

(Garuda Emblem)
Notification of Ministry of Industry
Re: Specification of processed used oil and synthetic fuel
as alternative fuel for furnace oil in an industrial furnace
B.E. 2547 (2004)

To efficient control and supervise a factory business of a recycling facility in which unusable industrial products or industrial wastes being utilized in production process to produce raw material or new product under factory type 106 of the attached list to the Ministerial Regulation (B.E. 2535(1992)) issued pursuant to the Factory Act B.E. 2535 (1992) which relates to process of used oil to produce alternative fuel, and be able to respond to energy situation of the country at present by concerning most on impact on the environment and public safety, it is therefore necessary to prescribe a specification of processed used oil and synthetic fuel as alternative fuel for furnace oil in an industrial furnace to be as implementing guideline as follows:

Article 1 In this Notification,

“Used oil” shall mean all types of mineral-based oil or petroleum-based oil or synthetic oil that have been used and are no longer in condition suited for original purpose because of physical and chemical impurities, and also including all types of oil that have not been in use but are no longer in condition suited for original purpose due to change in their physical or chemical properties.

“Processed used-oil” shall mean used oil that have been through physical or chemical processes for quality improvement to be used as fuel without mixing with any other materials such as solvent, pesticides, paint residues, etc.

“Synthetic fuel” shall mean used oil that has been mixed with other materials through the process of waste blending for quality improvement to be used as fuel.

“Industrial furnace” shall mean industrial furnace employed in production process of steel rolling factory, metallurgy facility, and other factory as prescribed by Department of Industrial Works, but not include cement kiln or lime kiln that have co-incineration of waste or hazardous waste incinerator with the purpose of burning for destruction under the factory type 101 (Central Waste treatment) of the attached list to the Ministerial Regulation (B.E. 2535(1992)) issued pursuant to the Factory Act B.E. 2535 (1992).

“Used oil processor or Waste blender” shall mean a factory under type 106 of the attached list to the Ministerial Regulation (B.E. 2535(1992)) issued pursuant to the Factory Act B.E. 2535 (1992) that its process involving the improvement of used oil characteristic, either physical or chemical, to be used as alternative fuel for furnace oil, or involving the process of waste blending to produce synthetic fuel.

Article 2 Processed used-oil or synthetic fuel to be used as alternative fuel for furnace oil in industrial furnace shall possess characteristic and quality according to prescribed specification annexed to this Ministerial Notification.

In case used oil processor or waste blender cannot produce processed used-oil or synthetic fuel in such quality to meet prescribed specification annexed to this

Ministerial Notification, ruling from Department of Industrial Works shall be acquired prior to distribute such used oil to industrial furnace on case by case basis.

Article 3 Processed used-oil or synthetic fuel to be used as alternative fuel for furnace oil under Article 2 shall be inspected in every batch of production by private analytical laboratory registered with Department of Industrial Works or public analytical laboratory. In addition, used oil processor or waste blender shall submit a report on production quantity and inspection analysis of processed used-oil or synthetic fuel destined to be used in industrial furnace to Department of Industrial Works and also submit, in monthly basis, a list of factory that receives such oil as alternative fuel.

This shall, thus, enter into force on the day of its publication in the Government Gazette.

Announced on the 26th day of July B.E. 2547 (2004)

(signed) _____
(Mr.Manu Leoungpairoj)
Permanent Secretary of Ministry of Industry

List annexed to the Ministerial Notification
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No.	Parameter	Description	Test Method*
1	Specific gravity	Not exceed 0.990 at 15.6 °C	ASTM D1298
2	Viscosity	Not less than 81 centistokes and not higher than 180 centistokes at 50 °C	ASTM D445
3	Flash point	Not less than 38 °C	ASTM D93
4**	Gross heat of combustion	Not less than 9,500 calories per gram	ASTM D240
5	Ash content	Not exceed 1.0% by weight	ASTM D482
6	Water and sediment	Not exceed 5.0% by volume	ASTM D1796
7	Sulfur content	Not exceed 1.0% by weight	ASTM D4294
8	Total halogens: Chlorine, Bromine, Fluorine and Iodine	In total of not exceed 4,000 ppm by weight	ASTM WK2511
9	Mercury	Not exceed 2 ppm by weight	ATOMIC ABSORPTION COLD VAPOR TECHNIQUE
10	Antimony, Arsenic, Cadmium, Selenium, and Tellurium	In total of not exceed 10 ppm by weight	PLASMA EMISSION SPECTROSCOPY; INDUCTIVELY COUPLED PLASMA (ICP)
11	Vanadium, Chromium, Cobalt, Nickel, Copper, Lead, Manganese, and Tin	In total of not exceed 200 ppm by weight	
12	Zinc	Not exceed 500 ppm by weight	

Remark: * or other equivalent methods approved by Department of Industrial Works
 ** original heat content of each used oil and used solvent before passing through any process must be at least 2,800 calories per gram.