Conforms to ANSI Z400.5-2004 Standard (United States).

Material Safety Data Sheet

Advantage EP 68 Gear Oil; Advantage EP 100 Gear Oil; Advantage EP 150 Gear Oil; Advantage EP 220 Gear Oil; Advantage EP 320 Gear Oil; Advantage EP 460 Gear Oil; Advantage EP 460T Gear Oil; Advantage EP 320T Gear Oil

1. Product and company identification

<table>
<thead>
<tr>
<th>Product name</th>
<th>Advantage EP 68 Gear Oil; Advantage EP 100 Gear Oil; Advantage EP 150 Gear Oil; Advantage EP 220 Gear Oil; Advantage EP 320 Gear Oil; Advantage EP 460 Gear Oil; Advantage EP 460T Gear Oil; Advantage EP 320T Gear Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material uses</td>
<td>Industrial gear oils.</td>
</tr>
<tr>
<td>Supplier/Manufacturer</td>
<td>Advanced Lubrication Specialties 420 Imperial Court East Bensalem, PA 19020</td>
</tr>
<tr>
<td>Code</td>
<td>616, 629, 625, 617, 621, 618; 628; 626</td>
</tr>
<tr>
<td>Validation date</td>
<td>11/15/2014</td>
</tr>
<tr>
<td>Responsible name</td>
<td>Atrion Regulatory Services, Inc.</td>
</tr>
<tr>
<td>In case of emergency</td>
<td>Transportation: 215-244-2114 8am-4:30pm EST Monday to Friday CHEMTREC United States/Canada: 800-424-9300 24 hrs Everyday</td>
</tr>
</tbody>
</table>

2. Hazards identification

| Physical state | Liquid. [Clear.] |
| Odor | Petroleum. |
| OSHA/HCS status | While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product. |
| Emergency overview | MAY CAUSE EYE AND SKIN IRRITATION. Slightly irritating to the eyes and skin. Avoid breathing vapor or mist. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. |
| Routes of entry | Dermal contact. Eye contact. Inhalation. Ingestion. |

Potential acute health effects

- **Inhalation**: No known significant effects or critical hazards.
- **Ingestion**: No known significant effects or critical hazards.
- **Skin**: Slightly irritating to the skin.
- **Eyes**: Slightly irritating to the eyes.

Potential chronic health effects

- **Chronic effects**: No known significant effects or critical hazards.
- **Carcinogenicity**: No known significant effects or critical hazards.
- **Mutagenicity**: No known significant effects or critical hazards.
- **Teratogenicity**: No known significant effects or critical hazards.
- **Developmental effects**: No known significant effects or critical hazards.
- **Fertility effects**: No known significant effects or critical hazards.

Over-exposure signs/symptoms

- **Inhalation**: No specific data.
- **Ingestion**: No specific data.
- **Skin**: Adverse symptoms may include the following: irritation redness
2. Hazards identification

**Eyes**
- Adverse symptoms may include the following:
  - irritation
  - watering
  - redness

**Medical conditions aggravated by over-exposure**
- None known.

See toxicological information (section 11)

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name</strong></td>
</tr>
<tr>
<td>Base Oil</td>
</tr>
</tbody>
</table>

The Base Oil may contain one or more of the following ingredients: 61788-76-9, 64741-88-4, 64742-01-4, 64742-65-0, 64742-89-5, 64742-48-9, 64742-52-5, 64742-54-7, 64742-56-3

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

**Eye contact**
- Check for and remove any contact lenses. In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if symptoms occur.

**Skin contact**
- Wash with soap and water. Get medical attention if symptoms occur.

**Inhalation**
- If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms appear.

**Ingestion**
- Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.

**Protection of first-aiders**
- No action shall be taken involving any personal risk or without suitable training.

**Notes to physician**
- No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire-fighting measures

**Flammability of the product**
- May be combustible at high temperature.

**Extinguishing media**
- **Suitable**: Use dry chemical, CO₂, water spray (fog) or foam.
- **Not suitable**: None known.

**Hazardous thermal decomposition products**
- No specific data.

**Special protective equipment for fire-fighters**
- Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
6. Accidental release measures

**Personal precautions**: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see section 8).

**Environmental precautions**: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods for cleaning up**

**Small spill**: Stop leak if without risk. Move containers from spill area. Dispose of via a licensed waste disposal contractor.

**Large spill**: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

**Handling**: Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.

**Storage**: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Product name</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residual oils (petroleum), solvent-refined</td>
<td>NIOSH REL (United States, 12/2001).</td>
</tr>
<tr>
<td></td>
<td>STEL: 10 mg/m³ 15 minute(s). Form: Mist</td>
</tr>
<tr>
<td></td>
<td>TWA: 5 mg/m³ 10 hour(s). Form: Mist</td>
</tr>
</tbody>
</table>

Consult local authorities for acceptable exposure limits.

**Recommended monitoring procedures**: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

**Engineering measures**: No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

**Hygiene measures**: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal protection**

**Eyes**: Safety glasses.
8. Exposure controls/personal protection

- **Skin**: Lab coat.
- **Respiratory**: A respirator is not needed under normal and intended conditions of product use.
- **Hands**: Disposable vinyl gloves.
- **Personal protective equipment (Pictograms)**:

  - **Environmental exposure 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.

9. Physical and chemical properties

- **Physical state**: Liquid. [Clear.]
- **Flash point**: Open cup: 204 to 232°C (399.2 to 449.6°F) [Cleveland.]
- **Color**: Amber.
- **Odor**: Petroleum.
- **Relative density**: 0.887 to 0.909 @ 15.6°C
- **Vapor pressure**: <0.13 kPa (<1 mm Hg)
- **Solubility**: Insoluble in the following materials: cold water and hot water.

10. Stability and reactivity

- **Stability**: The product is stable.
- **Hazardous polymerization**: Under normal conditions of storage and use, hazardous polymerization will not occur.
- **Conditions to avoid**: No specific data.
- **Materials to avoid**: Reactive or incompatible with the following materials: oxidizing materials.
- **Hazardous decomposition products**: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

**Acute toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Species</th>
<th>Dose</th>
<th>Result</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Oils.</td>
<td>Rabbit</td>
<td>&gt;5 g/kg</td>
<td>LD50 Dermal</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>&gt;5 g/kg</td>
<td>LD50 Oral</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>&gt;5 g/kg</td>
<td>LD50 Oral</td>
<td>-</td>
</tr>
</tbody>
</table>

- **Inhalation**: No known significant effects or critical hazards.
- **Ingestion**: No known significant effects or critical hazards.
- **Skin**: Slightly irritating to the skin.
- **Eyes**: Slightly irritating to the eyes.
12. Ecological information

Environmental effects: No known significant effects or critical hazards.

13. Disposal considerations

Waste disposal: The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

AERG: Not applicable.

DOT/IMDG/IATA: Not regulated.

15. Regulatory information

United States

HCS Classification: United States inventory (TSCA 8b): All components are listed or exempted.

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.

Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean Air Act (CAA) 112 accidental release prevention: Ethylene oxide
Clean Air Act (CAA) 112 regulated flammable substances: No products were found.
Clean Air Act (CAA) 112 regulated toxic substances: Ethylene oxide

State regulations

Connecticut Carcinogen Reporting: None of the components are listed.
Connecticut Hazardous Material Survey: None of the components are listed.
Florida substances: None of the components are listed.
Illinois Chemical Safety Act: None of the components are listed.
Illinois Toxic Substances Disclosure to Employee Act: None of the components are listed.
Louisiana Reporting: None of the components are listed.
Louisiana Spill: None of the components are listed.
Massachusetts Spill: None of the components are listed.
Massachusetts Substances: None of the components are listed.
Michigan Critical Material: None of the components are listed.
Minnesota Hazardous Substances: None of the components are listed.
New Jersey Hazardous Substances: None of the components are listed.
New Jersey Spill: None of the components are listed.
New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.
New York Acutely Hazardous Substances: None of the components are listed.
New York Toxic Chemical Release Reporting: None of the components are listed.
15. Regulatory information

**Pennsylvania RTK Hazardous Substances:** None of the components are listed.

**Rhode Island Hazardous Substances:** None of the components are listed.

**California Prop. 65:**

**WARNING:** This product contains less than 0.1% of a chemical known to the State of California to cause cancer.

**WARNING:** This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

### Ingredient name | Cancer | Reproductive | No significant risk level | Maximum acceptable dosage level
---|---|---|---|---
Ethylene oxide | Yes. | Yes. | Yes. | Yes.
1,4-Dioxane | Yes. | No. | Yes. | No.
Ethyl acrylate | Yes. | No. | No. | No.

### International regulations

**International lists:**

This product, (and its ingredients) is (are) listed on national inventories, or is (are) exempted from being listed, in Australia (AICS), in Europe (EINECS/ELINCS), in Korea (TCCL), in Japan (METI), in the Philippines (RA6969).

16. Other information

**Label requirements:** MAY CAUSE EYE AND SKIN IRRITATION.

**Hazardous Material Information System (U.S.A.)**

<table>
<thead>
<tr>
<th>Health</th>
<th>Fire hazard</th>
<th>Physical Hazard</th>
<th>Personal protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
<td>A</td>
</tr>
</tbody>
</table>

**HAZARD RATINGS**

4- Extreme
3- Serious
2- Moderate
1- Slight
0- Minimal

See section 8 for more detailed information on personal protection.

The customer is responsible for determining the PPE code for this material.

**National Fire Protection Association (U.S.A.)**

**References**


**Date of issue:** 11/15/2013

**Date of previous issue:** 11/15/2009

**Version:** 2

**Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.