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JAPANESE INDUSTRIAL STANDARD

Internal combustion engine oils

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Internal combustion engine oils

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1. **Scope** This Japanese Industrial Standard specifies internal combustion engine oils which are mainly used as lubricating oils for land and marine internal combustion engines.

Remarks 1. The standards cited in this Standard are listed in Attached Table 1.

2. The units and numerical values given in { } in this Standard are based on traditional units, and are standard values.

The traditional units and values are shown as informative reference on and after April 1, 1995.

2. **Classification** As shown in Table 1, internal combustion engine oils shall be classified into for land and for marine, then the oils for land shall be divided into from classes 1 to 3 and the oils for marine into from classes 1 to 4 according to their services, and further they shall be subdivided into numbers according to their kinematic viscosity.

Table 1. Classification

Classification			Service
Internal combustion engine oils for land	Class 1	Nos. 1 to 5	Used mainly under light load, and in particular, for the gasoline engine having no problem such as sludge deposition.
	Class 2	No. 1, special No. 2 and Nos. 2 to 5	Added with antioxidant, used mainly under medium load, and for gasoline engine running at high temperature of oil and having problems such as corrosion of bearing and deposition of sludge.
	Class 3	No. 1, special No. 2 and Nos. 2 to 5	Added with antioxidant and detergent, and subdivided into following 4 types according to service condition. (1) Used mainly under heavy load, and for gasoline engine having problems such as sludge deposition, abrasion, and bearing corrosion caused by running condition, the construction of engine, and characteristics of fuel. (2) Used mainly for diesel engine having no problem such as abrasion, corrosion and sludge deposition caused by the construction of engine and characteristics of fuel. (3) Used mainly under heavy load and for diesel engine having problem such as sludge deposition caused by running condition and the construction of engine.

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Table 1. (continued)

Classification			Service
Internal combustion engine oils for land (continued)	Class 3 (continued)	No. 1, special No. 2 and Nos. 2 to 5	(4) Used mainly under very heavy load, and for diesel engine having serious problems such as sludge deposition, abrasion, and bearing corrosion caused by running condition, the construction of engine, and characteristics of fuel.
Internal combustion engine oils for marine	Class 1	Nos. 2 to 5	Used as system oil.
	Class 2	Nos. 2 to 5	Used as system oil with improved antioxidant property.
	Class 3	Nos. 3 to 5	Used as system oil and cylinder oil in common, with improved antioxidant property and cleaning property.
	Class 4	Nos. 3 to 5	Used mainly as cylinder oil, with antioxidant property and highly improved cleaning property.

3. Quality

3.1 Internal combustion engine oil for land Internal combustion engine oil for land shall be either refined mineral oil with suitable quality as lubricating oil applicable mainly for gasoline engine and diesel engine or that added additives to it, containing no water nor sediments, and when tested according to 4., Class 1 shall conform to the requirements in Table 2, Class 2 conform to those in Table 3, and Class 3 conform to those in Table 4.