of Organic Carbon. Carbon components are roughly divided into two categories : Inorganic carbon and organic carbon. Organic carbons are divided into two categories: primary formed particles that are directly emitted from sources, and secondary formed particles that are formed through reactions in the atmosphere.	Air quality research steering group
95		Oxidation catalyst	Catalyst to control emissions from motor vehicles, which includes the capability of oxidizing carbon oxide (CO) and hydrocarbon (HC) in order to render emissions harmless.	Air quality research steering group
96	P	PA	Polyamide which is a resin used for vehicle fuel systems	Biofuel/ Diesel vehicle research WG
97		PBT	Polybutylene terephthalate which is a resin used for vehicle fuel systems	Biofuel/ Diesel vehicle research WG
98		PetroOXY test	A test method for oxidative stability of biofuel blends, which is being studied as an alternative to acid number method for B5 blends.	Biofuel/ Diesel vehicle research WG
99		PFI	Acronym of Port Fuel Injection, which is a mainstream fuel injection system in which injectors are provided for each intake port just upstream of each cylinder, so that fuel injection into each cylinder allows precise control of air fuel mixture.	Biofuel/ Gasoline vehicle research WG
100		Phenol resin	Resin which can be used for vehicle fuel systems	Biofuel/ Diesel vehicle research WG
101		PM	Acronym of Particulate Matter, which is generally used for particles emitted from motor vehicles.	Biofuel/ Diesel vehicle research WG
102		PM2.5	Particles having a diameter of 2.5µm or less, which are also called as fine particles. However, the US environmental standards have a different definition, where particles having a 50% cutoff diameter (aerodynamic diameter having 50% collection efficiency: D50) of 2.5µm are defined as PM2.5.	Air quality research steering group
103		PME	Acronym of Palm oil Methyl Ester	Biofuel/ Diesel vehicle research WG
104		POM	Abbreviation of Polyoxymethylene (generally called as Polyacetal.), which is a resin used for vehicle fuel systems.	Biofuel/ Diesel vehicle research WG
105		PP	Acronym of Pour point, which is an indication of temperatures at which diesel fuel coagulates.	Biofuel/ Diesel vehicle research WG
106		PPS	Abbreviation of Polyphenylene sulfide, which is a resin used for vehicle fuel systems.	Biofuel/ Diesel vehicle research WG
107		PRTR	Acronym of Pollutant Release and Transfer Registers, which is a system to grasp the emissions of suspected hazardous chemicals (from where and how much such substances are emitted into the environment (atmosphere, waters and soil)), and their movement as wastes or other forms, calculate the total and publish the data.	Air quality research steering group
108	R	Rancimat test	European test method for oxidative stability of FAME	Biofuel/ Diesel vehicle research WG

No.	Term	Description	Related WG
109	RL	Acronym of Running Loss, which means evaporative emissions generated from a vehicle running during the test cycle, and leaked from the exhaust systems other than tailpipe.	Biofuel/ Gasoline vehicle research WG
110	RME	Acronym of Rapeseed oil Methyl Ester	Biofuel/ Diesel vehicle research WG
111	Roadside	Highway edges that vehicle emissions have a significant impact on air quality, where roadside air pollution monitoring stations are placed near the intersections with high traffic volumes.	Air quality research steering group
112	Roadside monitoring	Roadside air pollution monitoring station, where ambient air pollution from motor vehicles is continuously monitored (24-hour monitoring) in accordance with the Air Pollution Control Law, Article 22.	Air quality research steering group
113	RON	Acronym of Research Octane Number, which is an indicator of antiknock quality of gasoline, and represents the characteristics of conventional gasoline engine in low to middle speed range. Measurements are made on a standard CFR engine at 600rpm.	Biofuel/ Gasoline vehicle research WG
114	RVP	Acronym of Reid Vapor Pressure, which is an indicator of vapor pressure of gasoline, and determined at the temperatures of 37.8°C (100F). In Japan, the upper limits in summer are specified by fuel quality standard at 72kPa , however, lowered to 65kPa since 2005 due to the industry's voluntary effort for summer.	Biofuel/ Gasoline vehicle research WG
115	S Saturated fatty acid monoglyceride	One of the impurities of FAME, which is formed through an ester bond between fatty acid and a hydroxyl group of glycerine	Biofuel/ Diesel vehicle research WG
116	SCV	Acronym of Suction Control Valve, which regulates the amount and pressure of fuel.	Biofuel/ Diesel vehicle research WG
117	SHED	Acronym of Sealed Housing for Evaporative Determination, which is a test facility to determine evaporative emissions from vehicles.	Biofuel/ Gasoline vehicle research WG
118	SME	Acronym of Soy oil Methyl Esther	Biofuel/ Diesel vehicle research WG
119	SO2	Sulfur Dioxide	Air quality research steering group
120	SO <sub>4</sub> <sup>2-</sup>	One of the impurities of FAME, where fatty acid is esterified with a hydroxyl group of glycerin.	Air quality research steering group
121	SOA	Acronym of Secondary Organic Aerosol	Air quality research steering group
122	SOF	Acronym of Soluble Organic Fraction, which is a component of PM, and is a particle formed by gathering or coagulating the combustion products formed from fuel and lubricating oil and their unburned combustible. Fatty acid hydrocarbons account for the majority of SOF, however, there is a trace amount of polycyclic aromatic compounds, including carcinogenic benzo(a)pyrene.	Biofuel/ Diesel vehicle research WG
123	SOOT	Soot and smoke	Biofuel/ Diesel vehicle research WG
124	Splash blend	Method for blending ethanol with conventional gasoline by pouring ethanol into gasoline tank	Biofuel/ Gasoline vehicle research WG
125	SPM	Acronym of Suspended Particulate Matter, which is defined to have a diameter of 10µm or less in Japan's environmental quality standards.	All WGs Air quality research steering group
126	Sterol	Generic term of fatty alcohols which are contained in animals and plants	Biofuel/ Diesel vehicle research WG

No.	Term	Description	Related WG
127		Sterol glycoside Substance in which glucose is bound with sterol, which is contained in plants.	Biofuel/ Diesel vehicle research WG
128		Sulfur free Although the original meaning is fuel without sulfur, fuel having sulfur content of 10ppm or less is commercially called as "sulfur free fuel" in either case of gasoline or diesel fuel.	All WGs
129		SVOC Acronym of Semi-volatile Organic Compounds	Air quality research steering group
130	T	T50, T90 Indicators of distillation characteristics of automotive fuels, where T50 is the distillation temperature at 50% evaporated while T90 is that at 90% evaporated.	Biofuel/ Gasoline vehicle research WG
131		TAN Acronym of Total Acid Number, which means the amount of acid in the oil.	Biofuel/ Diesel vehicle research WG
132		TBN Acronym of Total Base Number, which means the amount of base in the oil.	Biofuel/ Diesel vehicle research WG
133		TEOM Acronym of Tapered Element Oscillating Microbalance, which is a method of measuring particle mass concentrations determined by the differences in resonance frequency, where the changes in particle mass concentrations can be measured in real time while fine particles are trapped by filters. The measuring method is used for continuous measurements of atmospheric concentrations of PM2.5 at 1-hour resolution.	Air quality research steering group
134		THC Acronym of Total Hydrocarbon, which is measured during standard emissions testing. However, methane (CH4) which is one of the components of total hydrocarbon, has been removed from the regulated pollutants in 2005 regulations and onward, so that the limits for hydrocarbon in the current emissions regulations are the values of non-methane hydrocarbon (NMHC) which are determined by deducting the values of methane from those of total hydrocarbon.	Biofuel/ Gasoline vehicle research WG
135		Tocopherol Vitamin E, which may serve as an antioxidant in the oil as well.	Biofuel/ Diesel vehicle research WG
136		Transient emission factor Instantaneous emission factor which is plotted on vehicle speed - acceleration and engine speed - torque maps	Air quality research steering group
137		Transient emission map Emission Map, where emission factors are plotted on engine speed - torque and vehicle speed - acceleration maps to calculate the transient emission factors.	Air quality research steering group
138	U	Unwashed existent gum content The amount of residue when the gasoline evaporates	Biofuel/ Gasoline vehicle research WG
139		Urea-SCR system Acronym of Urea Selective Catalytic Reduction, which is a catalyst system that purifies NOx in exhaust emissions, where urea solution is injected into exhaust pipe to form ammonia with the aid of catalyst and exhaust heat, which serves as a reductant. NOx reduction rate is expected to achieve around 70% even under excess oxygen conditions, however, technical challenges remain in ammonia emission.	Biofuel/ Diesel vehicle research WG Air quality research group
140	V	VOC Acronym of Volatile Organic Compounds, which is a generic term of organic compounds that are volatile and become gaseous in the atmosphere, covering a wide variety of substances, such as toluene, xylene and ethyl acetate.	Air quality research steering group
141	W	WME Acronym of Waste cooking oil Methyl Ester	Biofuel/ Diesel vehicle research WG
142		WRF Acronym of Weather Research and Forecasting (WRF), which is a software to predict meteorological fields developed by research institutes in the US, and is used as meteorological model since the initial stage of JATOP.	Air quality research steering group

No.	Term	Description	Related WG
143	Sym	$\triangle$ TAN Method for determining the increase in acid number to evaluate oxidative stability, which is one of the mandatory quality specifications for FAME blended diesel fuel in Japan.	Biofuel/ Diesel vehicle research WG