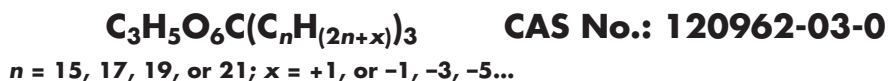


CLIP, Chemical Laboratory Information Profile

"Only when you know the hazards, can you take the necessary precautionary measures."

Canola Oil



Synonyms: Cooking oil

Physical Properties		Exposure Limits	
A combustible, colorless (sometimes with a yellow tint) viscous oil.		OSHA PEL:	NE
Smoke point:	220–230 °C	ACGIH TLV:	NE
Flash point:	275–290 °C		

Hazardous Characteristics

Overall toxicity	Flammability	Destructive to skin/eye	Absorbed through skin	Sensitizer?	Self-reactive?	Incompatible with:
0	1	0	0	0	0	Oxidizing agents.*

0: None (or very low); 1: Slight; 2: Moderate; 3: High; 4: Severe.

*Reactivity Hazards

Similar to other combustible substances, canola oil reacts with oxidizing agents, more vigorously with stronger agents. At temperatures near to and greater than the flash point, canola oil vapors will catch fire in the presence of an ignition source.

Cited as known to be or reasonably anticipated to be carcinogenic in NTP-9? No Identified as a reproductive toxin in Frazier and Hage, *Reproductive Hazards of the Workplace*? No

Typical symptoms of acute exposures:

Under typical conditions of use in the laboratory, over exposure to canola oil itself is not foreseeable; however, see Additional Remarks, below.

Storage Requirements

If used as a laboratory chemical, store in an explosion-proof refrigerator reserved and labeled as reserved for the storage of chemicals only.

Additional Remarks

At the smoke point and at temperatures greater than the smoke point, canola oil decomposes into various decomposition and oxidized-decomposition products. One such product is acrolein, a causative agent for pulmonary edema as well as a skin irritant. Canola oil is a natural product produced by pressing the seeds of the rapeseed plant; the exudate is filtered, bleached, and further otherwise processed to produce the commercial product. Approximately 95–99% (variability depends upon the genetic composition of the source plants, the processing details, the maturity of the plants when harvested, etc.) of the commercial product conforms to the formula given in the heading of this CLIP, above. Other components include sulfur-bearing polycyclic fatty acids, nitrogenous fatty acids, phospholipids, high molecular weight alcohols, tocopherols, sterols, pigments (for instance chlorophyll, carotenes), and ppm trace amounts of P and Pb compounds. Typically and approximately, the fatty acid components of the triglycerides present in canola oil consist of 6% C-16, C-18, C-20, and C-22 saturated fatty acids, 62% similar mono-unsaturated fatty acids, and 30% C-18 polyunsaturated fatty acids. The rapeseed plant is a member of the Brassica botanical family, which also includes cauliflower, horseradish, turnip, cabbage, Brussels sprouts, and mustard. The edible parts of some varieties of these plants contain sinigrin, a mutant agent, as well as various allergic components; there is no recognized evidence that canola oil contains sinigrin or any allergic components. Canola oil does contain trace quantities of vitamin E.

Notes

ReadMe

This Chemical Laboratory Information Profile is *not* a Material Safety Data Sheet. It is a brief summary for teachers and their students that describes some of the hazards of this chemical as it is typically used in laboratories. On the basis of your knowledge of these hazards and before using or handling this chemical, *you need to select the precautions and first-aid procedures to be followed.* For that information as well as for other useful information, refer to Material Safety Data Sheets, container labels, and references in the scientific literature that pertain to this chemical.

Reproductive Toxins

Some substances that in fact are reproductive toxins are not yet recognized as such. For the best readily available and up-to-date information, refer to "DART/ETIC". See the TOXNET home page at <http://www.sis.nlm.nih.gov> and click on "Toxicology search". *Note that some of the data in DART/ETIC have not been peer-reviewed.* See also Linda M. Frazier and Marvin L. Hage, *Reproductive Hazards of the Workplace*; Wiley, 1998; and T. H. Shepard, *Catalog of Teratogenic Agents*, 9th ed.; Johns Hopkins University Press, 1998.

Abbreviations

ACGIH TLV—American Conference of Governmental Industrial Hygienists—Threshold Limit Value. C—Ceiling. CAS—Chemical Abstracts Service. mg/m³—milligrams per cubic meter. NA—Not applicable. NE—Not established. NI—No information. NTP-9—National Toxicology Program, Ninth Annual Report on Carcinogens. OSHA PEL—Occupational Safety and Health Administration—Permissible Exposure Limit. ppm—parts per million. STEL/C—Short-term exposure limit and ceiling.

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