

Material Safety Data Sheet

1: Name of substance and company	
Product name (product name in Danish) Item no´s	Cold Pressed Rape Seed Oil (Koldpresset rapsolie) 00001(unit liter) or 00004(unit tons)
Supplier	DAJOLKA Dalmoosevej 2 DK-9330 Dronninglund, Denmark Ph.: +4598854220 / mob.: +45 40148020 http://www.dajolka.dk
Contact person	Niels Ansø

2: Composition/Information on ingredients	
Product	Product to use for technical purposes such as fuel for burners or engines, lubrication, raw material for other products etc.
Chemical characterization	Triglyceride
Product Description	Cold-pressed and filtered rapeseed oil, expelled from double low erucic acid rapeseeds
CAS-no	8002-13-9
TARIC no.	15141190

3: Hazardous component	
The product is a 100% natural product which does not contain any hazardous ingredients	

4: First aid measures	
General	No important measures required
Skin contact	Wash off with soap and water
Eye contact	Wash and rinse with plenty of water
Ingestion	Not considered dangerous
Inhalation	No vapors present at normal ambient temperatures

5: Fire-Fighting Measures	
Flash point Pensky- Martens	> 220°C
Suitable extinguishing media	foam, CO ₂ , sand, firefighting powder, water mist
<u>Unsuitable</u> extinguishing media	water jet
Special exposure hazards	none
Hazards	avoid inhalation of fumes from burning product

6: Accidental release measures	
Personal precautions	Note that ground can be very slippery
Environmental precautions	Prevent from entering drains, surface and ground water, by using sand or other material to make appropriate barriers
Cleaning up	If possible pump product back into an empty tank, then use sand, saw dust or other appropriate absorbent for the remaining product, then clean with water.

7: Handling and storage measures	
Handling	Avoid contact with water if product is hot (>90°C) Avoid spilling. Avoid eye contact
Storage	Keep in closed containers. Avoid direct sunlight. Avoid contact to cobber and zinc coated steel. Store at temperature -8 - +25°C Keep away from fire and/or hot surfaces

8: Exposure controls/personal protection	
Precautions	Wear goggles and gloves if there is a risk of splashing, especially with hot product > 60°C

9: Physical and chemical properties	
Form	Fluid above -8°C
Color and appearance	Yellowish, limpid
Odour	Characteristic
Viscosity	36cSt at +40°C. The viscosity is very temperature dependent. See separate illustration in appendix page 6.
Melting/Freezing point	-8°C. Below -8°C the product can solidify depending on the temperature and time. See separate illustration in appendix page 6.

**Specification according to DIN 51 605 (ver.2011)
Quality Standard for Rape Seed Oil as engine fuel**

Parameter	Limit	Unit
Characteristic/natural properties ¹⁾		
Density at 15 °C	910 - 925	kg/m ³
Flashpoint Pensky- Martens	min. 220 (101) ³⁾	°C
Kinematic viscosity at 40 °C	max. 36,0	mm ² /s
Calorific value (incl. H ₂ O –Correction)	min. 36	MJ/kg
Cetane number	min. 40	-
Iodine number	max. 125	g Jod/100 g
Sulfur content	max. 10	mg/kg
Variable properties ²⁾		
Total contamination	max. 24	mg/kg
Acid number (equivalent content of FFA)	max. 2,0 (max. 1,0)	mg KOH/g (% m/m)
Oxidation stability	min. 6,0	h
Phosphorus content ⁴⁾	max. 12	mg/kg
Calcium, Ca ⁴⁾	sum max. 20	mg/kg
Magnesium (Mg) ⁴⁾		
Water content	max. 750	mg/kg

1) The natural properties which are independent from the process, handling and storing

2) the variable properties which are influenced by the process, handling and storing.

3) this products has a natural flash point >220°C, but the DIN 51 605 allows to reduce to min. 101°C by additives.

4) limits valid until 31/12 2011. Hereafter the official limits are reduced to: P:3,0 Ca:1,0 Mg:1,0, all max. values in mg/kg

The following limits may exceed limits in DIN 51605 (ver.2011) if product is supplied for non engine fuel purpose

Total contamination	max. 30	mg/kg
Phosphorus content	max. 35	mg/kg
Earth alkali content (Ca + Mg)	max. 30	mg/kg

10: Stability and reactivity	
Materials to avoid	Oxidizing material, cobber, zinc
Conditions to avoid	Oxidation promotion conditions such as heat, light, access to atmospheric air, unnecessary agitation or pumping. Avoid free water in storage tanks.
Stability	Generally stable. Becomes rancid on exposure to atmospheric air.

11: Toxicological information	
Toxicity	Not toxic
Skin sensitization	Unknown
Skin irritation	Unknown
Eye irritation	Unknown
Additional toxicological information	Not classified according to EEC Dangerous Substance Directive and Dangerous Preparation Directive. If the product is used properly it is not harmful to health.

12: Ecological Information	
Biodegradability	Readily biodegradable
Eco-toxicity	Not dangerous to the environment
Mobility	The product is insoluble in water and will float on the water surface
Water pollution	The product is classified as non-hazardous to water according to the national German regulation on water hazard classification, VwVwS.

13: Disposal Information	
General	The product is not hazardous waste
Disposal	Dispose according to local and national regulations

14: Transport information

No special requirements and no restrictions on transportation by land, sea or air.
Not classified as hazardous.

15: Regulatory Information

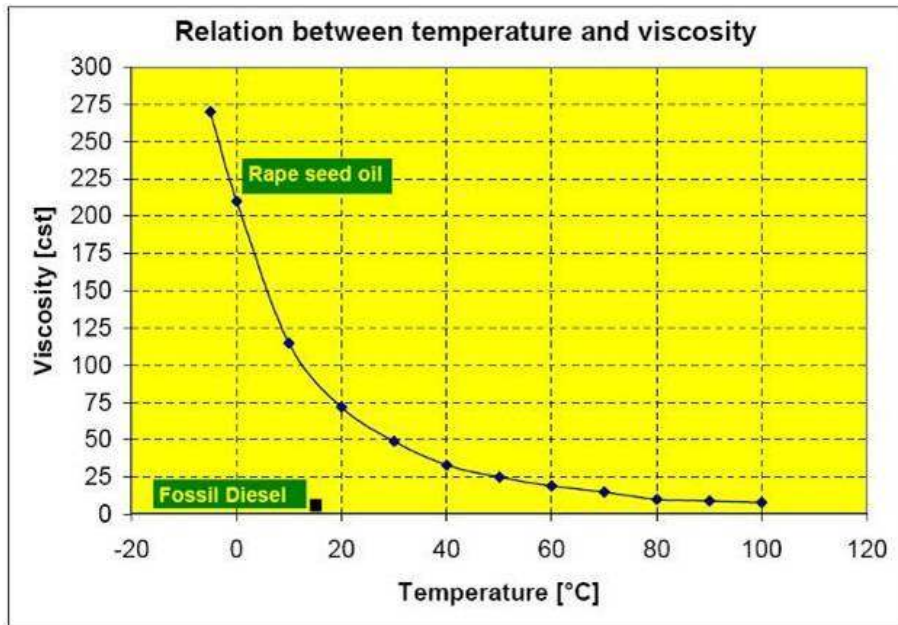
Not classified as hazardous

16: Other information

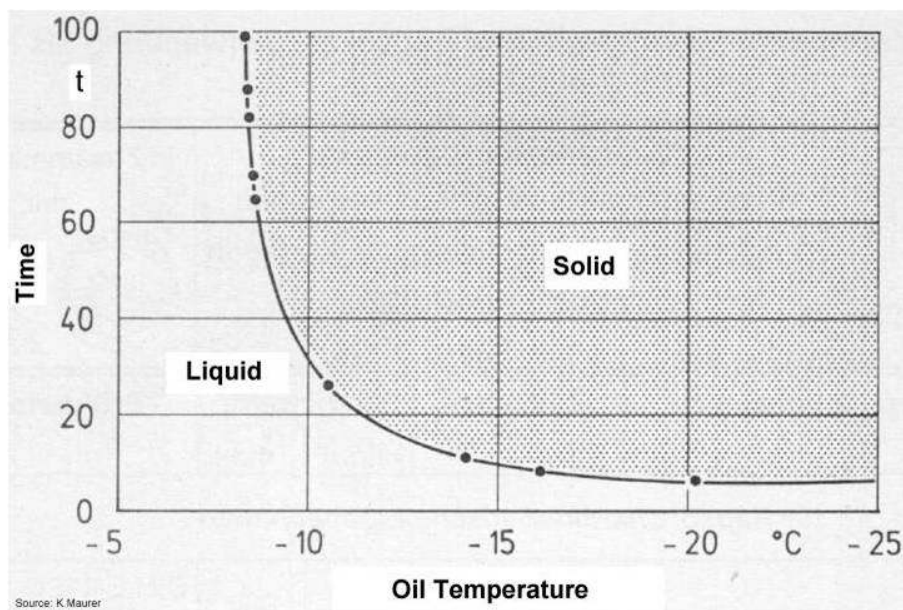
This information is based on our current knowledge, and is indented to describe the product according to health, safety and environmental requirements.

No liability can be accepted arising from the use, application or processing of this product.

It is the responsibility of the user to determine safe conditions for the use of this product.

Appendix: Additional information regarding physical and chemical properties


Viscosity of cold pressed rape seed oil as function of temperature



Liquid/solid phase diagram for cold pressed rape seed oil as a function oil temperature and time in hours.

Further details are available on our website:

<http://www.dajolka.net/ppo/rapsolie>