# SAFETY DATA SHEET

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

**Product identifier**

**Product name:** Eastman(TM) Turbo Oil 25

**Product No.:** 34356-00, E3435601, P3435600, P3435601, P3435602, P3435604

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

**Identified uses:** Lubricating oils

**Uses advised against:** None known.

**Details of the supplier of the safety data sheet**

**Manufacturer / Supplier**

Eastman Chemical Company
200 South Wilcox Drive
Kingsport, TN 37660-5280 US
+14232292000

Visit our website at www.EASTMAN.com or email emnmsds@eastman.com

**Emergency telephone number:**

For emergency health, safety, and environmental information, call 1-423-229-4511 or 1-423-229-2000.

For emergency transportation information, in the United States: call CHEMTREC at 800-424-9300 or call 423-229-2000.

## SECTION 2: Hazards identification

**Hazard Classification:**

**Health Hazards**

| | |
|---|---|
| Skin sensitizer | Category 1 |

**OSHA Specified Hazards:** not applicable

**Warning label items including precautionary statement:**

**Pictogram:**

**Signal Words:** Warning

**Hazard Statement(s):** H317: May cause an allergic skin reaction.

**Precautionary Statement:**

**Prevention:** P272: Contaminated work clothing must not be allowed out of the workplace.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

**Response:** P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P333+P313: If skin irritation or rash occurs: Get medical advice/attention.
P363: Wash contaminated clothing before reuse.

**Disposal:** P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Hazard(s) not otherwise classified (HNOC):** Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

## SECTION 3: Composition/information on ingredients

**Substances / Mixtures**

**General information:**

| Chemical name | Concentration | Additional identification | Notes |
|---|---|---|---|
| N-Phenylbenzenamine reaction products with 2,4,4-trimethylpentene | <5% | CAS-No.: 68411-46-1 | |
| Phenothiazine | <1% | CAS-No.: 92-84-2 | # |
| tricresyl phosphate | <1% | CAS-No.: 1330-78-5 | |
| 1,4-dihydroxy-9,10-anthracenedione | <0.1% | CAS-No.: 81-64-1 | |

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
# This substance has workplace exposure limit(s).

## SECTION 4: First aid measures

**General:** Get medical attention if symptoms occur. Show this safety data sheet to the doctor in attendance. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Place unconscious person on the side in the recovery position and ensure breathing can take place. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**Description of first aid measures**

**Inhalation:** In case of inhalation of spray mist: Move person into fresh air and keep at rest. For breathing difficulties, oxygen may be necessary. Consult a physician for specific advice. Persons who have inhaled vapours or smoke fumes have to be put under medical observation for at least 48 hours, due to the delayed appearance of poisoning.

**Eye contact:** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if symptoms occur.

**Skin contact:** Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation or an allergic skin reaction develops, get medical attention. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

**Ingestion:** If swallowed, rinse mouth with water (only if the person is conscious). Call a physician or poison control center immediately. Do not induce vomiting. Never give liquid to an unconscious person. Provide fresh air, warmth and rest, preferably in comfortable upright sitting position. Loosen tight clothing such as a collar, tie, belt or waistband. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

**Most important symptoms and effects, both acute and delayed:** Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Contact with hot material can cause thermal burns which may result in permanent damage. Inhalation of thermal decomposition products may lead to adverse effects including pulmonary edema.

**Indication of any immediate medical attention and special treatment needed**

**Hazards:** May cause sensitization by skin contact.

**Treatment:** Treat symptomatically.

## SECTION 5: Firefighting measures

**General Fire Hazards:** Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Keep upwind. In case of fire and/or explosion do not breathe fumes.

**Extinguishing media**

**Suitable extinguishing media:** Water spray, foam, dry powder or carbon dioxide.

**Unsuitable extinguishing media:** Avoid water in straight hose stream; will scatter and spread fire.

**Special hazards arising from the substance or mixture:** May ignite at high temperature. During fire, gases hazardous to health may be formed. Risk of chemical pneumonia after aspiration. Hazardous Combustion Products : carbon dioxide, carbon monoxide , oxides of phosphorus .

**Advice for firefighters**

**Special fire fighting procedures:** In case of fire: Evacuate area. Move container from fire area if it can be done without risk. Use water spray to keep fire-exposed containers cool. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

**Special protective equipment for fire-fighters:** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

## SECTION 6: Accidental release measures

| | |
|---|---|
| **Personal precautions, protective equipment and emergency procedures:** | No action shall be taken involving any personal risk or without suitable training. Keep unauthorized personnel away. Ventilate closed spaces before entering them. Avoid inhalation of vapors and spray mists. Wear appropriate personal protective equipment. Caution: Contaminated surfaces may be slippery. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Reference to other sections See Section 8 of the SDS for Personal Protective Equipment. |
| **Environmental Precautions:** | Prevent further leakage or spillage if safe to do so. Clear up spills immediately and dispose of waste safely. Do not contaminate water sources or sewer. |
| **Methods and material for containment and cleaning up:** | Small Liquid Spills: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Large Spillages: Dike for later disposal. Collect spillage in containers, seal securely and deliver for disposal according to local regulations. Otherwise, absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Prevent runoff from entering drains, sewers, or streams. |
| **Notification Procedures:** | In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. |

## SECTION 7: Handling and storage:

| | |
|---|---|
| **Precautions for safe handling:** | Do not handle until all safety precautions have been read and understood. An eye wash bottle must be available at the work site. Wear appropriate personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment. Do not taste or swallow. Do not breathe mist or vapor from heated material. Use only with adequate ventilation. Do not get in eyes and avoid contact with skin and clothing. Wash promptly with soap and water if skin becomes contaminated. Remove contaminated clothing and wash it before reuse. Destroy or thoroughly clean contaminated shoes. Drain or remove substance from equipment prior to break-in or maintenance. Handle in accordance with good industrial hygiene and safety practice. See also Section 8 for additional information on hygiene measures. |
| **Conditions for safe storage, including any incompatibilities:** | Store in a cool, dry place out of direct sunlight. Keep container tightly closed and in a well-ventilated place. Keep upright. Keep in original container. Store locked up. Store away from incompatible materials. Keep away from food, drink and animal feeding stuffs. Store in accordance with local/regional/national/international regulations. |
| **Specific end use(s):** | www.EastmanAviationSolutions.com |

## SECTION 8: Exposure controls/personal protection

**Control Parameters**

**Occupational Exposure Limits**

Country specific exposure limits have not been established or are not applicable unless listed below.

| Chemical name | type | Exposure Limit Values | Source |
|---|---|---|---|
| Phenothiazine | TWA | 5 mg/m3 | US. ACGIH Threshold Limit Values (01 2010) |

**Exposure controls**

**Appropriate engineering controls:** 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.

**Individual protection measures, such as personal protective equipment**

**General information:** An eye wash bottle must be available at the work site. Provide access to washing facilities including soap, skin cleanser and fatty cream.

**Eye/face protection:** Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Recommendations: Wear safety glasses with side shields (or goggles). Use safety goggles and face shield in case of splash risk.

**Skin protection**

**Hand Protection:** Recommended gloves: Nitrile rubber. Wear chemical-resistant gloves and protective clothing appropriate for the risk of exposure. Contact glove manufacturer for specific information. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations.

**Other:** Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommendations: If prolonged or repeated contact is likely, chemical resistant clothing is recommended. In case of splashes: Wear apron or special protective clothing. Promptly remove non-impervious clothing that becomes wet or contaminated.

**Respiratory Protection:** Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Recommendations: Use respiratory equipment with particle filter, type P2.

**Hygiene measures:** Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using the product. Wash at the end of each work shift and before eating, smoking and using the toilet. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Keep away from food, drink and animal feeding stuffs.

**Environmental Controls:** Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. Do not contaminate water sources or sewer.

## SECTION 9: Physical and chemical properties

**Information on basic physical and chemical properties**

| | |
|---|---|
| **Appearance** | |
| **Physical state:** | liquid |
| **Form:** | liquid |
| **Color:** | Amber |
| **Odor:** | No data available. |
| **Odor Threshold:** | Not determined. |
| **pH:** | No data available. |
| **Freezing Point:** | -60 °C |
| **Boiling Point:** | No data available. |
| **Flash Point:** | 246 °C (Cleveland Open Cup) |
| **Evaporation Rate:** | Not determined. |
| **Flammability (solid, gas):** | No data available. |
| **Flammability Limit - Upper (%)–:** | No data available. |
| **Flammability Limit - Lower (%)–:** | No data available. |
| **Vapor pressure:** | Not determined. |
| **Vapor density (air=1):** | No data available. |
| **Specific Gravity:** | 0.995 |
| **Solubility(ies)** | |
| **Solubility in Water:** | Insoluble in water |
| **Solubility (other):** | No data available. |
| **Partition coefficient (n-octanol/water):** | No data available. |
| **Autoignition Temperature:** | No data available. |
| **Decomposition Temperature:** | No data available. |
| **Dynamic viscosity:** | No data available. |
| **Kinematic viscosity:** | 23 - 30 mm2/s (40 °C) \| 4.9 - 5.4 mm2/s (100 °C) |
| **Explosive properties:** | Not classified. |
| **Oxidizing properties:** | Not classified. |

## SECTION 10: Stability and reactivity

**Reactivity:** Material is stable under normal conditions.

**Chemical Stability:** Material is stable under normal conditions.

**Possibility of Hazardous Reactions:** None under normal conditions.

**Conditions to Avoid:** Open flames and high energy ignition sources.

**Incompatible Materials:** Strong oxidizing agents.

**Hazardous Decomposition Products:** Emits acrid smoke and fumes when heated to decomposition.

## SECTION 11: Toxicological information

**Information on likely routes of exposure**

**Inhalation:** None known.

**Ingestion:** None known.

**Skin contact:** May cause an allergic skin reaction. Product has a defatting effect on skin.

**Eye contact:** None known.

**Information on toxicological effects**

**Oral**

**Product:** Oral LD-50: (Rat): > 10,000 mg/kg

**Dermal**

**Product:** Dermal LD-50: (Rabbit): > 3,160 mg/kg

**Inhalation**

**Product:** No data available.

**Specified substance(s):**

Tris(methylphenyl) phosphate — LC50 (Rat, 4 h): 5.2 mg/l

**Repeated dose toxicity**

**Product:** No data available.

**Specified substance(s):**

Tris(methylphenyl) phosphate — NOEL (Rat): 300 mg/l

**Skin Corrosion/Irritation**

**Product:** (Rabbit): Slight

**Serious Eye Damage/Eye Irritation**

**Product:** (Rabbit): Slight

**Respiratory or Skin Sensitization**

**Product:** OECD 429: LLNA (Mouse): sensitizing

**Carcinogenicity**

**Product:** This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

**Toxicity to reproduction**

**Product:** No data available.

**Specified substance(s):**

| | |
|---|---|
| Tris(methylphenyl) phosphate | (Rat); Remarks: Suspected of damaging fertility. |

**Developmental toxicity**

**Product:** Weight of evidence.; Remarks: No known significant effects or critical hazards.

**Germ Cell Mutagenicity**

**In vitro**

**Product:** Mutagenicity: Based on available data, the classification criteria are not met.

**In vivo**

**Product:** Mutagenicity: Based on available data, the classification criteria are not met.

**Specific Target Organ Toxicity - Single Exposure**

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

**Specific Target Organ Toxicity - Repeated Exposure**

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

**Aspiration Hazard**

**Product:** Not classified.

**Other effects:** No data available.

## SECTION 12: Ecological information

**Ecotoxicity:**

**Acute hazards to the aquatic environment:**

**Fish**

**Product:** LC-50 (Fish, 96 h): Not classified as hazardous. (limit of solubility in fresh water) Read-across from a similar material

**Aquatic Invertebrates**

**Product:** EC-50 (Daphnia magna, 48 h): Not classified as hazardous. (limit of solubility in fresh water) Read-across from a similar material

**Chronic hazards to the aquatic environment:**

**Fish**

**Product:** NOEC (Fish): No negative effects on the aquatic environment are known. (limit of solubility in fresh water) Read-across from a similar material

**Aquatic Invertebrates**

**Product:** NOEC : No negative effects on the aquatic environment are known. (limit of solubility in fresh water) Read-across from a similar material

**Toxicity to Aquatic Plants**

**Product:** EC-50 (Alga, 72 h): No negative effects on the aquatic environment are known. (limit of solubility in fresh water) Read-across from a similar material

**Persistence and Degradability**

**Biodegradation**

**Product:** The product is expected to be biodegradable.

**BOD/COD Ratio**

**Product:** No data available.

**Bioaccumulative Potential**

**Bioconcentration Factor (BCF)**

**Product:** Mixture ; not applicable

**Partition Coefficient n-octanol / water (log Kow)**

**Product:** No data available.

**Specified substance(s):**

| | |
|---|---|
| Tris(methylphenyl) phosphate | Log Kow: 5.93 |

**Mobility in Soil:** No data available.

**Known or predicted distribution to environmental compartments**

| | |
|---|---|
| Tris(methylphenyl) phosphate | Log Koc: 4.31 |

**Other Adverse Effects:** No data available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

**General information:** The generation of waste should be avoided or minimized wherever possible. Dispose of waste and residues in accordance with local authority requirements.

**Disposal methods:** Recover and reclaim or recycle, if practical. Dispose of this material and its container to hazardous or special waste collection point. Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. Do not discharge into drains, water courses or onto the ground.

Since emptied containers retain product residue, follow label warnings even after container is emptied. Recycle empty drums at an appropriate facility in accordance with current applicable laws and regulations, and product characteristics at time of disposal. Ensure drums are tightly sealed.

## SECTION 14: Transport information

*Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.*

**DOT**

Class not regulated

**IMDG - International Maritime Dangerous Goods Code**

Class not regulated

**IATA**

Class not regulated

**TDG**

Class not regulated

## SECTION 15: Regulatory information

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

**SARA 311-312 Hazard Classification(s):**
immediate (acute) health hazard

**US EPCRA (SARA Title III) Section 313 - Toxic Chemical List**
NONE

**OSHA:** hazardous

**TSCA (US Toxic Substances Control Act):** All components of this product are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

**DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act):** All components of this product are listed on the DSL. Any impurities present in this product are exempt from listing.

**AICS / NICNAS (Australian Inventory of Chemical Substances and National Industrial Chemicals Notification and Assessment Scheme):** All components of this product are listed on AICS or otherwise comply with NICNAS.

**MITI (Japanese Handbook of Existing and New Chemical Substances):** All components of this product are listed in the Handbook or have been approved in Japan by new substance notification.

**Inventory of Existing Chemical Substances in China:** All intentional components of this product are listed on the Inventory of Existing Chemical Substances in China (IECSC).

## SECTION 16: Other information

**HMIS® Hazard Ratings:** Health - 2, Flammability - 1, Chemical Reactivity - 0

*HMIS® rating involves data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.*

| | |
|---|---|
| **Revision Information:** | Not relevant. |
| **Key literature references and sources for data:** | www.EastmanAviationSolutions.com |
| **Training information:** | No data available. |
| **Issue Date:** | 09/14/2015 |
| **SDS No.:** | |
| **Disclaimer:** | This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment. |