

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

EASTMAN

Version	Revision Date:	SDS Number:	Date of last issue: 28.07.2016
4.3	02.07.2020	150000097791	Date of first issue: 31.05.2014
PRD		SDSGB / EN / 0001	

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : Eastman(TM) Turbo Oil 2197

Product code : 34358-00, P3435809, E3435801, P3435800, P3435802, P3435803, P3435804, P3435805, P3435806, P3435808

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

Use of the Sub-stance/Mixture : Lubricant

Recommended restrictions on use : None known.

1.3 Details of the supplier of the safety data sheet

Company : Eastman Chemical Company
200 South Wilcox Drive
37660-5280 Kingsport

Telephone : +14232292000

E-mail address of person responsible for the SDS : Visit our website at www.EASTMAN.com or email emnmsds@eastman.com

1.4 Emergency telephone

Tel. 111

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)
Not a hazardous substance or mixture.

2.2 Label elements

Labeling (REGULATION (EC) No 1272/2008)
Not a hazardous substance or mixture.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Tricresyl phosphate	1330-78-5 215-548-8	Repr. 2; H361 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1	1 - < 2.5

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of 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.
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.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : Prolonged skin contact may defat the skin and produce dermatitis.
Contact with hot product will cause thermal burns.
Inhalation of thermal decomposition products may lead to adverse effects including pulmonary edema.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically.

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SECTION 5: Firefighting measures

5.1 Extinguishing media

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.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products : Carbon monoxide
Carbon dioxide (CO₂)
Oxides of phosphorus

5.3 Advice for firefighters

Special protective equipment for fire-fighters : Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Ventilate the area.
Material can create slippery conditions.
Use personal protective equipment.
Local authorities should be advised if significant spillages cannot be contained.

6.2 Environmental precautions

Environmental precautions : Avoid release to the environment.

6.3 Methods and material for containment and cleaning up

Methods for 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).

6.4 Reference to other sections

For personal protection see section 8.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

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.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage : Keep containers tightly closed in a cool, well-ventilated place.
areas and containers

7.3 Specific end use(s)

Specific use(s) : www.EastmanAviationSolutions.com

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

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

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

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.

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates

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that exposures are within recommended exposure guidelines.

Protective measures : Ensure that eye flushing systems and safety showers are located close to the working place.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Color	:	amber
Odor	:	No data available
Odor Threshold	:	not determined
pH	:	not determined
Melting point/freezing point	:	-54 °C
Boiling point/boiling range	:	not determined
Flash point	:	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

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Decomposition temperature	:	not determined
Viscosity		
Viscosity, dynamic	:	not determined
Viscosity, kinematic	:	26 mm ² /s (40 °C)
		5.19 mm ² /s (100 °C)
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

None reasonably foreseeable.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

10.4 Conditions to avoid

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

10.5 Incompatible materials

Materials to avoid : Strong oxidizing agents

10.6 Hazardous decomposition products

Emits acrid smoke and fumes when heated to decomposition.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

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 judgement): Exposure time: 4 h Assessment: Not classified Remarks: Read-across from a similar material

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Acute dermal toxicity : Acute toxicity estimate (Expert judgement): 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.

Product:

Species : Rabbit

Assessment : Not classified as hazardous.

Result : slight

Components:

Tricresyl phosphate:

Species : Rabbit

Exposure time : 24 h

Assessment : Not classified as hazardous.

Result : Non-irritating to the skin.

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Species : Rabbit

Assessment : Not classified

Result : slight

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.

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Respiratory sensitization

Not classified based on available information.

Product:

Test Type	:	Skin Sensitization
Species	:	Humans
Assessment	:	Not classified
Method	:	Human Repeat Insult Patch Test
Result	:	non-sensitizing
Remarks	:	Read-across from a similar material

Components:

Tricresyl phosphate:

Test Type	:	Skin Sensitization
Assessment	:	Not classified

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.

Product:

Species	:	Mouse
Application Route	:	Dermal
Remarks	:	Based on available data, the classification criteria are not met. Read-across from a similar material

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Reproductive toxicity

Not classified based on available information.

Product:

Effects on fertility : Remarks: No data available

Reproductive toxicity - Assessment : No toxicity to reproduction

Components:

Tricresyl phosphate:

Reproductive toxicity - Assessment : May damage the unborn child. Suspected of damaging fertility.

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

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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: No data available
Eye contact	:	Remarks: No data available
Ingestion	:	Remarks: None known.

SECTION 12: Ecological information

12.1 Toxicity

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 toxicity)	:	NOEC: Species: Fish Remarks: Not classified as hazardous. (limit of solubility in fresh water) Read-across from a similar material
Toxicity to daphnia and other	:	NOEC:

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aquatic invertebrates (Chronic toxicity)

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 toxicity) : 1

12.2 Persistence and degradability

Product:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 92.36 %
Exposure time: 28 d

Biochemical Oxygen Demand (BOD) : Remarks: No data available

Chemical Oxygen Demand (COD) : Remarks: No data available

BOD/COD : Remarks: No data available

12.3 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

12.4 Mobility in soil

Components:

Tricresyl phosphate:

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Distribution among environmental compartments : log Koc: 4.31

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.

SECTION 14: Transport information

14.1 UN number

Not regulated as a dangerous good

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

Not regulated as a dangerous good

14.4 Packing group

Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Candidate List of Substances of Very High Concern for Authorization (Article 59) : Not applicable

REACH - List of substances subject to authorisation : Not applicable

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(Annex XIV)

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

:

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.
Not applicable

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	:	All substances listed as active on the TSCA inventory

15.2 Chemical Safety Assessment

None.

SECTION 16: Other information

Full text of H-Statements

H361	:	Suspected of damaging fertility or the unborn child.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Repr.	:	Reproductive toxicity

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ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; 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; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; 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; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Sources of key data used to compile the Material Safety Data Sheet : www.EastmanAviationSolutions.com

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.

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