

# HV Insulating Oil SJ

## Electrical Insulating Oil

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“HV Insulating Oil SJ” is uninhibited transformer oil and, produced from a severely hydrotreated naphthenic oil to meet the specification requirements defined in ‘Class 1, No. 2’ of JIS C2320.

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### ● Special features

#### 1. High dielectric breakdown voltage (dielectric strength)

A high dielectric breakdown voltage is one of the most important properties of insulating oil. The JIS standard requires of 30kV or higher, which is normally considered sufficient. **HV Insulating Oil SJ** has a dielectric breakdown voltage of over 50 kV at the time of shipping by our strict quality control system. This ensures that even if there is some decline during transport or storage, the value will not fall below 30kV.

Dielectric breakdown voltage can vary considerably depending on the measuring instruments, measuring procedures and environmental factors, so low values are sometimes recorded. It is important to test the oil properly according to the JIS method and to make sure that the oil is free of dirt, moisture, and other impurities.

#### 2. Outstanding oxidation stability

The insulating oil inside a transformer gradually oxidizes and forms the acids, sludge, and moisture. As a result, the performance of the transformer decreases. Therefore it is very important to choose the insulating oil that has enough oxidation stability.

**HV Insulating Oil SJ** is manufactured from carefully selected crude oil based on JX Nippon Oil & Energy Corporation’s extensive experience and technology. It resists sludge formation and can be used safely for long periods.

#### 3. Superior cooling property

Insulating oils with high specific heat and thermal conductivity provide the greatest cooling effect. However, in these properties, there is little variation among oils, so the major contributor to the cooling effect is the oil’s convection. Hence, low-viscosity oils provide effective cooling property. **HV Insulating Oil SJ** is designed with the lowest possible viscosity necessary to ensure an adequate flash point and low evaporation, so it provides excellent cooling properties. And also, it makes early sedimentation of carbon particles formed when electrical current is interrupted in the circuit breaker.

#### 4. Good low-temperature fluidity

The low pour point of this oil means it can be used safely in cold regions without loss of flow performance.

### ● Applications

Oil-immersed transformers, Circuit breakers, switches, tap changers, and other oil-immersed electrical equipment.

### ● Containers

200-liter drum

• **Typical properties of HV Insulating Oil SJ**

JIS C2320 category		Class1, No.2
Density (15°C)	kg/l	0.893
Viscosity (40°C)	mm <sup>2</sup> /s	9.05
(100°C)	mm <sup>2</sup> /s	2.30
Pour point	°C	-45.0
Flash point (PM)	°C	138
Acid number	mg KOH/g	0.00
Corrosivity (140°C, 19 h)		Non corrosive
Oxidation stability (120°C, 75 h)		
Sludge	mass%	0.08
Total acid number	mg KOH/g	0.31
Breakdown voltage	kV	60

Note: The typical properties are subject to change without notice. (Apr. 2015)



## Handling Precautions

▼ Follow these precautions when handling petroleum products.

<p><b>! CAUTION</b></p> <p><b>Handling Precautions</b></p>	<ul style="list-style-type: none"> <li>● <u>Inflammation can occur if oil enters the eyes.</u> When handling this oil, wear <u>protective goggles</u> or take other measures to <u>prevent eye contact</u>.</li> <li>● <u>Inflammation can occur if oil comes into contact with skin.</u> When handling this oil, wear <u>protective gloves</u> or take other measures to <u>prevent skin contact</u>.</li> <li>● Do not drink this oil. (Swallowing this oil can cause diarrhea and nausea.)</li> <li>● <u>Keep out of reach of children.</u></li> <li>● Contamination by humidity, water, or dirt can reduce the electrical properties of the oil. To maintain the oil's quality, store it indoors and do not transfer it to other containers.</li> <li>● Read the Material Safety Data Sheet before using the product. Please obtain the Material Safety Data Sheet from where you purchased the product.</li> </ul>
<p><b>First Aid</b></p>	<ul style="list-style-type: none"> <li>● In case of eye contact, rinse eyes thoroughly with clean water and consult with a physician.</li> <li>● In case of skin contact, wash skin thoroughly with soap and water.</li> <li>● If this oil is swallowed, do not induce vomiting. Consult with a physician immediately.</li> </ul>
<p><b>Disposal of Used Oil and Containers</b></p>	<ul style="list-style-type: none"> <li>● Do not apply pressure to empty containers. The containers may burst if pressure is applied.</li> <li>● Do not weld, heat, drill, or cut the containers. The remaining oil may ignite and the containers may explode.</li> <li>● Follow all applicable laws and regulations when disposing of used oil or containers. If you are unsure of the proper disposal methods, consult first with the seller of the oil.</li> </ul>
<p><b>Storage Method</b></p>	<p>Seal the container tightly after use in order to prevent dirt, moisture, etc., from entering the oil. Store in a dark location. Avoid direct sunlight.</p>