

SAFETY DATA SHEET

TURBOFLO™/MC LOW VARNISH 46



000003003601

Version 3.0

Revision Date 2022/06/01

Print Date 2022/06/02

SECTION 1. IDENTIFICATION

Product name : TURBOFLO™/MC LOW VARNISH 46
Synonyms : RDF-0313
Product code : TFLV46DRM, TFLV46IBC, TFLV46BLK, TFLV46

Manufacturer or supplier's details

Petro-Canada America Lubricants LLC
2828 N. Harwood St., Suite 1300
Dallas TX 75201
United States
Telephone : 1-214-871-3555

Emergency telephone number

Emergency telephone number : CHEMTREC: 1-800-424-9300;
Poison Control Centre: Consult local telephone directory for emergency number(s).

Recommended use of the chemical and restrictions on use

Recommended use : Premium low varnish turbine fluid for use in gas, steam, and combine-cycle turbines. It provides excellent resistance to oxidation and thermal degradation and has been designed to prevent the deposition of varnish on critical surfaces in turbine systems including IGV valves, pencil filters and bearings etc.

Prepared by : Product Safety: +1 905-491-0565

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards

None known.

IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

SAFETY DATA SHEET

TURBOFLO™/MC LOW VARNISH 46



000003003601

Version 3.0

Revision Date 2022/06/01

Print Date 2022/06/02

Substance / Mixture : Mixture

Components

| Chemical name | CAS-No. | Concentration (% w/w) |
|---|------------|-----------------------|
| Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based; Baseoil — unspecified | 72623-87-1 | 70 - 90 |
| Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, high-viscosity; Baseoil — unspecified | 72623-85-9 | 5 - 10 |
| 1-(tert-dodecylthio)propan-2-ol | 67124-09-8 | 0.1 - 1 |

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

- If inhaled : Move to fresh air.
Artificial respiration and/or oxygen may be necessary.
Seek medical advice.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Wash skin thoroughly with soap and water or use recognized skin cleanser.
Wash clothing before reuse.
Seek medical advice.
- In case of eye contact : Remove contact lenses.
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Obtain medical attention.
- If swallowed : Rinse mouth with water.
DO NOT induce vomiting unless directed to do so by a physician or poison control center.
Never give anything by mouth to an unconscious person.
Seek medical advice.
- Most important symptoms and effects, both acute and delayed : First aider needs to protect himself.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : No information available.
- Specific hazards during fire-fighting : Cool closed containers exposed to fire with water spray.

SAFETY DATA SHEET

TURBOFLO™/MC LOW VARNISH 46



000003003601

Version 3.0

Revision Date 2022/06/01

Print Date 2022/06/02

- Hazardous combustion products : Carbon oxides (CO, CO₂), nitrogen oxides (NO_x), smoke and irritating vapours as products of incomplete combustion.
- Further information : Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Ensure adequate ventilation.
Evacuate personnel to safe areas.
Material can create slippery conditions.
Mark the contaminated area with signs and prevent access to unauthorized personnel.
Only qualified personnel equipped with suitable protective equipment may intervene.
- Environmental precautions : If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Prevent further leakage or spillage if safe to do so.
Remove all sources of ignition.
Soak up with inert absorbent material.
Non-sparking tools should be used.
Ensure adequate ventilation.
Contact the proper local authorities.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : None known.
- Advice on safe handling : For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
In case of insufficient ventilation, wear suitable respiratory equipment.
Avoid contact with skin, eyes and clothing.
Do not ingest.
Keep away from heat and sources of ignition.
Keep container closed when not in use.
- Conditions for safe storage : Store in original container.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Keep in a dry, cool and well-ventilated place.
Keep in properly labelled containers.
To maintain product quality, do not store in heat or direct sunlight.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

| Components | CAS-No. | Value type | Control parameter | Basis |
|------------|---------|------------|-------------------|-------|
|------------|---------|------------|-------------------|-------|

SAFETY DATA SHEET

TURBOFLO™/MC LOW VARNISH 46



000003003601

Version 3.0

Revision Date 2022/06/01

Print Date 2022/06/02

| | | (Form of exposure) | ters / Permissible concentration | |
|---|------------|------------------------------------|----------------------------------|-----------|
| Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based; Baseoil — unspecified | 72623-87-1 | TWA (Mist) | 5 mg/m3 | OSHA Z-1 |
| | | TWA (Inhalable particulate matter) | 5 mg/m3 | ACGIH |
| | | TWA (Mist) | 5 mg/m3 | OSHA P0 |
| | | TWA (Mist) | 5 mg/m3 | NIOSH REL |
| | | STEL (Mist) | 10 mg/m3 | NIOSH REL |
| Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, high-viscosity; Baseoil — unspecified | 72623-85-9 | TWA (Mist) | 5 mg/m3 | OSHA Z-1 |
| | | TWA (Inhalable particulate matter) | 5 mg/m3 | ACGIH |
| | | TWA (Mist) | 5 mg/m3 | OSHA P0 |
| | | TWA (Mist) | 5 mg/m3 | NIOSH REL |
| | | STEL (Mist) | 10 mg/m3 | NIOSH REL |

Engineering measures : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. 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.

Filter type : organic vapour filter

Hand protection
Material : neoprene, nitrile, polyvinyl alcohol (PVA), Viton®.

Remarks : 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.

Eye protection : Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Protective measures : Wash contaminated clothing before re-use.

Hygiene measures : Remove and wash contaminated clothing and gloves, including the inside, before re-use.

SAFETY DATA SHEET

TURBOFLO™/MC LOW VARNISH 46



000003003601

Version 3.0

Revision Date 2022/06/01

Print Date 2022/06/02

Wash face, hands and any exposed skin thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|--|---|---|
| Appearance | : | viscous liquid |
| Colour | : | Pale, straw-yellow. |
| Odour | : | Mild petroleum oil like. |
| Odour Threshold | : | No data available |
| pH | : | No data available |
| Pour point | : | -33 °C (-27 °F) |
| Boiling point/boiling range | : | No data available |
| Flash point | : | 230 °C (446 °F) Method: Cleveland open cup |
| Fire Point | : | No data available |
| Evaporation rate | : | No data available |
| Flammability | : | Low fire hazard. This material must be heated before ignition will occur. |
| Auto-Ignition Temperature | : | No data available |
| Upper explosion limit / Upper flammability limit | : | No data available |
| Lower explosion limit / Lower flammability limit | : | No data available |
| Vapour pressure | : | No data available |
| Relative vapour density | : | No data available |
| Relative density | : | No data available |
| Density | : | 0.8653 kg/l (15 °C / 59 °F) |
| Solubility(ies) | | |
| Water solubility | : | insoluble |
| Partition coefficient: n-octanol/water | : | No data available |
| Viscosity | | |
| Viscosity, kinematic | : | 45.2 cSt (40 °C / 104 °F) 6.8 cSt (100 °C / 212 °F) |
| Explosive properties | : | Do not pressurize, cut, weld, braze, solder, drill, grind or ex- |

SAFETY DATA SHEET

TURBOFLO™/MC LOW VARNISH 46



000003003601

Version 3.0

Revision Date 2022/06/01

Print Date 2022/06/02

pose containers to heat or sources of ignition.

SECTION 10. STABILITY AND REACTIVITY

| | | |
|------------------------------------|---|---|
| Possibility of hazardous reactions | : | Hazardous polymerisation does not occur. Stable under normal conditions. |
| Conditions to avoid | : | No data available |
| Incompatible materials | : | Reactive with oxidising agents, acids and alkalis. |
| Hazardous decomposition products | : | May release CO _x , NO _x , methacrylate monomers, diphenylamine, alkenes, smoke and irritating vapours when heated to decomposition. |

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation
Ingestion
Skin contact
Eye contact

Acute toxicity

Product:

| | | |
|---------------------------|---|----------------------------|
| Acute oral toxicity | : | Remarks: No data available |
| Acute inhalation toxicity | : | Remarks: No data available |
| Acute dermal toxicity | : | Remarks: No data available |

Components:

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based; Baseoil — unspecified:

| | | |
|---------------------------|---|--|
| Acute oral toxicity | : | LD50 (Rat): > 5,000 mg/kg, |
| Acute inhalation toxicity | : | LC50 (Rat): > 5.2 mg/l Exposure time: 4 h Test atmosphere: dust/mist |
| Acute dermal toxicity | : | LD50 (Rabbit): > 2,000 mg/kg, |

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, high-viscosity; Baseoil — unspecified:

| | | |
|---------------------------|---|--|
| Acute oral toxicity | : | LD50 (Rat): > 5,000 mg/kg, |
| Acute inhalation toxicity | : | LC50 (Rat): > 5.2 mg/l Exposure time: 4 h Test atmosphere: dust/mist |
| Acute dermal toxicity | : | LD50 (Rabbit): > 2,000 mg/kg, |

SAFETY DATA SHEET

TURBOFLO™/MC LOW VARNISH 46

000003003601



Version 3.0

Revision Date 2022/06/01

Print Date 2022/06/02

Skin corrosion/irritation

Product:

Remarks : No data available

Serious eye damage/eye irritation

Product:

Remarks : No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

STOT - single exposure

No data available

STOT - repeated exposure

No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : Remarks: No data available

Toxicity to daphnia and other aquatic invertebrates : Remarks: No data available

Toxicity to algae/aquatic plants : Remarks: No data available

Toxicity to microorganisms : Remarks: No data available

Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Bioaccumulative potential

No data available

SAFETY DATA SHEET

TURBOFLO™/MC LOW VARNISH 46



000003003601

Version 3.0

Revision Date 2022/06/01

Print Date 2022/06/02

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Offer surplus and non-recyclable solutions to a licensed disposal company.
Waste must be classified and labelled prior to recycling or disposal.
Send to a licensed waste management company.
Dispose of product residue in accordance with the instructions of the person responsible for waste disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

National Regulations

49 CFR

Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

California Prop. 65

ethyl acrylate

This product contains chemical(s) known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov. The chemicals include:
140-88-5

The components of this product are reported in the following inventories:

TSCA : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

DSL : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

SAFETY DATA SHEET

TURBOFLO™/MC LOW VARNISH 46

000003003601

Version 3.0

Revision Date 2022/06/01

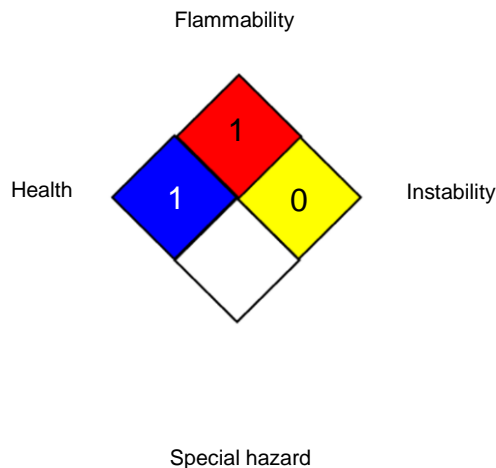
Print Date 2022/06/02



SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:

| | | |
|-----------------|--|---|
| HEALTH | | 1 |
| FLAMMABILITY | | 1 |
| PHYSICAL HAZARD | | 0 |

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

| | | |
|------------------|---|---|
| ACGIH | : | USA. ACGIH Threshold Limit Values (TLV) |
| NIOSH REL | : | USA. NIOSH Recommended Exposure Limits |
| OSHA P0 | : | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| OSHA Z-1 | : | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| ACGIH / TWA | : | 8-hour, time-weighted average |
| NIOSH REL / TWA | : | Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek |
| NIOSH REL / STEL | : | STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday |
| OSHA P0 / TWA | : | 8-hour time weighted average |
| OSHA Z-1 / TWA | : | 8-hour time weighted average |

AiIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International

SAFETY DATA SHEET

TURBOFLO™/MC LOW VARNISH 46



000003003601

Version 3.0

Revision Date 2022/06/01

Print Date 2022/06/02

Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

For Copy of SDS : Internet: lubricants.petro-canada.com/sds
United States, telephone: 1-800-268-5850; fax: 1-800-201-6285
For Product Safety Information: 1 905-491-0565

Prepared by : Product Safety: +1 905-491-0565

Revision Date : 2022/06/01
Date format : yyyy/mm/dd

The information is considered as correct, but not exhaustive, and will be used only as a guide, which is based in the current knowledge of the substance or mixture, and is applicable to proper safety precautions for the product.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

US / EN