

## Eastman(TM) Turbo Oil 2197

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 10/17/2018

 1.2
 08/21/2019
 150000097791
 Date of first issue: 09/06/2016

PRD SDSUS / Z8 / 0001

#### **SECTION 1. IDENTIFICATION**

Product name : Eastman(TM) Turbo Oil 2197

Product code : 34358-00, P3435807, P3435809, E3435801, P3435800,

P3435801, P3435802, P3435803, P3435804, P3435805,

P3435806, P3435808

Manufacturer or supplier's details

Company name of supplier : Eastman Chemical Company

Address : 200 South Wilcox Drive

Kingsport TN 37660-5280

Telephone : (423) 229-2000

Emergency telephone : CHEMTREC: +1-800-424-9300, +1-703-527-3887 CCN7321

Recommended use of the chemical and restrictions on use

Recommended use : Lubricant

Restrictions on use : None known.

## **SECTION 2. HAZARDS IDENTIFICATION**

#### GHS classification in accordance with 29 CFR 1910.1200

Not a hazardous substance or mixture.

#### **GHS** label elements

Not a hazardous substance or mixture.

#### Other hazards

None known.

#### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Components

Chemical name	CAS-No.	Concentration (% w/w)
Tricresyl phosphate	1330-78-5	1 - < 2.5

#### **SECTION 4. FIRST AID MEASURES**

If inhaled : Move to fresh air.

If breathing is difficult, give oxygen. Consult a physician if necessary.

In case of skin contact : Wash off immediately with soap and plenty of water while

removing all contaminated clothes and shoes.



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Version 1.2 PRD Revision Date: 08/21/2019

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Wash contaminated clothing before reuse. If symptoms persist, call a physician.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water

for at least 15 minutes.

Get medical attention if symptoms occur.

If swallowed : Rinse mouth.

Call a physician or poison control center immediately.

Do NOT induce vomiting.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and

delayed

Prolonged skin contact may defat the skin and produce der-

matitis.

Contact with hot product will cause thermal burns.

Inhalation of thermal decomposition products may lead to

adverse effects including pulmonary edema.

Notes to physician : Treat symptomatically.

#### **SECTION 5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media : Water spray

Foam Dry powder

Carbon dioxide (CO2)

Unsuitable extinguishing

media

Do not use a solid water stream as it may scatter and spread

fire.

Hazardous combustion prod-

ucts

Carbon monoxide Carbon dioxide (CO2)

Oxides of phosphorus

Further information : In case of fire and/or explosion do not breathe fumes.

Use water spray to cool unopened containers.

Prevent fire extinguishing water from contaminating surface

water or the ground water system.

Special protective equipment

for fire-fighters

Wear an approved positive pressure self-contained breathing

apparatus in addition to standard fire fighting gear.

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emer-

gency procedures

Ventilate the area.

Material can create slippery conditions. Use personal protective equipment.

Local authorities should be advised if significant spillages

cannot be contained.

Environmental precautions : Avoid release to the environment.



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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.

Do not get in eyes.

Do not get on skin or clothing. Wash thoroughly after handling. Do not breathe vapors or spray mist.

Use only in area provided with appropriate exhaust ventilation. Drain or remove substance from equipment prior to break-in

or maintenance.

Wear appropriate personal protective equipment.

Conditions for safe storage : Keep containers tightly closed in a cool, well-ventilated place.

#### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : Good general ventilation (typically 10 air changes per hour)

should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne

levels to an acceptable level.

## 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.

Hand protection

Material : Recommended gloves:

Material : Nitrile rubber

Remarks : Wear suitable gloves. Contact the glove manufacturer for

specific advice on glove selection and breakthrough times for

your use conditions.

Eye protection : Wear safety glasses with side shields (or goggles).



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 SDSUS / Z8 / 0001

Protective measures : Ensure that eye flushing systems and safety showers are

located close to the working place.

#### **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : liquid

Color : amber

Odor : No data available

Odor Threshold : not determined

pH : not determined

Melting point/freezing point : -65 °F / -54 °C

Boiling point/boiling range : not determined

Flash point : 475 °F / 246 °C

Method: Cleveland open cup

Evaporation rate : not determined

Flammability (solid, gas) : Not applicable

Upper explosion limit / Upper

flammability limit

not determined

Lower explosion limit / Lower

flammability limit

not determined

Vapor pressure : not determined

Relative vapor density : not determined

Relative density : 0.997

Solubility(ies)

Water solubility : insoluble

Partition coefficient: n-

octanol/water

No data available

Autoignition temperature : not determined

Decomposition temperature : not determined

Viscosity

Viscosity, dynamic : not determined



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 08/21/2019
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Viscosity, kinematic : 26 mm2/s (104 °F / 40 °C)

5.19 mm2/s (212 °F / 100 °C)

Explosive properties : No data available

Oxidizing properties : No data available

#### **SECTION 10. STABILITY AND REACTIVITY**

Reactivity : None reasonably foreseeable.

Chemical stability : Stable under normal conditions.

Conditions to avoid : Keep away from sources of ignition - No smoking.

Incompatible materials : Strong oxidizing agents

Hazardous decomposition

products

Emits acrid smoke and fumes when heated to decomposition.

## **SECTION 11. TOXICOLOGICAL INFORMATION**

## Acute toxicity

Not classified based on available information.

**Product:** 

Acute oral toxicity : Acute toxicity estimate (Rat): > 5,000 mg/kg

Assessment: Not classified

Remarks: Read-across from a similar material

Acute inhalation toxicity : Acute toxicity estimate (Expert judgment): Exposure time: 4 h

Assessment: Not classified

Remarks: Read-across from a similar material

Acute dermal toxicity : Acute toxicity estimate (Expert judgment): Assessment: Not

classified

Remarks: Read-across from a similar material

## Components:

Tricresyl phosphate:

Acute oral toxicity : LD50 Oral (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.2 mg/l

Exposure time: 4 h

Acute dermal toxicity : LD50 Dermal (Rabbit): > 10,000 mg/kg

## Skin corrosion/irritation

Not classified based on available information.



## Eastman(TM) Turbo Oil 2197

Version Revision Date: SDS Number: Date of last issue: 10/17/2018 1.2 08/21/2019 150000097791 Date of first issue: 09/06/2016

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**Product:** 

**Species** Rabbit

Not classified as hazardous. Assessment

Result slight

**Components:** 

Tricresyl phosphate:

**Species** Rabbit Exposure time 24 h

Not classified as hazardous. Assessment Result Non-irritating to the skin.

Serious eye damage/eye irritation

Not classified based on available information.

**Product:** 

**Species** Rabbit Result slight

Assessment Not classified

Remarks Read-across from a similar material

**Components:** 

Tricresyl phosphate:

**Species** Rabbit Assessment

Not classified

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

**Product:** 

Skin Sensitization Test Type

**Species** Humans Assessment Not classified

Method Human Repeat Insult Patch Test

Result non-sensitizing

Read-across from a similar material Remarks

Components:

Tricresyl phosphate:

Test Type Skin Sensitization Assessment Not classified



## Eastman(TM) Turbo Oil 2197

 Version
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 08/21/2019
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## Germ cell mutagenicity

Not classified based on available information.

**Product:** 

Genotoxicity in vitro : Test Type: various

Metabolic activation: Read-across from a similar material Result: Based on available data, the classification criteria are

not met.

Genotoxicity in vivo : Test Type: Mutagenicity

Result: Based on available data, the classification criteria are

not met.

Remarks: Read-across from a similar material

Components:

Tricresyl phosphate:

Genotoxicity in vitro : Test Type: various

Result: Based on available data, the classification criteria are

not met.

Remarks: Not classified

Genotoxicity in vivo : Test Type: various

Result: Based on available data, the classification criteria are

not met.

Carcinogenicity

Not classified based on available information.

IARC No ingredient 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 ingredient 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

Not classified based on available information.

**Product:** 

Effects on fertility : Remarks: No data available

Reproductive toxicity - As-

sessment

No toxicity to reproduction

Components:

Tricresyl phosphate:

Reproductive toxicity - As-

sessment

May damage the unborn child. Suspected of damaging

fertility.



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 1.2
 08/21/2019
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PRD SDSUS / Z8 / 0001

STOT-single exposure

Not classified based on available information.

**Product:** 

Assessment : Based on available data, the classification criteria are not met.

**Components:** 

Tricresyl phosphate:

Assessment : Based on available data, the classification criteria are not met.

STOT-repeated exposure

Not classified based on available information.

**Product:** 

Assessment : Based on available data, the classification criteria are not met.

Components:

Tricresyl phosphate:

Assessment : Based on available data, the classification criteria are not met.

Repeated dose toxicity

**Product:** 

Remarks : No known significant effects or critical hazards.

Components:

Tricresyl phosphate:

Species : Rat

: 300 mg/l

Aspiration toxicity

Not classified based on available information.

**Product:** 

Not classified

Components:

Tricresyl phosphate:

Not classified

Information on likely routes of exposure

**Product:** 

Inhalation : Remarks: None known.

Skin contact : Remarks: Prolonged skin contact may defat the skin and pro-



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 08/21/2019
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 SDSUS / Z8 / 0001

duce dermatitis.

Eye contact : Remarks: Contact with the eyes may be very painful but does

not cause damage.

Ingestion : Remarks: None known.

#### **SECTION 12. ECOLOGICAL INFORMATION**

#### **Ecotoxicity**

**Product:** 

Toxicity to fish : LC50 (Fish):

Exposure time: 96 h

Remarks: Not classified as hazardous. (limit of solubility in fresh water)
Read-across from a similar material

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)):

Exposure time: 48 h

Remarks: Not classified as hazardous. (limit of solubility in fresh water)
Read-across from a similar material

Toxicity to algae/aquatic

plants

NOEC (Pseudokirchneriella subcapitata (algae)):

Exposure time: 72 h

Remarks: Not classified as hazardous. (limit of solubility in fresh water)
Read-across from a similar material

Toxicity to fish (Chronic tox-

icity)

NOEC (Fish):

Remarks: Not classified as hazardous. (limit of solubility in fresh water)
Read-across from a similar material

Toxicity to daphnia and other aquatic invertebrates (Chron-

ic toxicity)

NOEC:

Remarks: Not classified as hazardous. (limit of solubility in fresh water)
Read-across from a similar material

#### **Components:**

Tricresyl phosphate:

Toxicity to fish : 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

M-Factor (Acute aquatic tox- :

icity)

1



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 08/21/2019
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 PRD
 SDSUS / Z8/0001

Persistence and degradability

**Product:** 

Biodegradability : Result: Readily biodegradable.

Biodegradation: 92.36 % Exposure time: 28 d

Biochemical Oxygen De-

mand (BOD)

Remarks: No data available

Chemical Oxygen Demand

(COD)

Remarks: No data available

BOD/COD : Remarks: No data available

Bioaccumulative potential

**Product:** 

Bioaccumulation : Remarks: Mixture

Not applicable

**Components:** 

Tricresyl phosphate:

Bioaccumulation : Bioconcentration factor (BCF): 2,000

Remarks: No information available.

Partition coefficient: n-

octanol/water

Pow: 860,000

log Pow: 5.93

Mobility in soil

**Components:** 

Tricresyl phosphate:

Distribution among environ-

mental compartments

log Koc: 4.31

Other adverse effects

No data available

**SECTION 13. DISPOSAL CONSIDERATIONS** 

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.

**SECTION 14. TRANSPORT INFORMATION** 

**International Regulations** 



## Eastman(TM) Turbo Oil 2197

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 1.2
 08/21/2019
 150000097791
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 PRD
 SDSUS / Z8 / 0001

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.

**Domestic regulation** 

**49 CFR** 

Not regulated as a dangerous good

#### **SECTION 15. REGULATORY INFORMATION**

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

#### **CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

#### SARA 304 Extremely Hazardous Substances Reportable Quantity

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

## SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

Components CAS-No. Component TPQ (lbs)

SARA 311/312 Hazards : No SARA Hazards

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.

### California Prop. 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

### The ingredients of this product are reported in the following inventories:

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

AICS : 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

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

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

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

#### **TSCA list**

No substances are subject to TSCA 12(b) export notification requirements.



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 1.2
 08/21/2019
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 PRD
 SDSUS / Z8 / 0001

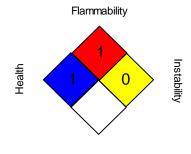
The following substance(s) is/are subject to a Significant New Use Rule:
Amines, bis(C11-14-branched and linear alkyl) 900169-60-0

No substances are subject to TSCA 12(b) export notification requirements.

#### **SECTION 16. OTHER INFORMATION**

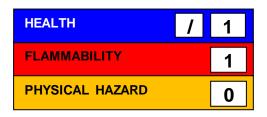
#### **Further information**

#### NFPA 704:



Special hazard.

#### HMIS® IV:



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

AICS - Australian Inventory of Chemical Substances; 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 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



## Eastman(TM) Turbo Oil 2197

Version Revision Date: SDS Number: Date of last issue: 10/17/2018 1.2 08/21/2019 150000097791 Date of first issue: 09/06/2016

PRD SDSUS / Z8 / 0001

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; 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

Sources of key data used to compile the Material Safety

Data Sheet

www.EastmanAviationSolutions.com

Revision Date 08/21/2019

The information provided in this Material 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 / Z8