

SAFETY DATA SHEET

EASTMAN

Reference Oil 300

0024376

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2016
1.1	10/16/2018	150000097928	Date of first issue: 09/06/2016
PRD		SDSUS / Z8 / 0260	NCD / 0038714566 / 0004270048

SECTION 1. IDENTIFICATION

Product name : Reference Oil 300

Product code : P3436201

Manufacturer or supplier's details

Company name of supplier : Solutia Inc.
A Subsidiary of Eastman Chemical Company

Address : 575 Maryville Centre Drive
Saint Louis MO 63141

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

Reproductive toxicity : Category 2

GHS label elements

Hazard pictograms :



Signal Word : Warning

Hazard Statements : H361 Suspected of damaging fertility or the unborn child.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
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:

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P501 Dispose of contents/ container to an approved waste disposal plant.

Additional Labeling

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
18.536 %

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical name	CAS-No.	Concentration (% w/w)
Tricresyl phosphate	1330-78-5	< 3

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.
Suspected of damaging fertility or the unborn child.
- Notes to physician : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Water spray
Foam
Dry powder
Carbon dioxide (CO2)

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-
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.
- Hazardous combustion products : carbon dioxide, carbon monoxide 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 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
-

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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 : dark amber, translucent

Odor : characteristic

Odor Threshold : not determined

pH : not determined

Melting point/range : not determined

Boiling point/boiling range : not determined

Flash point : > 482 °F / > 250 °C

Method: open cup (estimated)

Evaporation rate : not determined

Upper explosion limit / Upper flammability limit : not determined

Lower explosion limit / Lower : not determined

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flammability limit : -

Vapor pressure : < 0.01 hPa (68 °F / 20 °C)

Relative vapor density : not determined

Relative density : 1 (59 °F / 15 °C)

Solubility(ies)
Water solubility : < 1 g/l slightly soluble

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

Autoignition temperature : not determined

Decomposition temperature : Thermal stability not tested. Low stability hazard expected at normal operating temperatures.

Viscosity
Viscosity, dynamic : not determined

Viscosity, kinematic : 25.37 mm²/s (104 °F / 40 °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.
Carbon dioxide (CO₂)
Carbon monoxide
Nitrogen oxides (NO_x)
Sulfur oxides
oxides of phosphorus

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Product:

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

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : Remarks: No data available

Ingredients:

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

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:

Remarks : No data available

Ingredients:

Tricresyl phosphate:

Species : Rabbit

Exposure time : 24 h

Assessment : Not classified as hazardous.

Result : Non-irritating to the skin.

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:

Remarks : No data available

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Ingredients:

Tricresyl phosphate:

Species : Rabbit
Assessment : Not classified

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:

Remarks : No data available

Ingredients:

Tricresyl phosphate:

Test Type : Skin Sensitization
Assessment : Not classified

Tricresyl phosphate:

Test Type : Skin Sensitization
Assessment : Not classified

Germ cell mutagenicity

Not classified based on available information.

Ingredients:

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.

Tricresyl phosphate:

Genotoxicity in vitro : Test Type: various
Result: Based on available data, the classification criteria are not met.
Remarks: Not classified

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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:

Remarks : This information is not available.

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

Suspected of damaging fertility or the unborn child.

Product:

Effects on fertility : Remarks: No data available

Ingredients:

Tricresyl phosphate:

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

Tricresyl phosphate:

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

STOT-single exposure

Not classified based on available information.

Product:

Remarks : No data available

Ingredients:

Tricresyl phosphate:

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

Tricresyl phosphate:

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

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STOT-repeated exposure

Not classified based on available information.

Product:

Remarks : No data available

Ingredients:

Tricresyl phosphate:

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

Tricresyl phosphate:

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

Repeated dose toxicity

Ingredients:

Tricresyl phosphate:

Species : Rat
: 300 mg/l

Tricresyl phosphate:

Species : Rat
: 300 mg/l

Aspiration toxicity

Not classified based on available information.

Product:

No data available

Ingredients:

Tricresyl phosphate:

Not classified

Tricresyl phosphate:

Not classified

Information on likely routes of exposure

Product:

Inhalation : Remarks: None known.

Skin contact : Remarks: None known.

Eye contact : Remarks: None known.

Ingestion : Remarks: None known.

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SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Ingredients:**Tricresyl phosphate:**

Toxicity to fish : 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

M-Factor (Acute aquatic tox- : 1
icity)

Tricresyl phosphate:

Toxicity to fish : 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

M-Factor (Acute aquatic tox- : 1
icity)

Persistence and degradability

No data available

Bioaccumulative potentialIngredients:**Tricresyl phosphate:**

Bioaccumulation : Bioconcentration factor (BCF): 2,000
Remarks: No information available.

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

Tricresyl phosphate:

Bioaccumulation : Bioconcentration factor (BCF): 2,000
Remarks: No information available.

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

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Mobility in soil

Ingredients:

Tricresyl phosphate:

Distribution among environmental compartments : log Koc: 4.31

Tricresyl phosphate:

Distribution among environmental compartments : log Koc: 4.31

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

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

SECTION 14. TRANSPORT INFORMATION

International Regulations

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

Domestic regulation

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

Ingredients	CAS-No.	Component TPQ (lbs)
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SARA 311/312 Hazards : Chronic Health Hazard

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.

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Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMi Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations**Massachusetts Right To Know**

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

HATCOL 1189	Not Assigned
pentaerythritol tetrapentanoate.	15834-04-5
decanoic acid, mixed esters with heptanoic acid, octanoic acid and pentaerythritol	68441-67-8

New Jersey Right To Know

HATCOL 1189	Not Assigned
pentaerythritol tetrapentanoate	15834-04-5
decanoic acid, mixed esters with heptanoic acid, octanoic acid and pentaerythritol	68441-67-8
Tricresyl phosphate	1330-78-5
C5-C10 fatty acids, esters with pentaerythritol	68424-31-7
1-naphthalenamine, N-[(1,1,3,3-tetramethylbutyl)phenyl]-, polymer with 4-octyl-N-(4-octylphenyl)benzenamine	68938-84-1

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

CH INV	:	On the inventory, or in compliance with the inventory
DSL	:	Not listed
AICS	:	Not listed
NZloC	:	Not listed
ENCS	:	Not listed
ISHL	:	Not listed
KECI	:	Not listed
PICCS	:	Not listed

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IECSC : Not listed
TCSI : Not listed
TSCA : On the inventory, or in compliance with the inventory

TSCA list

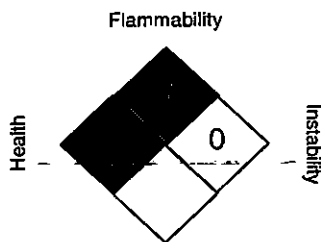
No substances are subject to a Significant New Use Rule.

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

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



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 Pre-

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vention 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 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

Revision Date : 10/16/2018

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