

MATERIAL SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product identifier : **POWER STEERING FLUID**

Product Use : Power Steering Fluid

Chemical Family : Mixture.

Manufacturer part no. : M2716C, M2732C

Supplier's name and address: **Radiator Specialty Co., of Canada**
 1711 Aimco Blvd.
 Mississauga, ON, Canada
 L4W 1H7

Manufacturer's name and address:
 Refer to Supplier

Information Telephone # : (905) 625-9117 (Mon. - Fri., 8 AM - 4 PM)

24 Hr. Emergency Tel # : 613-996-6666 (CANUTEC)

SECTION 2 - HAZARDS IDENTIFICATION

Classification : WHMIS information: This product is not a WHMIS controlled product in Canada. It does not meet any of the criteria for a controlled product provided in Part IV of the Controlled Products Regulations (CPR).

Labelling: This product is not a WHMIS controlled product in Canada. As such, this product does not require a WHMIS Supplier label.

Emergency Overview : Amber liquid. Petroleum odour.
 Fumes from heated product or mists may irritate respiratory tract. May cause mild eye irritation. Direct skin contact may result in little or no irritation. May have laxative effects. May be an aspiration hazard. Aspiration may occur during swallowing or vomiting, resulting in lung injury.

POTENTIAL HEALTH EFFECTS:

Signs and symptoms of short-term (acute) exposure

Inhalation : Fumes from heated product or mists may irritate respiratory tract.

Skin : Direct skin contact may result in little or no irritation.

Eyes : May cause mild transient irritation.

Ingestion : May have laxative effects. May cause nausea, stomach pain and vomiting. May be an aspiration hazard. Aspiration may occur during swallowing or vomiting, resulting in lung injury.

Effects of long-term (chronic) exposure

: Prolonged skin contact may cause dermatitis (rash), characterized by red, dry, itching skin.

Carcinogenic status : See TOXICOLOGICAL INFORMATION, Section 11.

Additional health hazards : See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects : See ECOLOGICAL INFORMATION, Section 12.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredients</u>	<u>CAS #</u>	<u>Wt.%</u>
Petroleum Oil	64742-52-5 / 64742-53-6	60.00 - 100.00

*Note: Composition of this ingredient may vary between the two indicated CAS #'s, or may be a mixture of both.

SECTION 4 - FIRST AID MEASURES

- 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** : Remove contaminated clothing. Wash off with soap and plenty of water. If irritation persists, seek prompt medical attention.
- Eye contact** : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- Ingestion** : Do not induce vomiting. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration. Seek immediate medical attention/advice.
- Notes For Physician** : Do not induce vomiting: contains petroleum distillates and/or aromatic solvents. Immediate medical attention is required. Material is an aspiration hazard. Provide general supportive measures and treat symptomatically.

SECTION 5 - FIRE FIGHTING MEASURES**Fire hazards/conditions of flammability**

- : Not flammable under normal conditions of use. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Oxidizing properties

- : None known.

Explosion data: Sensitivity to mechanical impact / static discharge

- : Not expected to be sensitive to mechanical impact or static discharge.

Suitable extinguishing media

- : Dry chemical, foam, carbon dioxide and water fog. Do not use water jet, as this may spread burning material.

Special fire-fighting procedures/equipment

- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame.

Hazardous combustion products

- : Carbon oxides; Nitrogen oxides (NOx); Sulphur oxides; Phosphorus compounds; Polycyclic aromatic hydrocarbons; Organic materials; irritating fumes and smoke.

SECTION 6 - ACCIDENTAL RELEASE MEASURES**Personal precautions**

- : Restrict access to area until completion of clean-up. 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. For personal protection see section 8.

Environmental precautions

- : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.

Spill response/cleanup

- : Ventilate area of release. Remove all sources of ignition. Stop the spill at source if it is safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Notify the appropriate authorities as required.

Prohibited materials

- : None known.

SECTION 7 - HANDLING AND STORAGE**Safe Handling procedures**

- : Use in a well-ventilated area. Wear suitable protective equipment during handling. Avoid breathing vapour or mist. Do not ingest. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and flame. Avoid contact with incompatible materials. Wash thoroughly after handling. Keep container tightly closed when not in use.

Storage requirements

- : Store in a cool, dry, well ventilated area, away from heat and ignition sources. Store away from incompatible materials. 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

- : Strong oxidizing agents

Special packaging materials

- : Always keep in containers made of the same materials as the supply container.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

<u>Exposure Limits</u>				
<u>Ingredients</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Petroleum Oil	5 mg/m ³ (inhalable) (severely refined mineral oils)	N/Av	5 mg/m ³ (As 'Oil mist, mineral')	N/Av

Ventilation and engineering measures

- : Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits. If local exhaust ventilation is not adequate, use appropriate respiratory protection.

Respiratory protection

- : If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Advice should be sought from respiratory protection specialists.

Skin protection

- : Gloves impervious to the material are recommended. Advice should be sought from glove suppliers. Depending on conditions of use, an impervious apron should be worn.

Eye / face protection

- : Safety goggles or glasses as appropriate for the job.

Other protective equipment

- : An eyewash station and safety shower should be made available in the immediate working area.

General hygiene considerations

- : Avoid breathing vapour or mist. Avoid contact with eyes, skin and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Remove soiled clothing and wash it thoroughly before reuse. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: Oily liquid.	Appearance	: Amber liquid.
Odour	: Petroleum odour.	Odour threshold	: N/Av
pH	: neutral		
Boiling point	: 241°C	Specific gravity	: 0.89 - 0.90 @ 20°C
Melting/Freezing point	: - 18°C	Coefficient of water/oil distribution	: N/Av
		Solubility in water	: Insoluble.
Vapour pressure (mmHg @ 20° C / 68° F)	: 0.008	Evaporation rate (n-Butyl acetate = 1)	: < 1
Vapour density (Air = 1)	: 4.3	Volatiles (% by weight)	: Negligible.
Volatile organic Compounds (VOC's)	: N/Av	Auto-ignition temperature	: N/Av
Flash point	: 160°C	Upper flammable limit (% by vol.)	: N/Av
Flash point Method	: Cleveland Open Cup	Flashback observed	: N/Av
Lower flammable limit (% by vol.)	: N/Av	Viscosity	: 7 - 8 mm ² /sec @ 100°C
Flame Projection Length	: N/Av		
Absolute pressure of container	: N/Av		
General Information	: No additional information.		

Section 10: STABILITY AND REACTIVITY

Stability and reactivity	: Stable under the recommended storage and handling conditions prescribed.
Hazardous polymerization	: Hazardous polymerization does not occur.
Conditions to avoid	: Avoid heat and open flame. Avoid contact with incompatible materials. Do not use in areas without adequate ventilation.
Materials To Avoid And Incompatibility	: Strong oxidizing agents
Hazardous decomposition products	: None known, refer to hazardous combustion products in Section 5.

SECTION 11 - TOXICOLOGICAL INFORMATION

- Target organs** : Eyes, skin, respiratory system and digestive system.
- Routes of exposure** : *Inhalation*: YES *Skin Absorption*: NO *Skin & Eyes*: YES *Ingestion*: YES
- Irritancy** : Slightly irritating.
- Toxicological data** : There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

<u>Ingredients</u>	LC₅₀(4hr) <u>inh, rat</u>	LD₅₀	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Petroleum Oil	≥ 2180 mg/m ³ (mist)	> 5000 mg/kg	> 2000 mg/kg

- Carcinogenic status** : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.
- Reproductive effects** : Not expected to have other reproductive effects.
- Teratogenicity** : Not expected to be a teratogen.
- Mutagenicity** : No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
- Epidemiology** : No information available.
- Sensitization to material** : Not expected to be a skin or respiratory sensitizer.
- Synergistic materials** : None known or reported by the manufacturer.
- other important hazards** : None known or reported by the manufacturer.
- Conditions aggravated by overexposure** : 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. Contains: Petroleum oil.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Petroleum Oil	64742-52-5 / 64742-53-6	> 100 mg/L (Fathead minnow)	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Petroleum Oil	64742-52-5 / 64742-53-6	> 1000 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
Petroleum Oil	64742-52-5 / 64742-53-6	> 1000 mg/L/96hr (Green algae)	N/Av	None.

- Mobility** : No data is available on the product itself.
- Persistence** : No data is available on the product itself. Contains: Petroleum oil. Petroleum oil is not considered to be readily biodegradable.
- Bioaccumulation potential** : 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. Chemical waste, regardless of quantity, should never be poured into drains, sewers or waterways. This material and its container must be disposed of in a safe way.
- Methods of Disposal** : Dispose of in accordance with federal, provincial and local hazardous waste laws.

SECTION 14: TRANSPORT INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	None	Not regulated.	Not regulated	none	
TDG Additional information	None.				

SECTION 15 - REGULATORY INFORMATION**Labelling:**

This product is not a WHMIS controlled product in Canada. As such, this product does not require a WHMIS Supplier label.

Canadian Information:

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

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.


US Federal Information:

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

SECTION 16 - OTHER INFORMATION

- Legend** :
- ACGIH: American Conference of Governmental Industrial Hygienists
 - CAS: Chemical Abstract Services
 - EC50: Effective Concentration 50%.
 - HSDB: Hazardous Substances Data Bank
 - IARC: International Agency for Research on Cancer
 - Inh: Inhalation
 - IUCLID: International Uniform Chemical Information Database
 - LC: Lethal Concentration
 - LD: Lethal Dose
 - MSHA: Mine Safety and Health Administration
 - N/Av: Not Applicable
 - N/Av: Not Available
 - NIOSH: National Institute of Occupational Safety and Health
 - NOEC: No observable effect concentration
 - NTP: National Toxicology Program
 - OECD: Organisation for Economic Co-operation and Development
 - OSHA: Occupational Safety and Health Administration
 - PEL: Permissible exposure limit
 - RTECS: Registry of Toxic Effects of Chemical Substances
 - STEL: Short Term Exposure Limit
 - TDG: Canadian Transportation of Dangerous Goods Act & Regulations
 - TLV: Threshold Limit Values
 - TWA: Time Weighted Average
 - WHMIS: Workplace Hazardous Materials Identification System

- References** :
1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2015.
 2. International Agency for Research on Cancer Monographs, searched 2016.
 3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases, 2016 (Chempendium, HSDB and RTECs).
 4. Material Safety Data Sheets from manufacturer.
 5. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2016.

<p><u>Prepared for:</u> Radiator Specialty Co. of Canada 1711 Aimco Blvd. Mississauga, ON, Canada, L4W 1H7 Telephone: 905-625-9117 (Mon. - Fri., 8 AM - 4 PM) Please direct all enquiries to Radiator Specialty.</p>	
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Revision Information : (M)SDS sections updated:
8. EXPOSURE CONTROLS / PERSONAL PROTECTION;
12. ECOLOGICAL INFORMATION.

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