SAFETY DATA SHEET

According to Work Health and Safety Regulations 2011 and National Model Code of Practice for the preparation of Safety Data Sheets for Hazardous Chemicals

Version 1.1

Printing date: 18/09/2019

Revision date: 23/05/2022 **SDS Record Number: CSSS-TCO-010-116712**

1. Identification of the material and supplier

Material name: TO-4 60 Heavy Duty Transmission Fluid

Other means of identification: -

Recommended use: Suitable for heavy-duty transmissions, gearboxes, final drives and hydraulic systems used in off-highway applications, where a Caterpillar TO-4 product is recommended.

Restrictions on use: -

Manufacturer:

Supplier(Manufacturer): SINOPEC LUBRICANT CO.,LTD

Address: No. 6 Anning Zhuang West Road, Haidian District, Beijing, P.R.China

Contact person(E-mail): csc.lube@sinopec.com

Telephone: 86-800-810-9886

Fax: 86-10-82410856

Emergency number: 86-800-810-9886

Australia Supplier(Manufacturer): International Lubricant Distributors Pty. Ltd.

Address: 21 Logistics Boulevard, Kenwick, WA 6107, Australia

Contact person(E-mail): -

Telephone: -

Fax: +61 8 9381 1788

Emergency number: 1300 558 939

New Zealand Supplier(Manufacturer): MTS ENERGY LTD

Address: PO BOX 302-133 North Harbour, Auckland 0751, New Zealand

Telephone: +64 9 480 8921

Fax: +64 9 480 8398

Emergency number: 0800 399 993 (24 Hrs)

2. Hazards identification

Australia:

Not classified as Hazardous according to criteria of National Occupational Health and Safety Commission (NOHSC), Australia.

Not classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

New Zealand:

Not classified as Hazardous according to the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001, New Zealand.

Not classified as Dangerous Goods for transport according to the New Zealand Standard NZS 5433:2012 Transport of Dangerous Goods on Land.

GHS label elements:

Hazard Pictograms: : No hazard pictogram is used.

Signal word: No signal word is used.

SINOPEC

Hazard statement: Not applicable.

Precautionary statement:

Prevention: Not applicable.

Response: Not applicable.

Storage: Not applicable.

Disposal: Not applicable.

Other hazards which do not result in classification: Not applicable.

3. Composition/information on ingredients

Components	CAS No.	Percent
Highly refined mineral oil	64742-65-0	90-99%
Additive package	-	<10%

4. First aid measures

Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

Symptoms caused by exposure: Not available.

Medical Attention and Special Treatment: Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Extinguishing media which must not be used for safety reasons: Water.

Specific hazards arising from the chemical: In case of heat, fire and strong oxidants can lead to burning. Fumes, smoke, carbon monoxide, sulfur oxides, aldehydes, nitrogen oxides, phosphate, certain metal oxides and other decomposition products, in the case of incomplete combustion.

Special protective equipment and precautions for fire fighters: Fire fighters should wear Self-Contained Breathing Apparatus (SCBA) operated in positive pressure mode and full protective clothing to prevent exposure to vapours or fumes. Water spray may be used to cool down heat-exposed containers. Fight fire from safe location. This product should be prevented from entering drains and watercourses.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Avoid build up of vapour. Ensure sufficient supply of air. Avoid contact with eyes or skin. Contact with water - danger of sliding. Wear appropriate personal protective equipment and clothing to prevent exposure. Increase ventilation. Evacuate all unprotected

personnel.

Environmental precautions: If leakage occurs, dam up. Prevent surface and ground-water infiltration, as well as ground penetration. Prevent from entering drainage system. If accidental entry into drainage system occurs, inform responsible authorities.

Methods and materials for containment and cleaning up: For large spills: Remove with vacuum truck or pump to storage/salvage vessels.
For small spills: Soak up residue with an absorbent such as clay, sand or other suitable material. Place in non-leaking container and seal tightly for proper disposal.

7. Handling and storage

Precautions for safe handling: Containers, even those that have been emptied, may contain explosive vapours. Do NOT cut, drill, grind, weld or perform similar operations on or near containers. Electrostatic discharge may be generated during pumping - this may result in fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment.

Conditions for safe storage, including any incompatibilities: Do not store in open or unlabeled containers. Store in a cool, dry place with adequate ventilation. Keep away from open flames and high temperatures.

Storage regulation Classified as a Class C2 (COMBUSTIBLE LIQUID) for the purpose of storage and handling, in accordance with the requirements of AS1940. This product should be stored and used in a well-ventilated area away from naked flames, sparks and other sources of ignition.

8. Exposure controls/personal protection

Control parameters – exposure standards, biological monitoring: Not available

Exposure Levels

Occupational exposure limits:

Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)			
Components	**Type**	**Value**	**Form**
Not available.	Not available.	Not available.	Not available.
Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)			
Components	**Type**	**Value**	**Form**
Not available.	Not available.	Not available.	Not available.

No exposure standards have been established for this material, however, the TWA National occupational Health And Safety Commission (NOHSC) exposure standards for oil mist is 5 mg/m3, the STEL National occupational Health And Safety Commission (NOHSC) exposure standards for oil mist is 10 mg/m3.

TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week.

Appropriate engineering controls: Provide sufficient ventilation to keep airborne levels as low as possible. Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a local exhaust ventilation system is required.

Personal protective equipment:

Eye/face protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

Skin protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted physical requirements and other substances in the workplace.

Respiratory protection:	No respiratory protection is normally required. No respiratory protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material..If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.
Hand protection:	Suggested materials for protective gloves include: Neoprene, Nitrile Rubber.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance:	
Physical state:	Liquid
Form:	Oily liquid
Color:	Transparent, yellow to brown
Odor:	Odorless or slight odor
Odour threshold:	Not available
PH:	Not available
Melting point/Freezing point:	Not available
Boiling point and boiling range:	> 280 °C (Estimated value)
Flash point:	250 °C (open cup) (typ)
Evaporation rate:	Not available
Flammability (solid, gas) :	Not available
Upper/lower flammability or explosive limits:	Not available
Vapor pressure:	<0.5Pa(20°C) (Estimated value)
Vapor density:	>1(air=1)
Density:	0.84 kg/l - 0.93 kg/l(20°C)
Solubility (H_2O) :	Insoluble in water.
Partition coefficient (n-octanol/water) :	> 6 (estimated value)
Auto-ignition temperature:	>320°C
Decomposition temperature:	Not available
Viscosity, dynamic:	10.6 mm/s2 -12.5 mm/s2 (100°C)
Specific heat value:	Not available
Particle size:	Not available
Volatile organic compounds content:	Not available
% volatile:	Not available
Saturated vapour concentration:	Not available
Release of invisible flammable vapours and gases:	Not available
Additional parameters	
Shape and aspect ratio:	Not available
Crystallinity:	Not available
Dustiness:	Not available
Surface area:	Not available

Degree of aggregation or agglomeration: Not available
Ionisation (redox potential): Not available
Biodurability or biopersistence: Not available

10. Stability and reactivity

Reactivity: Stable under recommended transport or storage conditions.
Chemical stability: Stable under normal temperatures and pressures.
Possibility of hazardous reactions: Contact with strong oxidants.
Conditions to avoid: Incompatible materials. Avoid extreme temperatures, sun exposure, and the fire source.
Incompatible materials: Strong oxidizing agents.
Hazardous decomposition products: Fumes, smoke, carbon monoxide, sulfur oxides, aldehydes, nitrogen oxides, phosphate, certain metal oxides and other decomposition products, in the case of incomplete combustion.

11. Toxicological information

Toxicological data:

Acute toxicity:

LD50(Oral, Rat): >5g/kg
LD50(Dermal, Rabbit): >5g/kg
LC50(Inhalation, Rat): >10g/m3
Skin corrosion/Irritation: No data available.
Serious eye damage/irritation: No data available.
Respiratory or skin sensitization: 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.
Aspiration hazard: No data available.
Other information This product has no known adverse effect on human health.
Information on routes of exposure No data available.
Symptoms related to exposure No data available.
Numerical measures of toxicity No data available.
Immediate, delayed and chronic health effects from exposure No data available.

12. Ecological information

Ecotoxicity:

Acute toxicity		Time	Species	Method	Evaluation	Remarks
LC50	N/A	96h	Fish	OECD 203	N/A	N/A
EC50	N/A	48h	Daphnia	OECD 202	N/A	N/A
EC50	N/A	72h	Algae	OECD 201	N/A	N/A

Persistence and degradability: This material is not expected to be readily biodegradable.
Bioaccumulative potential: This material contains components with potential to bioaccumulation.

Mobility in soil:	If into the soil, this material will be adsorbed and not flow.
Other adverse effects:	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Safe handling and disposal methods:	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Disposal of any contaminated packaging:	**Australia:** The disposal of the spilled or waste material must be done in accordance with applicable local and national regulations. **New Zealand:** **Product Disposal** Product wastes are controlled wastes and should be disposed of in accordance with all applicable local and national regulations. This product can be disposed through a licensed commercial waste collection service. In this specific case the product is a combustible substance and therefore can be sent to an approved high temperature incineration plant for disposal. Personal protective clothing and equipment as specified in Section 8 of this SDS must be worn during handling and disposal of this product. The ventilation requirements as specified in the same section must be followed, and the precautions given in Section 7 of this SDS regarding handling must also be followed. Do not dispose into the sewerage system. Do not discharge into drains or watercourses or dispose where ground or surface waters may be affected. In New Zealand, the disposal agency or contractor must comply with the New Zealand Hazardous Substances (Disposal) Regulations 2001. Further details regarding disposal can be obtained on the EPA New Zealand website under specific group standards. **Container Disposal** The container or packaging must be cleaned and rendered incapable of holding any substance. It can then be disposed of in a manner consistent with that of the substance it contained. In this instance the packaging can be disposed through a commercial waste collection service. Alternatively, the container or packaging can be recycled if the hazardous residues have been thoroughly cleaned or rendered non-hazardous. In New Zealand, the packaging (that may or may not hold any residual substance) that is lawfully disposed of by householders or other consumers through a public or commercial waste collection service is a means of compliance with regulations.

14. Transport information

Australia:

Not classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

New Zealand:

Not classified as Dangerous Goods for transport according to the NZS 5433:2012 Transport of Dangerous Goods on Land.

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for

transport by air.

U.N. Number

None Allocated

Proper Shipping Name

None Allocated

DG Class

None Allocated

Packing Group

None Allocated

15. Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia:

Not classified as Hazardous according to criteria of National Occupational Health and Safety Commission (NOHSC), Australia.

Not classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

New Zealand:

Not classified as Hazardous according to the New Zealand Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.

Australia HVIC: Listed substance

Not available.

New Zealand Location Test Certificate

Subject to Regulation 55 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations a location test certificate is required when quantity greater than or equal to those indicated below are present.

Hazard Class	Quantity beyond which controls apply for closed containers	Quantity beyond which controls apply when use occurring in open containers
Not Applicable	Not Applicable	Not Applicable

New Zealand Approved Handler

Subject to Regulation 56 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations, the substance must be under the personal control of an Approved Handler when present in a quantity greater than or equal to those indicated below.

Class of substance	Quantities
Not Applicable	Not Applicable

Inventory status:

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Not available.
Canada	Domestic Substances List (DSL)	Not available.
Canada	Non-Domestic Substances List (NDSL)	Not available.
China	Inventory of Existing Chemical Substances in China (IECSC)	Not available.
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Not available.
Europe	European List of Notified Chemical Substances (ELINCS)	Not available.
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Not available.
Korea	Existing Chemicals List (ECL)	Not available.
New Zealand	New Zealand Inventory	Not available.
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Not available.

United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Not available.

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Indication of changes:	Version 1.1
Date of preparation or review:	2022.05.23
Key abbreviations or acronyms used:	CAS: Chemical Abstracts Service LC50: Lethal Concentration 50 EC50: Concentration for 50% of maximal effect LD50: Lethal dose 50% MAC: maximum allowable concentration，MAC) PC-TWA: permissible concentration-time weighted average PC-STEL: permissible concentration-short term exposure limit
reference	**Australia:** Standard for the Uniform Scheduling of Medicines and Poisons. Approved criteria for classifying hazardous substances [NOHSC: 1008(2004)]. National Code of Practice for the Preparation of Material Safety Data Sheets [NOHSC: 2011(2003)]. Australian Code for the Transport of Dangerous Goods by Road & Rail. Model Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals. Workplace exposure standards for airborne contaminants, Safe work Australia. American Conference of Industrial Hygienists (ACGIH) **New Zealand:** Workplace Exposure Standards and Biological Exposure Indices Transport of Dangerous goods on land NZS 5433. Preparation of Safety Data Sheets - Approved Code of Practice Under the HSNO Act 1996 (HSNO CoP 8-1 0906). Assigning a hazardous substance to a group standard. American Conference of IndustriaLHygienists (ACGIH)