

# SAFETY DATA SHEET

## Section 1. Identification

Product name Komatsu Powertrain Oil TO-10  
SDS # 455865  
Code 455865-US06

### Relevant identified uses of the substance or mixture and uses advised against

Product use  Transmission fluid  
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Manufacturer BP Lubricants USA Inc.  
1500 Valley Road  
Wayne, NJ 07470  
Telephone: (973) 633-2200  
Telecopier: (973) 633-7475

EMERGENCY HEALTH INFORMATION: 1 (800) 447-8735  
Outside the US: +1 703-527-3887 (CHEMTREC)

EMERGENCY SPILL INFORMATION: 1 (800) 424-9300  
CHEMTREC (USA)

OTHER PRODUCT INFORMATION 1 (866) 4 BP - MSDS  
(866-427-6737 Toll Free - North America)  
email: bpcares@bp.com

## Section 2. Hazards identification

OSHA/HCS status  This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture  Not classified.

### GHS label elements

Signal word  No signal word.

Hazard statements  No known significant effects or critical hazards.

### Precautionary statements

Prevention  Not applicable.

Response  Not applicable.

Storage  Not applicable.

Disposal  Not applicable.

Hazards not otherwise classified  Defatting to the skin.

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### Section 3. Composition/information on ingredients

Highly refined base oil (IP 346 DMSO extract < 3%). Proprietary performance additives.

Substance/mixture Mixture

Ingredient name	CAS number	%
<input checked="" type="checkbox"/> Base oil - highly refined	Varies	≥90
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	68649-42-3	≥1 - <3
Alkylated phenol	74499-35-7 / 132752-19-3	≥0.1 - <0.3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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.

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

### Section 4. First aid measures

#### Description of necessary first aid measures

Eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.
Skin contact	<input checked="" type="checkbox"/> Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.
Inhalation	<input checked="" type="checkbox"/> Inhaled, remove to fresh air. Get medical attention if symptoms occur.
Ingestion	<input checked="" type="checkbox"/> Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Protection of first-aiders	<input checked="" type="checkbox"/> No action shall be taken involving any personal risk or without suitable training.

#### Most important symptoms/effects, acute and delayed

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

#### Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	Treatment should in general be symptomatic and directed to relieving any effects.
Specific treatments	No specific treatment.

### Section 5. Fire-fighting measures

#### Extinguishing media

Suitable extinguishing media	In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray.
Unsuitable extinguishing media	Do not use water jet.
Specific hazards arising from the chemical	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products	Combustion products may include the following: carbon dioxide carbon monoxide
Special protective actions for fire-fighters	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.
Special protective equipment for fire-fighters	Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

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## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel  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 spilled material. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling.
- For emergency responders  specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions Avoid dispersal of spilled 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 and materials for containment and cleaning up

- Small spill  Stop leak if without risk. Move containers from spill area. Absorb with an inert 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. 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. Dispose of via a licensed waste disposal contractor.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures  Put on appropriate personal protective equipment (see Section 8).
- Advice on general occupational hygiene Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities  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. Store and use only in equipment/containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
- Not suitable  Prolonged exposure to elevated temperature

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
<input checked="" type="checkbox"/> Base oil - highly refined	ACGIH TLV (United States). TWA: 5 mg/m <sup>3</sup> 8 hours. Issued/Revised: 11/2009 Form: Inhalable fraction OSHA PEL (United States). TWA: 5 mg/m <sup>3</sup> 8 hours. Issued/Revised: 6/1993

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

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## Section 8. Exposure controls/personal protection

Appropriate engineering controls	<p>All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained. Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.</p> <p>Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.</p> <p>The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.</p>
Environmental exposure controls	<p>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.</p>
<b>Individual protection measures</b>	
Hygiene measures	<p>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.</p> <p>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.</p>
Eye/face protection	<p>Safety glasses with side shields.</p>
<b>Skin protection</b>	
Hand protection	<p>Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Nitrile gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.</p> <p>Consult your supervisor or Standard Operating Procedure (S.O.P) for special handling instructions.</p>
Body protection	<p>Use of protective clothing is good industrial practice. Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required. 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.</p>
Other skin protection	<p>Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.</p>
Respiratory protection	<p>In case of insufficient ventilation, wear suitable respiratory equipment.</p> <p>The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.</p>

## Section 9. Physical and chemical properties

### Appearance

Physical state	Liquid.
Color	Brown.
Odor	Not available.
Odor threshold	Not available.
pH	Not available.
Melting point	Not available.
Boiling point	Not available.
Flash point	Open cup: 160°C (320°F) [Cleveland.]
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable. Based on - Physical state
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Density	879 kg/m <sup>3</sup> (0.879 g/cm <sup>3</sup> ) at 15°C
Solubility	insoluble in water.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Kinematic: 47 mm <sup>2</sup> /s (47 cSt) at 40°C Kinematic: 7.6 to 5 mm <sup>2</sup> /s (7.6 to 5 cSt) at 100°C

## Section 10. Stability and reactivity

Reactivity	No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame).
Incompatible materials	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

Information on the likely routes of exposure      Routes of entry anticipated: Dermal, Inhalation.

### Potential acute health effects

Eye contact	<input checked="" type="checkbox"/> No known significant effects or critical hazards.
Skin contact	No known significant effects or critical hazards.
Inhalation	Vapor inhalation under ambient conditions is not normally a problem due to low vapor pressure.

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## Section 11. Toxicological information

Ingestion No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

Eye contact  No specific data.  
Skin contact  Adverse symptoms may include the following:  
irritation  
dryness  
cracking  
Inhalation  May be harmful by inhalation if exposure to vapor, mists or fumes resulting from thermal decomposition products occurs.  
Ingestion  No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

#### Long term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

#### Potential chronic health effects

General No known significant effects or critical hazards.

Carcinogenicity No known significant effects or critical hazards.

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.

### Numerical measures of toxicity

#### Acute toxicity estimates

Not available.

## Section 12. Ecological information

### Toxicity

No testing has been performed by the manufacturer.

### Persistence and degradability

Expected to be biodegradable.

### Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

### Mobility in soil

Soil/water partition coefficient ( $K_{oc}$ ) Not available.

Mobility  Spillages may penetrate the soil causing ground water contamination.

Other adverse effects No known significant effects or critical hazards.

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## Section 12. Ecological information

Other ecological information  Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

## Section 13. Disposal considerations

Disposal methods  The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name		-	-	-
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

Special precautions for user Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

## Section 15. Regulatory information

U.S. Federal regulations

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

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 311/312

Classification  Not applicable.

SARA 313

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## Section 15. Regulatory information

	Product name	CAS number	Concentration
Form R - Reporting requirements	Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	68649-42-3	1.196
Supplier notification	Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	68649-42-3	1.196

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

Massachusetts	None of the components are listed.
New Jersey	The following components are listed: MINERAL OIL (UNTREATED and MILDLY TREATED); ZINC compounds
Pennsylvania	The following components are listed: ZINC COMPOUNDS
California Prop. 65	<b>WARNING:</b> This product contains a chemical known to the State of California to cause cancer. naphthalene

### Other regulations

Australia inventory (AICS)	All components are listed or exempted.
Canada inventory	All components are listed or exempted.
China inventory (IECSC)	At least one component is not listed.
Japan inventory (ENCS)	At least one component is not listed.
Korea inventory (KECI)	All components are listed or exempted.
Philippines inventory (PICCS)	All components are listed or exempted.
REACH Status	For the REACH status of this product please consult your company contact, as identified in Section 1.

## Section 16. Other information

### Hazardous Material Information System (U.S.A.)

Health	1
Flammability	1
Physical hazards	0
Personal protection	X

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

### National Fire Protection Association (U.S.A.)



### History

Date of issue/Date of revision	12/04/2014.
Date of previous issue	03/31/2014.

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## Section 16. Other information

### Key to abbreviations

ACGIH = American Conference of Industrial Hygienists  
ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
CAS Number = Chemical Abstracts Service Registry Number  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
OEL = Occupational Exposure Limit  
SDS = Safety Data Sheet  
STEL = Short term exposure limit  
TWA = Time weighted average  
UN = United Nations  
UN Number = United Nations Number, a four digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods.

✓ Indicates information that has changed from previously issued version.

### Notice to reader

*All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.*

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