

SAFETY DATA SHEET

REFLO™ 68A



1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

- Product name** : REFLO™ 68A
Code : REFL68A, 490-105
Use of the substance/mixture : This product is designed for use in refrigeration compressors containing ammonia gas.

Company/undertaking identification

- Manufacturer** : Petro-Canada Lubricants Inc.
2310 Lakeshore Road West
Mississauga, Ontario
Canada L5J 1K2
- Supplier** : Petro-Canada Europe Lubricants
The Manor
Haseley Business Centre
Warwick, Warwickshire
CV35 7LS
United Kingdom
Tel: +44 (0) 2476-247294
Fax: +44 (0) 2476-247295
- Emergency telephone number** : Suncor Energy: (001) 403-296-3000
Canotec Transportation: (001) 613-996-6666
Poison Control Centre: Consult local telephone directory for emergency number(s).

2. HAZARDS IDENTIFICATION

The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : Not classified.

See section 11 for more detailed information on health effects and symptoms.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation : Preparation

Ingredient name	CAS number	%	EC number	Classification
Mixture of severely hydrotreated and hydrocracked base oil (petroleum).	Mixture	-	Mixture	Not classified. [2]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in section 8.

4. FIRST AID MEASURES

First-aid measures

- Inhalation** : Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
- Skin contact** : Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

4. FIRST AID MEASURES

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.
- Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

See section 11 for more detailed information on health effects and symptoms.

5. FIRE-FIGHTING MEASURES

Extinguishing media

- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : In a fire or if heated, a pressure increase will occur and the container may burst. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Products of combustion** : Carbon oxides (CO, CO₂), nitrogen oxides (NO_x), sulphur oxides (SO_x), hydrocarbons, smoke and irritating vapours as products of incomplete combustion.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Remark** : Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up**
- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. HANDLING AND STORAGE

- Handling** : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.
- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
- Packaging materials**
- Recommended** : Use original container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit values

<u>Ingredient name</u>	<u>Occupational exposure limits</u>
Mixture of severely hydrotreated and hydrocracked base oil (petroleum).	ACGIH TLV (United States). Notes: (oil mist) TWA: 5 mg/m ³ 8 hour(s). STEL: 10 mg/m ³ 15 minute(s).

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Exposure controls

- Occupational exposure controls** : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: organic vapour filter
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Recommended: neoprene, nitrile, polyvinyl alcohol (PVA), Viton.
- Eye protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
- Skin protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

General information

Appearance

- Physical state** : Viscous liquid.
- Colour** : Clear, slightly yellow.
- Odour** : Hydrocarbon.

Important health, safety and environmental information

- Boiling point** : 380 to 550°C (716 to 1022°F)
- Flash point** : Open cup: 236°C (456.8°F) [Cleveland.]
- Auto-ignition temperature** : Fire Point: 260°C (500°F)
- Relative density** : 0.866 kg/L @ 15°C (59°F)
- Solubility** : Insoluble in water.
- Viscosity** : 57.8 cSt @ 40°C (104°F), 7.86 cSt @ 100°C (212°F), VI=101
- Pour point** : -42°C (-44°F)

10. STABILITY AND REACTIVITY

- Chemical stability** : The product is stable.
- Materials to avoid** : Reactive with oxidising agents and reducing agents.
- Hazardous decomposition products** : May release CO_x, NO_x, SO_x, diphenylamine, hydrocarbons, smoke and irritating vapours when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

Potential acute health effects

- Inhalation** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Eye contact** : No known significant effects or critical hazards.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Mixture of severely hydrotreated and hydrocracked base oil (petroleum).	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	>2500 mg/m ³	4 hours

- Conclusion/Summary** : Not available.

Potential chronic health effects

Chronic toxicity

- Conclusion/Summary** : Not available.

Irritation/Corrosion

- Conclusion/Summary** : Not available.

Sensitiser

- Conclusion/Summary** : Not available.

Carcinogenicity

- Conclusion/Summary** : Not available.

Mutagenicity

- Conclusion/Summary** : Not available.

Teratogenicity

- Conclusion/Summary** : Not available.

Reproductive toxicity

- Conclusion/Summary** : Not available.

- Chronic effects** : No known significant effects or critical hazards.

- Carcinogenicity** : Not listed as carcinogenic by OSHA, NTP or IARC.

- Mutagenicity** : No known significant effects or critical hazards.

- Teratogenicity** : No known significant effects or critical hazards.

- Developmental effects** : No known significant effects or critical hazards.

- Fertility effects** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Inhalation** : No specific data.

- Ingestion** : No specific data.

- Skin** : No specific data.

- Eyes** : No specific data.

12. ECOLOGICAL INFORMATION

- Environmental effects** : No known significant effects or critical hazards.

Aquatic ecotoxicity

- Conclusion/Summary** : Not available.

Biodegradability

- Conclusion/Summary** : Not available.

- Other adverse effects** : No known significant effects or critical hazards.

13. DISPOSAL CONSIDERATIONS

- Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
- Hazardous waste** : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

14. TRANSPORT INFORMATION

International transport regulations

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
ADR/RID Class	Not available.	Not available.	Not available.	-		-
ADN/ADNR Class	Not available.	Not available.	Not available.	-		-
IMDG Class	Not available.	Not available.	Not available.	-		-
IATA Class	Not available.	Not available.	Not available.	-		-

PG* : Packing group

15. REGULATORY INFORMATION

EU regulations

Classification and labeling have been determined according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use.

Risk phrases : This product is not classified according to EU legislation.

Other EU regulations

Additional warning phrases : Safety data sheet available for professional user on request.

International regulations

Canada inventory : All components are listed or exempted.

United States inventory (TSCA 8b) : All components are listed or exempted.

Europe inventory : All components are listed or exempted.

16. OTHER INFORMATION

Key data sources : Available upon request.
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History

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Prepared by : **Product Safety - RS**

☑ Indicates information that has changed from previously issued version.

For Copy of (M)SDS : Internet: lubricants.petro-canada.ca/msds

Lubricants:
Western Canada, telephone: (001) 800-661-1199; fax: (001) 800-378-4518
Ontario & Central Canada, telephone: (001) 800-268-5850; fax: (001) 800-201-6285
Quebec & Eastern Canada, telephone: (001) 800-576-1686; fax: (001) 800-201-6285

For Product Safety Information: (001) 905-804-4752

16. OTHER INFORMATION

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.