

SAFETY DATA SHEET



ROYCO 500 MIL-PRF-23699G STD

Version: 1.5

Revision Date: 07/11/2018

Print Date: 04/02/2020

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: ROYCO 500 MIL-PRF-23699G STD

SYNTHETIC 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

Emergency telephone number: CHEMTREC: (24 hours) 800-424-9300
:

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

SECTION 2. HAZARDS IDENTIFICATION

Form	liquid
Colour	amber
Odour	mild

GHS Classification

Skin sensitisation : Category 1
Reproductive toxicity : Category 2
Specific target organ toxicity - repeated exposure : Category 2

SAFETY DATA SHEET





ROYCO 500 MIL-PRF-23699G STD

Version: 1.5

Revision Date: 07/11/2018

Print Date: 04/02/2020

Signal word : **Warning**

Hazard pictograms :  

Hazard statements : H317 May cause an allergic skin reaction.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
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.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
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 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.

SAFETY DATA SHEET



ROYCO 500 MIL-PRF-23699G STD

Version: 1.5

Revision Date: 07/11/2018

Print Date: 04/02/2020

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Chemical name	CAS-No.	Concentration (%)
N-1-naphthylaniline	90-30-2	$\geq 1 - < 2.5 \%$
tris(methylphenyl) phosphate	1330-78-5	$\geq 0.25 - < 1 \%$

SECTION 4. FIRST AID MEASURES

- If inhaled : If inhaled
Move to fresh air.
If not breathing, give artificial respiration.
If breathing is difficult, give oxygen.
In case of bluish discoloration (lips, ear lobes, fingernails),
give oxygen as quickly as possible.
If symptoms persist, call a physician.
- In case of skin contact : In case of skin contact
Wash off with soap and water.
Remove contaminated clothing and shoes.
Wash contaminated clothing before re-use.
Get medical attention if irritation develops and persists.
- In case of eye contact : In case of eye contact
Rinse thoroughly with plenty of water, also under the eyelids.
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 : Sensitisation
- Notes to physician : For specialist advice physicians should contact the Poisons Information Service.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Carbon dioxide (CO₂)
Dry powder
Foam
Alcohol-resistant foam
Water mist

SAFETY DATA SHEET



ROYCO 500 MIL-PRF-23699G STD

Version: 1.5

Revision Date: 07/11/2018

Print Date: 04/02/2020

- | | |
|---|--|
| Unsuitable extinguishing media | : High volume water jet |
| 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 | : 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

Components with workplace control parameters

SAFETY DATA SHEET



ROYCO 500 MIL-PRF-23699G STD

Version: 1.5

Revision Date: 07/11/2018

Print Date: 04/02/2020

N-1-naphthylaniline	90-30-2	TWA	10 ml/m3	ACGIH
---------------------	---------	-----	----------	-------

Engineering measures : Effective exhaust ventilation system
Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Respiratory protection : Breathing apparatus needed only when aerosol or mist is formed.
In the case of vapour formation use a respirator with an approved filter.

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.
Handle in accordance with good industrial hygiene and safety practice.
Wash hands before breaks and at the end of workday.

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
No data available

Evaporation rate : No data available

Flash point : 254 °C
Method: open cup

No data available

Upper explosion limit : No data available

SAFETY DATA SHEET



ROYCO 500 MIL-PRF-23699G STD

Version: 1.5

Revision Date: 07/11/2018

Print Date: 04/02/2020

Lower explosion limit : No data available
Vapour pressure : No data available
Relative vapour density : No data available
Relative density : 1
No data available

Solubility(ies)

Water solubility : slightly soluble
Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Auto-ignition temperature : No data available

Viscosity

Viscosity, kinematic : No data available

Molecular weight : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No dangerous reaction known under conditions of normal use.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Hazardous polymerisation does not occur.

Conditions to avoid : Contamination
Heat, flames and sparks.

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

SAFETY DATA SHEET



ROYCO 500 MIL-PRF-23699G STD

Version: 1.5

Revision Date: 07/11/2018

Print Date: 04/02/2020

Method: Calculation method

Components:

N-1-naphthylaniline:

Acute oral toxicity : LD50 (Rat): 1,625 mg/kg

Acute dermal toxicity : LD50 Dermal (Rabbit): > 5,000 mg/kg

Skin corrosion/irritation

Components:

N-1-naphthylaniline:

Species: Rabbit

Method: Draize Test

Result: No skin irritation

Serious eye damage/eye irritation

Components:

N-1-naphthylaniline:

Species: Rabbit

Result: No eye irritation

Method: OECD Test Guideline 405

Respiratory or skin sensitisation

Components:

N-1-naphthylaniline:

Test Type: Maximisation Test

Species: Guinea pig

Result: Probability or evidence of low to moderate skin sensitisation rate in humans

Test Type: Patch Test

Species: Human

Result: Probability or evidence of low to moderate skin sensitisation rate in humans

Test Type: Maximisation Test

Species: Guinea pig

Result: Probability or evidence of low to moderate skin sensitisation rate in humans

Germ cell mutagenicity

Components:

N-1-naphthylaniline:

Genotoxicity in vitro

: Test Type: Ames test

Metabolic activation: with and without metabolic activation

Result: negative

: Test Type: Chinese Hamster Ovary (CHO)

Metabolic activation: with and without metabolic activation

SAFETY DATA SHEET



ROYCO 500 MIL-PRF-23699G STD

Version: 1.5

Revision Date: 07/11/2018

Print Date: 04/02/2020

Result: negative

Genotoxicity in vivo : Test Type: in vivo assay
Species: Mouse (male)
Result: negative

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects., Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

tris(methylphenyl) phosphate:

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

Carcinogenicity

Components:

N-1-naphthylaniline:

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.

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.

Reproductive toxicity

Components:

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.

STOT - repeated exposure

Components:

N-1-naphthylaniline:

SAFETY DATA SHEET



ROYCO 500 MIL-PRF-23699G STD

Version: 1.5

Revision Date: 07/11/2018

Print Date: 04/02/2020

Exposure routes: Oral

Target Organs: Liver, Kidney

Assessment: May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity

Product:

No aspiration toxicity classification

Further information

Product:

Remarks: There is no data available for this product.

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 :
Remarks: No data available

Components:

N-1-naphthylaniline:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.44 mg/l
Exposure time: 96 h
Test Type: semi-static test
Analytical monitoring: yes

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 0.68 mg/l
aquatic invertebrates Exposure time: 48 h
Test Type: semi-static test
Analytical monitoring: yes

M-Factor (Acute aquatic : 1
toxicity)

Toxicity to daphnia and other : NOEC (Daphnia magna (Water flea)): 0.02 mg/l
aquatic invertebrates Exposure time: 21 d
(Chronic toxicity) Analytical monitoring: yes

M-Factor (Chronic aquatic : 1

SAFETY DATA SHEET



ROYCO 500 MIL-PRF-23699G STD

Version: 1.5

Revision Date: 07/11/2018

Print Date: 04/02/2020

toxicity)

Toxicity to microorganisms : EC50 (Protozoa): 2 mg/l
Exposure time: 48 h

EC50 (Bacteria): > 10,000 mg/l
Exposure time: 3 h

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

Persistence and degradability

Product:

Biodegradability : Result: No data available

Components:

N-1-naphthylaniline:

Biodegradability : aerobic
Inoculum: activated sludge
Concentration: 100 mg/l
Result: According to the results of tests of biodegradability this product is not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301
GLP: yes

SAFETY DATA SHEET



ROYCO 500 MIL-PRF-23699G STD

Version: 1.5

Revision Date: 07/11/2018

Print Date: 04/02/2020

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available

Components:

N-1-naphthylaniline:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 427 - 2,730
Exposure time: 56 d
Temperature: 77 °F / 25 °C
Concentration: 0.1 mg/l

Partition coefficient: n-octanol/water : log Pow: 4.28

tris(methylphenyl) phosphate:

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

Mobility in soil

Product:

Mobility : Remarks: No data available

Other adverse effects

Product:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

Additional ecological information : There is no data available for this product.

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

SAFETY DATA SHEET



ROYCO 500 MIL-PRF-23699G STD

Version: 1.5

Revision Date: 07/11/2018

Print Date: 04/02/2020

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

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)
1-naphthylamine	134-32-7	100	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
aniline	62-53-3	5000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 311/312 Hazards

: Respiratory or skin sensitisation
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)

US State Regulations

SAFETY DATA SHEET



ROYCO 500 MIL-PRF-23699G STD

Version: 1.5

Revision Date: 07/11/2018

Print Date: 04/02/2020

California Prop. 65

WARNING: This product can expose you to chemicals including aniline, 1-naphthylamine, 2-naphthylamine, ethylbenzene, which is/are known to the State of California to cause cancer. For more information go to 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
AICS	On the inventory, or in compliance with the inventory
NZIoC	On the inventory, or in compliance with the inventory
ENCS	On the inventory, or in compliance with the inventory
KECI	On the inventory, or in compliance with the inventory
PICCS	On the inventory, or 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.