

# SAFETY DATA SHEET



## ROYCO 560 PRF-23699F HTS

Version: 1.6

Revision Date: 07/11/2018

Print Date: 08/23/2018

### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: ROYCO 560 PRF-23699F HTS  
HIGH TEMPERATURE STABILITY TURBINE ENGINE OIL

Product Use Description: Lubricant

Synonyms: Synthetic Lubricant Formulation

Company: Manufacturer  
Anderol Specialty Lubricants, a division of Lanxess Solutions US Inc.  
215 Merry Lane  
East Hanover, NJ  
07936  
United States of America (USA)  
  
Telephone: +1 203-573-4596, Toll Free: +1 888-263-3765

Email: msdsrequest@chemtura.com  
Emergency telephone number: CHEMTREC: (24 hours) 800-424-9300  
:  
: US : 800-292-5898 (Technical inquiries)  
  
For additional emergency telephone numbers see section 16 of the Safety Data Sheet.

Prepared by Product Safety Department  
(US) +1 866-430-2775  
  
MSDSRequest@lanxess.com

Recommended use of the chemical and restrictions on use

Recommended use : Lubricant

Restrictions on use : Reserved for industrial and professional use.

### SECTION 2. HAZARDS IDENTIFICATION

Form	liquid
Colour	amber
Odour	mild

#### GHS Classification

Reproductive toxicity : Category 2  
Acute aquatic toxicity : Category 3  
Chronic aquatic toxicity : Category 3

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### GHS label elements

Signal word : **Warning**

Hazard pictograms : 

Hazard statements : H361 Suspected of damaging fertility or the unborn child.  
H412 Harmful to aquatic life with long lasting effects.

Other hazards : None

Precautionary statements : **Prevention:**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
**Storage:**  
P405 Store locked up.  
**Disposal:**  
P501 Dispose of contents/ container to an approved waste disposal plant.

### Carcinogenicity:

#### 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 identified as probable, possible or confirmed human carcinogen by IARC.

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 on OSHA's list of regulated carcinogens.

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.

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

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by NTP.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Hazardous components

Chemical name	CAS-No.	Concentration (%)
Fatty acids, C5-9, tetraesters with pentaerythritol	67762-53-2	$\geq 70 - < 90$ %
Fatty acids, C5-9, hexaesters with dipentaerythritol	67762-52-1	$\geq 5 - < 10$ %
tris(methylphenyl) phosphate NJTS-46728100000-0001	1330-78-5	$\geq 1 - < 5$ %
tris(methylphenyl) phosphate NJTS-46728100000-0001	1330-78-5	$\geq 1 - < 2.5$ %

### SECTION 4. FIRST AID MEASURES

If inhaled	: If inhaled Move to fresh air. If breathing is difficult, give oxygen. Get medical attention if irritation develops and persists.
In case of skin contact	: In case of skin contact Wash off with soap and water. If symptoms persist, call a physician.
In case of eye contact	: In case of eye contact Flush with plenty of water. If eye irritation persists, consult a specialist.
If swallowed	: If swallowed, DO NOT induce vomiting. Consult a physician if necessary.
Most important symptoms and effects, both acute and delayed	: None known.
Notes to physician	: For specialist advice physicians should contact the Poisons Information Service.

### SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Carbon dioxide (CO <sub>2</sub> ) Dry powder Foam Alcohol-resistant foam Water mist
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- Unsuitable extinguishing media : Water
- Specific hazards during firefighting : Burning produces noxious and toxic fumes.
- Specific extinguishing methods : In the event of fire, cool tanks with water spray.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment. Ensure adequate ventilation.
- Environmental precautions : Should not be released into the environment. Do not contaminate water. Do not flush into surface water or sanitary sewer system.
- Methods and materials for containment and cleaning up : Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

### SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Handle in accordance with good industrial hygiene and safety practice. Keep container closed when not in use. Do not use pressure to empty drums. Ensure all equipment is electrically grounded before beginning transfer operations.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
- Materials to avoid : Strong acids and strong bases

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### Components with workplace control parameters

**Engineering measures** : Use with adequate ventilation.  
Local ventilation is needed in the presence of airborne mists.  
Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal protective equipment

**Respiratory protection** : not required under normal use  
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**Hand protection**  
**Remarks** : Neoprene gloves

**Eye protection** : Safety glasses with side-shields  
Tightly fitting safety goggles

**Skin and body protection** : Impervious clothing

**Hygiene measures** : Avoid contact with skin, eyes and clothing.  
Provide adequate ventilation.  
Do not breathe dust or spray mist.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance** : liquid

**Color** : amber

**Odor** : mild

**Odour Threshold** : No data available

**pH** : No data available

**Melting point/range** :  
Not applicable

**Boiling point/boiling range** : No data available

**Evaporation rate** : No data available

**Flash point** : > 246 °C  
Method: ASTM D92

**Upper explosion limit** : No data available

**Lower explosion limit** : No data available

**Vapour pressure** : No data available

**Relative vapour density** : No data available

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Relative density : 1.0  
Solubility(ies)  
Water solubility : slightly soluble  
Solubility in other solvents : No data available  
  
Partition coefficient: n-octanol/water : No data available  
Auto-ignition temperature : not determined  
  
Viscosity  
Viscosity, kinematic : No data available

### SECTION 10. STABILITY AND REACTIVITY

Reactivity : No dangerous reaction known under conditions of normal use.  
Chemical stability : No decomposition if stored and applied as directed.  
Possibility of hazardous reactions : Hazardous polymerisation does not occur.  
Conditions to avoid : Heat  
Contamination  
  
Incompatible materials : Strong acids and strong bases  
  
Hazardous decomposition products : Carbon oxides

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

##### Product:

Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg  
Method: Calculation method  
  
Acute dermal toxicity : Acute toxicity estimate: > 5,000 mg/kg  
Method: Calculation method

##### Components:

**Fatty acids, C5-9, hexaesters with dipentaerythritol:**

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Acute oral toxicity : LD50 (Rat, male and female): > 1,940 mg/kg  
GLP: yes

**NJTS-46728100000-0001:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

**NJTS-46728100000-0001:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

### Skin corrosion/irritation

**Components:**

**NJTS-46728100000-0001:**

Species: Rabbit  
Method: OECD Test Guideline 404  
Result: No skin irritation

**NJTS-46728100000-0001:**

Species: Rabbit  
Method: OECD Test Guideline 404  
Result: No skin irritation

### Serious eye damage/eye irritation

**Components:**

**NJTS-46728100000-0001:**

Species: Rabbit  
Result: No eye irritation  
Method: OECD Test Guideline 405

**NJTS-46728100000-0001:**

Species: Rabbit  
Result: No eye irritation  
Method: OECD Test Guideline 405

### Respiratory or skin sensitisation

**Components:**

**NJTS-46728100000-0001:**

Species: Guinea pig  
Assessment: Did not cause sensitisation on laboratory animals.  
Method: OECD Test Guideline 406

**NJTS-46728100000-0001:**

Species: Guinea pig

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Assessment: Did not cause sensitisation on laboratory animals.

Method: OECD Test Guideline 406

### Germ cell mutagenicity

#### Components:

##### **Fatty acids, C5-9, tetraesters with pentaerythritol:**

Genotoxicity in vitro : Test Type: Ames test  
Metabolic activation: with and without metabolic activation  
Method: Mutagenicity (Escherichia coli - reverse mutation assay)  
Result: negative  
GLP: yes

Genotoxicity in vivo : Test Type: In vivo micronucleus test  
Species: Rat (males)  
Cell type: Bone marrow  
Application Route: Inhalation  
Method: Mutagenicity (micronucleus test)  
Result: negative  
GLP: no

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

##### **Fatty acids, C5-9, hexaesters with dipentaerythritol:**

Genotoxicity in vitro : Test Type: Ames test  
Metabolic activation: with and without metabolic activation  
Method: Mutagenicity (Escherichia coli - reverse mutation assay)  
Result: negative  
GLP: yes

##### **tris(methylphenyl) phosphate:**

Germ cell mutagenicity - Assessment : In vitro tests did not show mutagenic effects

##### **NJTS-46728100000-0001:**

Germ cell mutagenicity - Assessment : Not mutagenic in Ames Test

##### **tris(methylphenyl) phosphate:**

Germ cell mutagenicity - Assessment : In vitro tests did not show mutagenic effects

##### **NJTS-46728100000-0001:**

Germ cell mutagenicity - Assessment : Not mutagenic in Ames Test

### Carcinogenicity

#### Components:



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### **tris(methylphenyl) phosphate:**

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

### **tris(methylphenyl) phosphate:**

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

### **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.

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.

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.

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.

### **Reproductive toxicity**

#### **Components:**

#### **Fatty acids, C5-9, tetraesters with pentaerythritol:**

Reproductive toxicity - Assessment : No toxicity to reproduction  
No effects on or via lactation

### **tris(methylphenyl) phosphate:**

Effects on foetal development : Species: Rat  
Application Route: Oral  
Developmental Toxicity: NOEL: 20 mg/kg

Reproductive toxicity - Assessment : Suspected of damaging fertility or the unborn child.  
Did not show teratogenic effects in animal experiments.

### **tris(methylphenyl) phosphate:**

Effects on foetal development : Species: Rat  
Application Route: Oral  
Developmental Toxicity: NOEL: 20 mg/kg

Reproductive toxicity - Assessment : Suspected of damaging fertility or the unborn child.  
Did not show teratogenic effects in animal experiments.

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### STOT - repeated exposure

#### Components:

##### **Fatty acids, C5-9, tetraesters with pentaerythritol:**

Exposure routes: Skin contact

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### Aspiration toxicity

#### Product:

No aspiration toxicity classification

## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

##### **tris(methylphenyl) phosphate:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.75 mg/l  
Exposure time: 96 h

LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l  
Exposure time: 96 h

LC50 (Oncorhynchus mykiss (rainbow trout)): 0.6 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 0.146 mg/l  
aquatic invertebrates Exposure time: 48 h  
Method: OECD Test Guideline 202

EC50 (Daphnia magna (Water flea)): 0.27 mg/l  
Exposure time: 48 h

M-Factor (Acute aquatic : 1  
toxicity)

Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l  
Exposure time: 3 h  
Test Type: Respiration inhibition

##### **NJTS-46728100000-0001:**

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 71 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

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Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 51 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae : EbC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

### tris(methylphenyl) phosphate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.75 mg/l  
Exposure time: 96 h  
  
LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l  
Exposure time: 96 h  
  
LC50 (Oncorhynchus mykiss (rainbow trout)): 0.6 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.146 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202  
  
EC50 (Daphnia magna (Water flea)): 0.27 mg/l  
Exposure time: 48 h

M-Factor (Acute aquatic toxicity) : 1

Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l  
Exposure time: 3 h  
Test Type: Respiration inhibition

### NJTS-46728100000-0001:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 71 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 51 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae : EbC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

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### Persistence and degradability

#### Components:

##### **Fatty acids, C5-9, hexaesters with dipentaerythritol:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 79 %  
Exposure time: 28 d

##### **NJTS-46728100000-0001:**

Biodegradability : Result: According to the results of tests of biodegradability this product is not readily biodegradable.  
Method: CO2 Evolution Test

##### **NJTS-46728100000-0001:**

Biodegradability : Result: According to the results of tests of biodegradability this product is not readily biodegradable.  
Method: CO2 Evolution Test

### Bioaccumulative potential

#### Product:

Bioaccumulation : Remarks: No data available

#### Components:

##### **tris(methylphenyl) phosphate:**

Partition coefficient: n-octanol/water : Pow: 5.93

##### **NJTS-46728100000-0001:**

Partition coefficient: n-octanol/water : log Pow: > 7

##### **tris(methylphenyl) phosphate:**

Partition coefficient: n-octanol/water : Pow: 5.93

##### **NJTS-46728100000-0001:**

Partition coefficient: n-octanol/water : log Pow: > 7

### Mobility in soil

#### Product:

Mobility : Remarks: No data available

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### Other adverse effects

#### Product:

Results of PBT and vPvB assessment : This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Harmful to aquatic life with long lasting effects.

#### Components:

##### **NJTS-46728100000-0001:**

Additional ecological information : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
Do not allow material to contaminate ground water system.  
Do not flush into surface water or sanitary sewer system.

##### **NJTS-46728100000-0001:**

Additional ecological information : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
Do not allow material to contaminate ground water system.  
Do not flush into surface water or sanitary sewer system.

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : In accordance with local and national regulations.

Contaminated packaging : Do not burn, or use a cutting torch on, the empty drum.

## SECTION 14. TRANSPORT INFORMATION

### International Regulations

#### **UNRTDG**

Not regulated as a dangerous good

#### **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

Not applicable for product as supplied.

### National Regulations

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### 49 CFR

Not regulated as a dangerous good

## SECTION 15. REGULATORY INFORMATION

### EPCRA - Emergency Planning and Community Right-to-Know Act

#### CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
amitrole	61-82-5	10	*

\*: Calculated RQ exceeds reasonably attainable upper limit.

#### SARA304 Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards** : Reproductive toxicity

**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### US State Regulations

#### California Prop. 65

WARNING: This product can expose you to chemicals including amitrole, which is/are known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Please note that Section 3 of this document lists only the hazardous components required by the specific country or region hazard communication regulations. The chemical identifiers listed in Section 3 are used globally for hazard communication purposes and may not reflect those used for chemical inventory coverage in a particular country or region. The chemical inventory information given in Section 15 of this document applies to the product as a whole and should be used when evaluating inventory compliance.

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

**DSL**

All components of this product are on the Canadian DSL

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AICS	On the inventory, or in compliance with the inventory
NZIoC	Not in compliance with the inventory
ENCS	Not in compliance with the inventory
KECI	Not in compliance with the inventory
PICCS	Not in compliance with the inventory
IECSC	On the inventory, or in compliance with the inventory
TCSI	On the inventory, or in compliance with the inventory
US.TSCA	On TSCA Inventory

### SECTION 16. OTHER INFORMATION

#### Further information

#### Other Emergency Phone Number

<u>Latin America:</u>	Brazil	+55 113 711 9144
	All other countries	+44 (0) 1235 239 670
<u>Mexico:</u>		+52 555 004 8763

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.