Eastman(TM) Turbo Oil 2389

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PRD		SDSAU / EN / 0001	

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Eastman(TM) Turbo Oil 2389

Product code : 34360-00, E3436001, P3436000, P3436001, P3436002

Manufacturer or supplier's details

Company : Eastman Chemical Company

Address : 200 South Wilcox Drive
Kingsport TN 37660-5147

Telephone : (423) 229-2000

Emergency telephone : NCEC +61 2 8014 4558, International +65 6262-6462 For emergency transportation information, in Australia: dial 000 within Australia or 111 within New Zealand andask for the Fire Brigade.

Recommended use of the chemical and restrictions on use

Recommended use : Lubricant

Restrictions on use : None known.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards which do not result in classification

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components

Chemical name	CAS-No.	Concentration (% w/w)
Tricresyl phosphate	1330-78-5	< 3
N-phenyl-1-naphthylenamine	90-30-2	< 1

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. 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 dermatitis. 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 products	:	Carbon monoxide Carbon dioxide (CO2) Oxides of phosphorus
Specific extinguishing methods	:	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 emergency 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.
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).
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	:	-54 °C
Boiling point/boiling range	:	not determined
Flash point	:	210 °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	:	0.95 (15.6 °C)
Density	:	950 kg/m3 (15.6 °C)
Solubility(ies) Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	Not applicable

Autoignition temperature	:	not determined
Decomposition temperature	:	not determined
Viscosity		
Viscosity, dynamic	:	not determined
Viscosity, kinematic	:	11.5 mm2/s (40 °C)
		3 mm2/s (100 °C)
Explosive properties	:	Not classified
Oxidizing properties	:	Not classified

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	:	LD50 (Rat): > 10,000 mg/kg Assessment: Not classified
Acute inhalation toxicity	:	Acute toxicity estimate: Exposure time: 4 h Assessment: The substance or mixture has no acute inhalation toxicity Remarks: Read-across from a similar material
Acute dermal toxicity	:	LD50 Dermal (Rabbit): > 3,160 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

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

N-phenyl-1-naphthylenamine:

Acute oral toxicity : LD50 Oral (Rat): 1,250 mg/kg

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

Skin corrosion/irritation

Not classified based on available information.

Product:

Species	:	Rabbit
Exposure time	:	24 h
Assessment	:	Not classified
Result	:	slight
Remarks	:	Based on available data, the classification criteria are not met.

Components:

Tricresyl phosphate:

Species	:	Rabbit
Exposure time	:	24 h
Assessment	:	Not classified as hazardous.
Result	:	Non-irritating to the skin.

N-phenyl-1-naphthylenamine:

Species	:	Rabbit
Assessment	:	Not classified
Result	:	none

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Species	:	Rabbit
Result	:	slight
Assessment	:	No eye irritation

Components:

Tricresyl phosphate:

Species	:	Rabbit
Assessment	:	Not classified

N-phenyl-1-naphthylenamine:

Species	:	Rabbit
Result	:	slight
Assessment	:	Not classified

Respiratory or skin sensitization

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Product:

Test Type	:	Skin sensitization
Species	:	Humans
Assessment	:	Not classified
Method	:	Human Repeat Insult Patch Test
Result	:	Does not cause skin sensitisation.
Remarks	:	Read-across from a similar material

Components:

Tricresyl phosphate:

Test Type	:	Skin Sensitization
Assessment	:	Not classified

N-phenyl-1-naphthylenamine:

Assessment	:	Skin sensitization
Result	:	sensitizing

Chronic toxicity

Germ cell mutagenicity

Not classified based on available information.

Product:

Genotoxicity in vitro	:	Test Type: Mutagenicity 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.

Reproductive toxicity

Not classified based on available information.

Product:

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:

Routes of exposure	:	inhalation (dust/mist/fume)
Assessment	:	The substance or mixture is not classified as specific target organ toxicant, single exposure.

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

Components:

Tricresyl phosphate:

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

N-phenyl-1-naphthylenamine:

Assessment : Not classified

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:

No aspiration toxicity classification

Components:

Tricresyl phosphate:

Not classified

Routes of exposure

Product:

Inhalation : Remarks: None known.

Skin contact : Remarks: Prolonged skin contact may defat the skin and produce 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 : EC50 (Daphnia magna (Water flea)):

aquatic invertebrates		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 (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 (Chronic 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 toxicity)	:	1

N-phenyl-1-naphthylenamine:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0.44 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.30 - 0.68 mg/l Exposure time: 48 h
Toxicity to microorganisms	:	EC50 (Bacteria): Exposure time: 3 h

Persistence and degradability

Product:

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

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Not applicable
Mixture

Components:

Tricresyl phosphate:

Bioaccumulation : Bioconcentration factor (BCF): 2,000

Partition coefficient: n-octanol/water : Pow: 860,000
log Pow: 5.93

Mobility in soil

Components:

Tricresyl phosphate:

Distribution among environmental 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

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

ADG
Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

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

Standard for the Uniform Scheduling of Medicines and Poisons	:	Schedule 5
Prohibition/Licensing Requirements	:	There is no applicable prohibition, authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.
	:	

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

TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory
AIIC	:	On the inventory, or in compliance with the inventory
DSL	:	All components of this product are on the Canadian DSL
KECI	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
NZIoC	:	On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Further information

Revision Date	:	02.07.2021
Sources of key data used to compile the Material Safety Data Sheet	:	www.EastmanAviationSolutions.com
Date format	:	dd.mm.yyyy

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); 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; ERG - Emergency Response Guide; 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; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; 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; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

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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