

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label

: JACK OIL

Product Code(s) : J132C

Recommended use of the chemical and restrictions on use

: Hydraulic oil.
Restrictions on use: Not available.

Chemical family : Mixture of: Base oil; Lubricating oil additive

Name, address, and telephone number of the supplier:

Radiator Specialty Co., of Canada

3-3055 Dundas St West, Suite 50
Mississauga, ON, Canada
L5L 3R8

Supplier's Telephone # : (905) 625-9117 (Mon. - Fri., 8 am - 4 pm)

24 Hr. Emergency Tel # : Not available.

Name, address, and telephone number of the manufacturer:

Refer to supplier

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Clear amber liquid. Petroleum odour.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Avoid release to the environment. See Section 12 for more environmental information.

This material is not classified under Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Label elements

Hazard pictogram(s)

None required according to Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Signal Word

None required according to Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard statement(s)

None required according to Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Precautionary statement(s)

None required according to Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Other hazards

Other hazards which do not result in classification:

Toxic fumes may be released during a fire. May cause slight eye and skin irritation. Mild respiratory irritant. May cause gastrointestinal irritation. Prolonged overexposure may cause slight liver and kidney effects, such as increased organ weights.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
Distillates (petroleum), hydrotreated heavy naphthenic	Base oil	64742-52-5	80.0 - 100.0
Distillates (petroleum), solvent-dewaxed heavy paraffinic	Heavy paraffinic oil	64742-65-0	1.0 - 5.0

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

SAFETY DATA SHEET

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

- Ingestion* : If ingested, do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.
- Inhalation* : If inhaled, move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. If irritation or symptoms develop, seek medical attention.
- Skin contact* : In case of contact with skin, wash with mild soap and plenty of water. Remove contaminated clothing and shoes. If irritation or symptoms develop, seek medical attention.
- Eye contact* : Immediately flush eyes with running water for at least 5 to 10 minutes. If irritation occurs or persists, seek medical attention.

Most important symptoms and effects, both acute and delayed

- : Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.
Direct eye contact may cause slight or mild, transient irritation. Symptoms may include stinging and tearing.
Mild respiratory irritant. May cause coughing and breathing difficulties.
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Prolonged overexposure may cause slight liver and kidney effects, such as increased organ weights.

Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

- : Do not use water jet, as this may spread burning material.

Special hazards arising from the substance or mixture / Conditions of flammability

- : Not flammable under normal conditions of use. However, may burn if exposed to extreme heat and flame. Product may float, and be re-ignited at the water's surface. Toxic fumes, gases or vapours may evolve on burning. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Hazardous combustion products

- : Carbon oxides; Nitrogen oxides (NOx); Sulfur oxides; Phosphorus oxides; Aldehydes; Polycyclic aromatic hydrocarbons; Metal oxides; Other unidentified organic compounds.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Environmental precautions

- : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. Avoid release to the environment.

SAFETY DATA SHEET

Methods and material for containment and cleaning up

- : Ventilate the area. Prevent further leakage or spillage if safe to do so. Eliminate all ignition sources. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Pick up and transfer to properly labeled containers. Refer to Section 13 for disposal of contaminated material. Contact the proper local authorities.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

- : Use with adequate ventilation. Avoid breathing vapours, fumes, or mists. Wear protective equipment during handling. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep container tightly closed when not in use. Wash thoroughly after handling. Empty containers retain residue (liquid and/or vapour) and can be dangerous.

Conditions for safe storage

- : Store in a cool, dry, well-ventilated area. Store away from incompatibles and out of direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks.

Incompatible materials

- : Oxidizing agents; Strong acids

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Distillates (petroleum), hydrotreated heavy naphthenic	5 mg/m ³ (As 'Oil mist, mineral') (inhalable)	N/Av	5 mg/m ³ (As 'Oil mist, mineral')	N/Av
Distillates (petroleum), solvent-dewaxed heavy paraffinic	5 mg/m ³ (inhalable) (severely refined mineral oils)	N/Av	5 mg/m ³ (As 'Oil mist, mineral')	N/Av

Exposure controls

Ventilation and engineering measures

- : Use with adequate local or mechanical ventilation to meet TLV requirements.

Respiratory protection

- : If airborne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with CSA Z94.4-02.

Skin protection

- : Gloves impervious to the material are recommended. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.

Eye / face protection

- : Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles.

Other protective equipment

- : An eyewash station and safety shower should be made available in the immediate working area. Other equipment may be required depending on workplace standards.

General hygiene considerations

- : Avoid breathing vapours, fumes, or mists. Avoid contact with skin, eyes and clothing. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance** : Clear amber liquid.
- Odour** : Petroleum odour.
- Odour threshold** : N/Av
- pH** : N/Av
- Melting/Freezing point** : Melting point: N/Av
Freezing point: N/Av

SAFETY DATA SHEET**Initial boiling point and boiling range**

: 360°C (680°F) (estimation)

Flash point : > 96.1°C (205°F)**Flashpoint (Method)** : Cleveland Open Cup**Evaporation rate (BuAe = 1)** : N/Av**Flammability (solid, gas)** : Not applicable.**Lower flammable limit (% by vol.)**

: N/Av

Upper flammable limit (% by vol.)

: N/Av

Oxidizing properties : None known.**Explosive properties** : Not explosive**Vapour pressure** : N/Av**Vapour density** : N/Av**Relative density / Specific gravity**: Relative density: 900 kg/m³
Specific Gravity: 0.9**Solubility in water** : Insoluble.**Other solubility(ies)** : N/Av**Partition coefficient: n-octanol/water or Coefficient of water/oil distribution**

: N/Av

Auto-ignition temperature : 260°C (500°F) (estimation)**Decomposition temperature** : N/Av**Viscosity** : > 24.2 mm²/sec @ 40°C (104°F)**Volatiles (% by weight)** : N/Av**Volatile organic Compounds (VOC's)**

: N/Av

Absolute pressure of container

: N/Av

Flame projection length : N/Av**Other physical/chemical comments**

: No additional information.

SECTION 10. STABILITY AND REACTIVITY**Reactivity** : Not normally reactive.**Chemical stability** : Stable under normal conditions.**Possibility of hazardous reactions**

: Hazardous polymerization does not occur.

Conditions to avoid : Ensure adequate ventilation, especially in confined areas. Avoid contact with incompatible materials. Avoid heat and open flame.**Incompatible materials** : Oxidizing agents; Strong acids**Hazardous decomposition products**

: Not available.

Refer also to hazardous combustion products, Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure:****Routes of entry inhalation** : YES**Routes of entry skin & eye** : YES**Routes of entry Ingestion** : YES**Routes of exposure skin absorption**

: NO

SAFETY DATA SHEET

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: Mild respiratory irritant. May cause coughing and breathing difficulties.

Sign and symptoms ingestion

: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Sign and symptoms skin

: Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.

Sign and symptoms eyes

: Direct eye contact may cause slight or mild, transient irritation. Symptoms may include stinging and tearing.

Potential Chronic Health Effects

: Prolonged overexposure may cause slight liver and kidney effects, such as increased organ weights.

Mutagenicity

: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

: Not expected to have carcinogenic effects.
No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity

: This product is not expected to cause reproductive or developmental effects.

Sensitization to material

: No data available to indicate product or components may be skin sensitizers.
No data available to indicate product or components may be respiratory sensitizers.

Specific target organ effects

: According to the classification criteria of Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015), this product is not expected to cause specific target organ toxicity (STOT) through single or repeated exposures.

Medical conditions aggravated by overexposure

: Pre-existing skin, eye and respiratory disorders.

Synergistic materials

: No information available.

Toxicological data

: Not classified for acute toxicity based on available data. No data is available on the product itself. See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	<u>LC₅₀ (4hr)</u>	<u>LD₅₀</u>	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Distillates (petroleum), hydrotreated heavy naphthenic	> 5 mg/L (mist)	> 5000 mg/kg	> 2000 mg/kg
Distillates (petroleum), solvent-dewaxed heavy paraffinic	> 5mg/L (mist)	> 5000 mg/kg	> 5000 mg/kg

Other important toxicological hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

: No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC₅₀ / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	> 100 mg/L (Fathead minnow)	N/Av	None.
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	> 100 mg/L (Fathead minnow)	N/Av	None.

SAFETY DATA SHEET

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	> 10,000 mg/L (Daphnia magna)	10 mg/L	None.
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	> 10,000 mg/L (Daphnia magna)	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	N/Av	≥ 100 mg/L/72hr (Green algae)	None.
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	> 1000 mg/L/96hr (Green algae)	> 100 mg/L/72hr	None.

Persistence and degradability

- : No data is available on the product itself. Contains the following chemicals which are considered to be inherently biodegradable: Distillates (petroleum), hydrotreated heavy naphthenic; Distillates (petroleum), solvent-dewaxed heavy paraffinic.

Bioaccumulation potential

- : No data is available on the product itself. See the following data for ingredient information.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)	3.9 - 6 (calculated)	N/Av
Distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)	3.9 - 6	N/Av

Mobility in soil

- : No data is available on the product itself.

Other Adverse Environmental effects

- : No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13. DISPOSAL CONSIDERATIONS


Handling for Disposal

- : Handle waste according to recommendations in Section 7. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

Methods of Disposal

- : Dispose in accordance with all applicable federal, state, provincial and local regulations.

SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
TDG	None.	Not regulated.	Not regulated	None	
TDG Additional information	None.				

SAFETY DATA SHEET

- Special precautions for user** : Appropriate advice on safety must accompany the package.
- Environmental hazards** : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.
- Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
- : Not applicable.

SECTION 15 - REGULATORY INFORMATION

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

Canadian National Pollutant Release Inventory (NPRI): This product does not contain any substances listed on the NPRI.

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	<u>CAS #</u>	<u>European EINECs</u>	<u>Australia AICS</u>	<u>Philippines PICCS</u>	<u>Japan ENCS</u>	<u>Korea KECI/KECL</u>	<u>China IECSC</u>	<u>New Zealand IOC</u>
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	265-155-0	Present	Present	(9)-1689	KE-12543	Present	May be used as a single component chemical under an appropriate group standard.
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	265-169-7	Present	Present	Not specifically listed.	KE-12602	Present	May be used as a single component chemical under an appropriate group standard.

SECTION 16. OTHER INFORMATION

- Legend**
- : ACGIH: American Conference of Governmental Industrial Hygienists
 - AICS: Australian Inventory of Chemical Substances
 - ATE: Acute Toxicity Estimate
 - CAS: Chemical Abstract Services
 - ENCS: Existing and New Chemical Substances
 - HSDB: Hazardous Substances Data Bank
 - IARC: International Agency for Research on Cancer
 - IATA: International Air Transport Association
 - ICAO: International Civil Aviation Organisation
 - IMDG: International Maritime Dangerous Goods
 - Inh: Inhalation
 - IOC: Inventory of Chemicals
 - IUCLID: International Uniform Chemical Information Database
 - KECI: Korean Existing Chemicals Inventory
 - KECL: Korean Existing Chemicals List
 - LC: Lethal Concentration
 - LD: Lethal Dose
 - MSHA: Mine Safety and Health Administration
 - N/Ap: Not Applicable
 - N/Av: Not Available
 - NFPA: National Fire Protection Association
 - NIOSH: National Institute of Occupational Safety and Health

SAFETY DATA SHEET

NOEC: No observable effect concentration
 OECD: Organisation for Economic Co-operation and Development
 NTP: National Toxicology Program
 OSHA: Occupational Safety and Health Administration
 PEL: Permissible exposure limit
 PICCS: Philippine Inventory of Chemicals and Chemical Substances
 RTECS: Registry of Toxic Effects of Chemical Substances
 SDS: Safety Data Sheet
 STEL: Short Term Exposure Limit
 TDG: Canadian Transportation of Dangerous Goods Act & Regulations
 TLV: Threshold Limit Values
 TWA: Time Weighted Average
 TSCA: Toxic Substance Control Act
 WHMIS: Workplace Hazardous Materials Identification System

- References** :
1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2018.
 2. International Agency for Research on Cancer Monographs, searched 2018.
 3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases, 2018 (Chempendium, HSDB and RTECS).
 4. Material Safety Data Sheets from manufacturer.
 5. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2018.

Preparation Date (mm/dd/yyyy) : 02/25/2019

Other special considerations for handling : Provide adequate information, instruction and training for operators.

<p><u>Prepared for:</u> Radiator Specialty Co. of Canada 3-3055 Dundas St West, Suite 50 Mississauga, ON, Canada, L5L 3R8 Telephone: 905-625-9117 (Mon. - Fri., 8 AM - 4 PM) Please direct all enquiries to Radiator Specialty.</p>	
<p><u>Prepared by:</u> ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.); (888) 977-4834 (Canada) http://www.thecompliancecenter.com</p>	

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