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

| 1.1 Product identifier | |
|------------------------|--|
| Product name | : ENVIRON TM/MC AW 32 |
| Product code | : ENVAW32P20, ENVAW32DRM, ENVAW32DCT, ENVAW32, ENVAW32BLK |

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

Use of the Substance/Mixture : ENVIRON AW ashless hydraulic oils are designed for use in mobile and stationary hydraulic equipment using vane-, piston- and gear-type pumps. The ashless, or zinc-free, additive system used in ENVIRON AW oils makes them especially suitable for use in environmentally sensitive areas. They are well suited for high pressure applications such as found in axial piston pumps.

1.3 Details of the supplier of the safety data sheet

| Manuf | facturer | or | suppl | lier's | de | etail | S | | |
|-------|----------|----|-------|--------|----|-------|---|---|--|
| | | | | | | | | - | |

| | Petro-Canada Europe Lubricants Limited |
|---|--|
| | Wellington House, Starley Way |
| | Birmingham International Park Solihull B37 7HB |
| | United Kingdom |
| E-mail address of person responsible for the SDS | : EUSDS@petrocanadalsp.com |

1.4 Emergency telephone number

| Emergency telephone number | : | Petro-Canada Lubricants Inc.: +1 905-403-5770; CHEMTREC Transport Emergency: 1-800-424-9300; |
|----------------------------|---|---|
| | | Poison Control Centre: Consult local telephone directory for emergency number(s). |

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

Additional Labelling:

EUH210 Safety data sheet available on request.



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2.3 Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

| Chemical name | CAS-No. | Classification | Concentration |
|------------------------------------|---------------------|-------------------|---------------|
| | EC-No. | | (% w/w) |
| | Index-No. | | · · · |
| | Registration number | | |
| lubricating oils (petroleum), C15- | 72623-86-0 | Asp. Tox. 1; H304 | 50 - 70 |
| 30, hydrotreated neutral oil-based | 276-737-9 | - | |
| | 01-2119474878-16- | | |
| | 0001 | | |
| | | | |

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

| If inhaled | : | Move to fresh air. Artificial respiration and/or oxygen may be necessary. Seek medical advice. |
|-------------------------|---|--|
| In case of skin contact | : | In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Wash clothing before reuse. Seek medical advice. |
| In case of eye contact | : | Remove contact lenses. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention. |
| If swallowed | : | Rinse mouth with water. DO NOT induce vomiting unless directed to do so by a physi- cian or poison control center. Never give anything by mouth to an unconscious person. Seek medical advice. |

4.2 Most important symptoms and effects, both acute and delayed

| Risks | : First aider needs to protect himself. |
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4.3 Indication of any immediate medical attention and special treatment needed

SECTION 5: Firefighting measures

5.1 Extinguishing media

| Suitable extinguishi | ng media : | Use extinguishing measures that are appropriate to local cir- cumstances and the surrounding environment. |
|---------------------------------|---------------|--|
| Unsuitable extinguis media | shing : | No information available. |
| 5.2 Special hazards ari | sing from the | ne substance or mixture |
| Specific hazards du fighting | ring fire- : | Cool closed containers exposed to fire with water spray. |
| Hazardous combus ucts | tion prod- : | Carbon oxides (CO, CO2), smoke and irritating vapours as products of incomplete combustion. |
| 5.3 Advice for firefighte | ers | |
| Further information | : | Prevent fire extinguishing water from contaminating surface water or the ground water system. |

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

| Personal precautions | Use personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe areas. Material can create slippery conditions. Mark the contaminated area with signs and prevent access to unauthorized personnel. Only qualified personnel equipped with suitable protective equipment may intervene. |
|----------------------|---|
|----------------------|---|

6.2 Environmental precautions

| Environmental precautions | : | If the product contaminates rivers and lakes or drains inform |
|---------------------------|---|---|
| | | respective authorities. |

6.3 Methods and material for containment and cleaning up

| Methods for cleaning up | : Prevent further leakage or spillage if safe to do so. |
|-------------------------|---|
| | Remove all sources of ignition. |
| | Soak up with inert absorbent material. |
| | Non-sparking tools should be used. |
| | Ensure adequate ventilation. |
| | Contact the proper local authorities. |

6.4 Reference to other sections

For personal protection see section 8.



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SECTION 7: Handling and storage

7.1 Precautions for safe handling

| Advice on safe handling | : | For personal protection see section 8. Smoking, eating and drinking should be prohibited in the ap- plication area. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Keep away from heat and sources of ignition. Keep container closed when not in use. |
|---|---|--|
| Advice on protection against fire and explosion | : | None known. |
| Hygiene measures | : | Remove and wash contaminated clothing and gloves, includ- ing the inside, before re-use. Wash face, hands and any ex- posed skin thoroughly after handling. |

7.2 Conditions for safe storage, including any incompatibilities

| Requirements for storage areas and containers | : | Store in original container. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep in a dry, cool and well-ventilated place. Keep in properly labelled containers. To maintain product quality, do not store in heat or direct sunlight. |
|---|---|---|
|---|---|---|

7.3 Specific end use(s)

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Engineering measures

No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

| Personal protective equipment | It | |
|--|----|--|
| Eye protection : | | Wear face-shield and protective suit for abnormal processing problems. |
| Hand protection Material : | | neoprene, nitrile, polyvinyl alcohol (PVA), Viton(R). |
| Remarks : | | Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is nec- essary. |
| Skin and body protection : | | Choose body protection in relation to its type, to the concen- tration and amount of dangerous substances, and to the spe- |
| un atu lu huina nta matua, anna ala, anna (adu | _ | |



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| | cific work-place. | |
| Respiratory protection | : Use respiratory protection unless adequative ventilation is provided or exposure assess that exposures are within recommended Respirator selection must be based on k exposure levels, the hazards of the production working limits of the selected respirator. | ssment demonstrates exposure guidelines. nown or anticipated |
| Filter type | : organic vapour filter | |
| Protective measures | Wash hands and face before breaks and handling the product. Wash contaminated clothing before re-us Ensure that eyewash station and safety s to the work-station location. | se. |

SECTION 9: Physical and chemical properties

Appearance viscous liquid : Colour 2 Pale, straw-yellow. Odour Mild petroleum oil like. 2 **Odour Threshold** No data available 1 pН No data available : Pour point : -42 °C (-44 °F) Boiling point/boiling range 2 No data available Flash point 216 °C (421 °F) : Method: Cleveland open cup Fire Point : No data available Auto-Ignition Temperature : No data available Evaporation rate No data available 2 Flammability (solid, gas) : Low fire hazard. This material must be heated before ignition will occur. Upper explosion limit / Upper No data available : flammability limit Lower explosion limit / Lower : No data available flammability limit : No data available Vapour pressure : No data available Relative vapour density

9.1 Information on basic physical and chemical properties



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| Relative density Density | : No data available : 0.8496 kg/l (15 °C / 59 °F) | |
| Solubility(ies) Water solubility | : insoluble | |
| Partition coefficient: n- octanol/water | : No data available | |
| Viscosity Viscosity, kinematic | : 31.7 cSt (40 °C / 104 °F) | |
| | 5.7 cSt (100 °C / 212 °F) | |
| Explosive properties | : Do not pressurise, cut, weld, braze, pose containers to heat or sources | |

9.2 Other information

SECTION 10: Stability and reactivity

10.1 Reactivity

products

10.2 Chemical stability

10.3 Possibility of hazardous reactions

| Hazardous reactions | : | Hazardous polymerisation does not occur. Stable under normal conditions. |
|------------------------------|------|---|
| 10.4 Conditions to avoid | | |
| Conditions to avoid | : | No data available |
| 10.5 Incompatible materials | | |
| Materials to avoid | : | Reactive with oxidising agents, acids, alkalis and reducing agents. |
| 10.6 Hazardous decomposition | prod | ucts |
| Hazardous decomposition | : | May release COx, POx, methacrylate monomers, diphenyla- |

decomposition.

mine, alkenes, smoke and irritating vapours when heated to

SECTION 11: Toxicological information

11.1 Information on toxicological effects

| Information on likely routes of | : | Eye contact |
|---------------------------------|---|--------------|
| exposure | | Ingestion |
| | | Inhalation |
| | | Skin contact |



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| Acute toxicity | | | |
| Product: | | | |
| Acute oral toxicity | : | Remarks: No data available | |
| Acute inhalation toxicity | : | Assessment: The substance or mixt tion toxicity Remarks: No data available | ure has no acute inhala- |
| Acute dermal toxicity | : | Assessment: The substance or mixt toxicity Remarks: No data available | ure has no acute dermal |
| Components: | | | |
| Iubricating oils (petroleur Acute oral toxicity | | 5-30, hydrotreated neutral oil-base LD50 (Rat): > 5,000 mg/kg, | d: |
| Acute inhalation toxicity | | LC50 (Rat): > 5.2 mg/l Exposure time: 4 h Test atmosphere: dust/mist | |
| Acute dermal toxicity | : | LD50 (Rabbit): > 2,000 mg/kg, | |
| Skin corrosion/irritation | | | |
| Product: | | | |
| Remarks | : | No data available | |
| Serious eye damage/eye i | irritati | on | |
| Product: | | | |
| Remarks | : | No data available | |
| Respiratory or skin sensi | tisatic | n | |
| No data available | | | |
| | | | |
| | | | |
| No data available | | | |
| No data available Carcinogenicity | | | |
| Germ cell mutagenicity No data available Carcinogenicity No data available Reproductive toxicity | | | |
| No data available Carcinogenicity No data available | | | |
| No data available Carcinogenicity No data available Reproductive toxicity | | | |
| No data available Carcinogenicity No data available Reproductive toxicity No data available STOT - single exposure | 9 | | |



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SECTION 12: Ecological information

| 12.1 Toxicity | |
|--|--|
| Product: | |
| Toxicity to fish : | LC50 (Oncorhynchus mykiss (rainbow trout)): > 1,000 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 |
| | NOEC (Fish): > 100 mg/l Exposure time: 28 Days |
| Toxicity to daphnia and other : aquatic invertebrates | EC50 (Daphnia magna (Water flea)): > 10,000 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 |
| | NOEC (Daphnia magna (Water flea)): > 20 mg/l Exposure time: 21 Days |
| Toxicity to algae : | EC50 (Pseudokirchneriella subcapitata (algae)): > 10,000 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 |
| | NOEC (Pseudokirchneriella subcapitata (algae)): > 1 mg/l Exposure time: 72 h Remarks: No toxicity at the limit of solubility |
| Toxicity to microorganisms : | Remarks: No data available |
| 12.2 Persistence and degradability | |
| Product: | |
| Biodegradability : | Result: Inherently biodegradable. |
| 12.3 Bioaccumulative potential No data available | |
| 12.4 Mobility in soil | |
| No data available | |
| 12.5 Results of PBT and vPvB asses Not relevant | ssment |
| 12.6 Other adverse effects | |
| No data available | |
| SECTION 13: Disposal considera | ations |
| 13.1 Waste treatment methods | |

Product

: The product should not be allowed to enter drains, water courses or the soil. Offer surplus and non-recyclable solutions to a licensed disposal company.



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| | Waste must be classified and labelle disposal. | ed prior to recycling or | | |
| | Send to a licensed waste management company. | | | |
| | Dispose of product residue in accordance with the instructions | | | |
| | of the person responsible for waste | disposal. | | |

SECTION 14: Transport information

International Regulations

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Remarks

: ADR: Not Regulated ADN: Not Regulated RID: Not Regulated

SECTION 15: Regulatory information

| 15.1 Safety, health and environn ture | nental regulations/legislation specific for the substance or mix- |
|---------------------------------------|---|
| Water contaminating class (Germany) | : WGK 1 slightly water endangering |

| The components of t | his product are reported in the following inventories: |
|---------------------|---|
| DSL | : On the inventory, or in compliance with the inventory |
| TSCA | : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption. |

15.2 Chemical safety assessment

SECTION 16: Other information

| Full text of H-Statements | | |
|------------------------------|------|---|
| H304 | : | May be fatal if swallowed and enters airways. |
| Full text of other abbreviat | ions | |
| Asp. Tox. | : | Aspiration hazard |

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx -



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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; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

| For Copy of SDS | : Internet: lubricants.petro-canada.com/sds |
|-----------------|--|
| | Europe, telephone: 00-800-7387-6000 |
| | For Product Safety Information: 1 905-491-0565 |
| | |

Prepared by

: Product Safety: +1 905-491-0565

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