SAFETY DATA SHEET
Synthetic Anti-Wear Hydraulic Oil ISO-22


1. Identification

Product identifier
Product name: Synthetic Anti-Wear Hydraulic Oil ISO-22
Product number: AWG

Recommended use of the chemical and restrictions on use
Application: Hydraulic fluid.
Uses advised against: Avoid the formation of mists.

Details of the supplier of the safety data sheet
Supplier: AMSOIL INC.
Bordner, Ladner, Gervais
Scotia Plaza, 40 King St W
Toronto, ON, Canada M5H 3Y4
T: +1 416-367-6547

Manufacturer: AMSOIL INC.
One AMSOIL Center,
Superior, WI 54880, USA.
T: +1 715-392-7101
compliance@amsoil.com

Emergency telephone number
Emergency telephone
CHEMTREC: Within USA and Canada: 1-800-424-9300
Outside the USA and Canada: +1 703-741-5970
(collect calls accepted) 24/7

2. Hazard(s) identification

Classification of the substance or mixture
OSHA/WHMIS Regulatory Status: This Product is not Hazardous under the OSHA Hazard Communication Standard and according to the hazard criteria of the Hazardous Product Regulations.

Physical hazards: Not Classified
Health hazards: Not Classified
Environmental hazards: Not Classified
Label elements
Hazard statements: NC Not Classified

Other hazards
This product does not contain any substances classified as PBT or vPvB.

3. Composition/information on ingredients

Mixtures
Synthetic Anti-Wear Hydraulic Oil ISO-22

<table>
<thead>
<tr>
<th>Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated</th>
<th>25 - &lt;35%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 68037-01-4</td>
<td></td>
</tr>
</tbody>
</table>

**Classification**
Asp. Tox. 1 - H304

<table>
<thead>
<tr>
<th>1-Dodecene dimer with 1-Decene, hydrogenated</th>
<th>10 - &lt;25%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 151006-58-5</td>
<td></td>
</tr>
</tbody>
</table>

**Classification**
Acute Tox. 4 - H332
Asp. Tox. 1 - H304
Aquatic Chronic 4 - H413

<table>
<thead>
<tr>
<th>Dec-1-ene, dimers, hydrogenated</th>
<th>10 - &lt;25%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 68649-11-6</td>
<td></td>
</tr>
</tbody>
</table>

**Classification**
Acute Tox. 4 - H332
Asp. Tox. 1 - H304

<table>
<thead>
<tr>
<th>Hydrogenated base oil</th>
<th>1 - &lt;2.5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 64742-47-8</td>
<td></td>
</tr>
</tbody>
</table>

**Classification**
Skin Irrit. 2 - H315
STOT SE 3 - H336
Asp. Tox. 1 - H304
Aquatic Chronic 2 - H411

<table>
<thead>
<tr>
<th>Hydrogenated base oil</th>
<th>1 - &lt;2.5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 64742-53-6</td>
<td></td>
</tr>
</tbody>
</table>

**Composition comments**
The exact percentage is withheld as a trade secret in accordance with 29 CFR 1910.1200.

4. First-aid measures

**Description of first aid measures**

<table>
<thead>
<tr>
<th>General information</th>
<th>Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical personnel.</th>
</tr>
</thead>
</table>

| Inhalation | Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. |
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Ingestion
Rinse mouth thoroughly with water. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.

Skin Contact
Wash skin thoroughly with soap and water.

Eye contact
Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.

Protection of first aiders
First aid personnel should wear appropriate protective equipment during any rescue.

Most important symptoms and effects, both acute and delayed

General information
See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation
Prolonged inhalation of high concentrations may damage respiratory system.

Ingestion
Gastrointestinal symptoms, including upset stomach. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.

Skin contact
Prolonged contact may cause dryness of the skin.

Eye contact
May cause temporary eye irritation.

Indication of immediate medical attention and special treatment needed

Notes for the doctor
Treat symptomatically.

Specific treatments
No special treatment required.

5. Fire-fighting measures

Extinguishing media
Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

Special hazards arising from the substance or mixture

Specific hazards
Containers can burst violently or explode when heated, due to excessive pressure build-up. Contains Hydrocarbons. The product is immiscible with water and will spread on the water surface.

Hazardous combustion products
Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

Advice for firefighters
Avoid breathing fire gases or vapors. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapors and protect men stopping the leak.

Special protective equipment for firefighters
Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter’s clothing including helmets, protective boots and gloves, that provides a basic level of protection during chemical incidents is defined by the Canada Occupational Health and Safety Regulations, by provincial guidelines on occupational health and safety or by NFPA standards if applicable.
6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions**
No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Use protective equipment appropriate for surrounding materials.

**Environmental precautions**
Avoid discharge to the aquatic environment.

**Methods and material for containment and cleaning up**

**Methods for cleaning up**
Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Reuse or recycle products wherever possible. Absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dispose of contents/container in accordance with national regulations.

**Reference to other sections**
For personal protection, see Section 8. For waste disposal, see Section 13.

7. Handling and storage

**Precautions for safe handling**

**Usage precautions**
Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimize spills. Keep container tightly sealed when not in use. Avoid the formation of mists. Avoid contact with used product. Do not reuse empty containers.

**Advice on general occupational hygiene**
Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

**Conditions for safe storage, including any incompatibilities**

**Storage precautions**
Store away from incompatible materials (see Section 10). Keep container tightly closed, in a cool, well ventilated place. Protect containers from damage.

**Storage class**
Chemical storage.

**Specific end use(s)**
The identified uses for this product are detailed in Section 1.

8. Exposure controls/Personal protection

**Control parameters**

**Occupational exposure limits**

**Comments**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Under conditions which may generate mists, the following exposure limits are recommended:
Long-term exposure limit (8-hour TWA): 5 mg/m³
Short-term exposure limit (15-minute): 10 mg/m³
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**Appropriate engineering controls**
Provide adequate ventilation. Good general ventilation should be adequate to control worker exposure to airborne contaminants.

**Eye/face protection**
Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with OSHA 1910.133 and/or the Canadian regulation on health and safety at work, SOR/86-304, Part XII (12.6), and any relevant provincial regulation relating to health and safety at work. The following protection should be worn: Chemical splash goggles.

**Hand protection**
Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with OSHA 1910.138 and/or the Canadian regulation on health and safety at work, SOR/86-304, Part XII (12.9), and be demonstrated to be impervious to the chemical and resist degradation. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

**Other skin and body protection**
Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

**Hygiene measures**
Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke.

**Respiratory protection**
Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Provide adequate ventilation. Large Spillages: If ventilation is inadequate, suitable respiratory protection must be worn.

**Environmental exposure controls**
Not regarded as dangerous for the environment.

### 9. Physical and chemical properties

**Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Liquid</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Straw</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Mild hydrocarbon</td>
</tr>
<tr>
<td><strong>Odor threshold</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Melting point</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Initial boiling point and range</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>174°C Cleveland open cup. [ASTM D 92]</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Upper/lower flammability or explosive limits</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Vapor pressure</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
<td>Not available</td>
</tr>
</tbody>
</table>

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Relative density 0.8363

Solubility Not known.

Partition coefficient Not available.

Auto-ignition temperature Not available.

Decomposition Temperature Not available.

Viscosity 20.7 cSt @ 40°C
5.9 cSt @ 100°C

Explosive properties Not considered to be explosive.

Oxidizing properties Does not meet the criteria for classification as oxidizing.

Fire point 188°C Cleveland open cup. [ASTM D 92]

Pour point <-60°C [ASTM D 97]

10. Stability and reactivity

Reactivity See the other subsections of this section for further details.

Stability Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

Possibility of hazardous reactions No potentially hazardous reactions known.

Conditions to avoid There are no known conditions that are likely to result in a hazardous situation.

Materials to avoid No specific material or group of materials is likely to react with the product to produce a hazardous situation.

Hazardous decomposition products Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

11. Toxicological information

Information on toxicological effects

Toxicological effects Not regarded as a health hazard under current legislation.

Acute toxicity - oral
Notes (oral LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - dermal
Notes (dermal LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - inhalation
Notes (inhalation LC₅₀) Based on available data the classification criteria are not met.

ATE inhalation (vapours mg/l) 25.0

Skin corrosion/irritation
Animal data Based on available data the classification criteria are not met.

Serious eye damage/irritation
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Serious eye damage/irritation  Based on available data the classification criteria are not met.

Respiratory sensitization  Based on available data the classification criteria are not met.

Skin sensitization  Based on available data the classification criteria are not met.

Germ cell mutagenicity  Based on available data the classification criteria are not met.

Carcinogenicity  Based on available data the classification criteria are not met.

IARC carcinogenicity  None of the ingredients are listed or exempt.

Reproductive toxicity  Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure  Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure  Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard  Based on available data the classification criteria are not met.

General information  No specific health hazards known. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation  Prolonged inhalation of high concentrations may damage respiratory system.

Ingestion  Gastrointestinal symptoms, including upset stomach. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.

Skin Contact  Prolonged contact may cause dryness of the skin.

Eye contact  May cause temporary eye irritation.

Route of exposure  Ingestion Inhalation Skin and/or eye contact

Target Organs  No specific target organs known.

Medical considerations  Skin disorders and allergies.

Toxicological information on ingredients.

Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated

Acute toxicity - oral
Notes (oral LD₅₀)  LD₅₀ >5000 mg/kg, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Acute toxicity - dermal
Notes (dermal LD₅₀)  LD₅₀ >2000 mg/kg, Dermal, Rat REACH dossier information. Based on available data the classification criteria are not met.
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**Acute toxicity - inhalation**

Notes (Inhalation LC₅₀) LC₅₀ >5.2 mg/l, Inhalation, Rat REACH dossier information. Based on available data the classification criteria are not met.

**Skin corrosion/irritation**

Animal data Dose: 0.5 mL, 24 hours, Rabbit Erythema/eschar score: No erythema (0). Edema score: No oedema (0). Primary dermal irritation index: 0.5 REACH dossier information. Based on available data the classification criteria are not met.

**Serious eye damage/irritation**

Serious eye damage/irritation Dose: 0.1 mL, 72 hours, Rabbit Not irritating. REACH dossier information. Based on available data the classification criteria are not met.

**Skin sensitization**

Skin sensitization Guinea pig maximization test (GPMT) - Guinea pig: Not sensitizing. REACH dossier information. Based on available data the classification criteria are not met.

**Germ cell mutagenicity**

Genotoxicity - in vitro Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.

**Genotoxicity - in vivo**

Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.

**Reproductive toxicity**

Reproductive toxicity - fertility One-generation study - NOAEL 1000 mg/kg/day, Oral, Rat P REACH dossier information. Based on available data the classification criteria are not met.

**Aspiration hazard**

Aspiration hazard Aspiration hazard if swallowed. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

**12. Ecological information**

**Ecotoxicity**

Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

**Toxicity**

Based on available data the classification criteria are not met.

**Ecological information on ingredients.**

Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated

**Toxicity**

Based on available data the classification criteria are not met. Aquatic toxicity is unlikely to occur.

**Acute aquatic toxicity**

Acute toxicity - fish LL₅₀, 96 hours: >1000 mg/l, Oncorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic invertebrates EL₅₀, 48 hours: >1000 mg/l, Daphnia magna

Acute toxicity - aquatic plants EL₅₀, 72 hours: >1000 mg/l, Selenastrum capricornutum

Acute toxicity - microorganisms NOEC, 28 days: 2 mg/l, Activated sludge
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Chronic aquatic toxicity
Chronic toxicity - aquatic invertebrates
NOELR, 21 days: 125 mg/l, Daphnia magna

Persistence and degradability
Persistence and degradability
The degradability of the product is not known.

Ecological information on ingredients.
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated

Persistence and degradability
Not readily biodegradable.

Biodegradation
Water - Degradation 2%: 28 days

Bioaccumulative potential
Bio-Accumulative Potential
No data available on bioaccumulation.

Partition coefficient
Not available.

Ecological information on ingredients.
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated

Partition coefficient
log Pow: >6.5

Mobility in soil
Mobility
No data available.

Ecological information on ingredients.
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated

Mobility
The product is insoluble in water.

Surface tension
27-29 mN/m @ 20°C

Other adverse effects
None known.

13. Disposal considerations

Waste treatment methods

General information
The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements.

Disposal methods
Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste packaging should be collected for reuse or recycling. Incineration or landfill should only be considered when recycling is not feasible. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of the local water authority.

14. Transport information
Synthetic Anti-Wear Hydraulic Oil ISO-22

General
The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT, TDG).

UN Number
UN No. (International) Not applicable.

UN proper shipping name
Proper shipping name (International) Not applicable.

Transport hazard class(es)
Transport labels
No transport warning sign required.

Packing group
Packing group (International) Not applicable.

Environmental hazards
Environmentally Hazardous Substance No.

Special precautions for user
Not applicable.

DOT TIH Zone Not applicable.

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

15. Regulatory information

Regulatory References

US Federal Regulations
SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities None of the ingredients are listed or exempt.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA) None of the ingredients are listed or exempt.

SARA Extremely Hazardous Substances EPCRA Reportable Quantities None of the ingredients are listed or exempt.

SARA 313 Emission Reporting
The following ingredients are listed or exempt:
- Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated 1.0 %
- Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts 1.0 %

CAA Accidental Release Prevention
None of the ingredients are listed or exempt.
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SARA (311/312) Hazard Categories
None of the ingredients are listed or exempt.

OSHA Highly Hazardous Chemicals
None of the ingredients are listed or exempt.

US State Regulations
California Proposition 65 Carcinogens and Reproductive Toxins
None of the ingredients are listed or exempt.

California Air Toxics "Hot Spots" (A-I)
None of the ingredients are listed or exempt.

California Air Toxics "Hot Spots" (A-II)
None of the ingredients are listed or exempt.

California Directors List of Hazardous Substances
None of the ingredients are listed or exempt.

Massachusetts "Right To Know" List
The following ingredients are listed or exempt:
Hydrogenated base oil

Rhode Island "Right To Know" List
None of the ingredients are listed or exempt.

Minnesota "Right To Know" List
None of the ingredients are listed or exempt.

New Jersey "Right To Know" List
None of the ingredients are listed or exempt.

Pennsylvania "Right To Know" List
None of the ingredients are listed or exempt.

Inventories
Canada - DSL/NDSL
All the ingredients are listed or exempt.

US - TSCA
All the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification
None of the ingredients are listed or exempt.

16. Other information
Synthetic Anti-Wear Hydraulic Oil ISO-22

Abbreviations and acronyms used in the safety data sheet
C.A.S. = Chemical Abstracts Service; E.C. No = European Commission number; GHS = Globally Harmonised System; OSHA = Occupational Safety and Health Administration; WHMIS = Workplace Hazardous Materials Information System; DOT = Department of Transport; TDG = Transport of Dangerous Goods Regulations; IMDG = International Maritime Dangerous Goods; IATA = International Air Transport Association; SARA = Superfund Amendments and Reauthorization Act; CERCLA = Comprehensive Environmental; EPCRA = Emergency Planning and Community Right-to-Know Act; TSCA = Toxic Substances Control Act; LD/LC/EC = Lethal Dose/Lethal Concentration/Effect Concentration for 50% of population; NOEC = No Overall Effect Concentration; NOEL = No Overall Effect Level; REACH = Registration, Evaluation, Authorisation & Restriction of Chemicals; STOT-RE = Single Target Organ Toxicity - Repeat Exposure; STOT-SE = Specific Target Organ Toxicity - Single Exposure; PBT = Persistent, Bioaccumulative, Toxic; vPvB = Very Persistent, Very Bioaccumulative.

Key literature references and sources for data

Training advice
Read and follow manufacturer’s recommendations. Only trained personnel should use this material.

Revision comments
This is the first issue.

Revision date
7/26/2018

SDS No.
7821

Hazard statements in full
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H332 Harmful if inhaled.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.
H413 May cause long lasting harmful effects to aquatic life.

This 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. Such information is, to the best of the company’s knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user’s responsibility to satisfy himself as to the suitability of such information for his own particular use.