



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

1.1. Product identifier

Product Name: SeaStar EPS Fluid
Product code: HA5482 and HA5483.
Synonyms: Not available.

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

Identified uses: Electronic Power Steering Fluid, used for electro-hydraulic steering systems on boats.
Uses advised against: All uses other than the identified use.

1.3. Details of the supplier of the safety data sheet

Name: SeaStar Solutions
Address: 3831 No. 6 Rd
Richmond, BC
Canada V6V 1P6
Phone Number: 604-270-6899
E-mail of competent person responsible for SDS in the EU: seastar@seastarsolutions.com

1.4. Emergency telephone number:

Emergency Phone: 911

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

2.1.1. Classification according to CLP (Regulation (EC) No 1272/2008)

CLP Classification: Not hazardous according to CLP (Regulation (EC) No 1272/2008).

2.1.2 Classification according to DPD (Directives 67/548/EEC and 1999/45/EC)

DSD/DPD Classification: Not hazardous according to DPD (Directives 67/548/EEC and 1999/45/EC).

2.1.3 Additional information:

For full text of R-phrases and Hazard- and EU Hazard-statements: see SECTION 16.



2.2. Label elements

Labelling according to CLP (Regulation (EC) No 1272/2008)

Hazard None.

Pictogram(s):

Signal Word: None.

Hazard None.

Statements:

Precautionary Statements

General: Not applicable.

Prevention: Not applicable.

Response: Not applicable.

Storage: Not applicable.

Disposal: Not applicable.

2.3. Other hazards

Not Classified as PBT/vPvB by EU criteria.

Section 3: Composition / information on ingredients
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3.2. Mixtures

Ingredient(s)	CAS No.	EC No.	Wt. %	Classification according to 67/548/EEC*	Classification according to Regulation (EC) No 1278/2008 (CLP)*
Lubricating oils, refined used	68476-77-7	270-697-6	90-100	Not hazardous.	Not hazardous.
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	72623-86-0	276-737-9	1-5	T; R45	Carc. 1B; H350 (Note L) **
White mineral oil (petroleum)	8042-47-5	232-455-8	1-5	Not hazardous.	Not hazardous.

* See section 16 for the full text of the hazard and risk phrases. Occupational exposure limits, if available, are listed in section 8.

** The oils used meet the criteria of < 3% DMSO by the IP 346 extract test and do not require carcinogen labeling.



Section 4: First aid measures

4.1. Description of first aid measures

- Inhalation:** IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.
- Eye Contact:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER or doctor/physician if you feel unwell.
- Skin Contact:** IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or doctor/physician if you feel unwell.
- Ingestion:** IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

- Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
- Eye Contact:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
- Skin Contact:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.
- Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

4.3. Indication of any immediate medical attention and special treatment needed

Note to Physicians: Symptoms may not appear immediately.

Section 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media: Small Fire: Dry chemical, CO₂, water spray or regular foam.
Large Fire: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk.

Unsuitable Extinguishing Media: Not available.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products: Oxides of carbon.



5.3. Advice for firefighters

Protection of Firefighters:

Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel:

Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

6.1.2. For emergency responders:

Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate approved air-purifying respirator or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.

6.2. Environmental precautions

Avoid release to the environment. Keep out of drains, sewers, ditches, and waterways.

6.3. Methods and material for containment and cleaning up

6.3.1. Methods for Containment:

Stop leak if without risk. Do not flush to sewer or allow to enter waterways.

6.3.2. Methods for Clean-Up:

Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

6.3.3. Other Information:

Dispose of contents/container according to local regulations.

6.4. Reference to other sections

See Section 8 for occupational exposure limits and risk management measures. Refer to Section 13 for disposal considerations.

Section 7: Handling and storage

7.1. Precautions for safe handling

Do not swallow. Read label before use. See Section 8 for information on Personal Protective Equipment.

7.2. Conditions for safe storage, including any incompatibilities

Store locked up. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

7.3. Specific end use(s)

No specific instructions required.

Section 8: Exposure controls / personal protection

8.1. Control parameters

Component

Lubricating oils, refined used [CAS No. 68476-77-7]

ACGIH: 5 mg/m³ (TWA); A4 (2009); For Mineral oil, excluding metal working fluids; Pure, highly and severely refined

Norway: 1 mg/m³ (TLV)

Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based [CAS No. 72623-86-0]

ACGIH: 5 mg/m³ (TWA); A4 (2009); For Mineral oil, excluding metal working fluids; Pure, highly and severely refined

Norway: 1 mg/m³ (TLV)

Mineral oil [CAS No. 8042-47-5]

ACGIH: 5 mg/m³ (TWA); A4 (2009); For Mineral oil, excluding metal working fluids; Pure, highly and severely refined

Norway: 1 mg/m³ (TLV)

TLV: Threshold Limit Value

TWA: Time-Weighted Average

OEL: Occupational Exposure Limit

8.2. Exposure controls

8.2.1. Appropriate Engineering Controls:

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapour, gas, etc.) below recommended exposure limits.

8.2.2. Personal Protection Equipment



Eye/Face Protection:

Wear safety glasses. Ensure that eyewash stations are close to the workstation location. Use equipment for eye protection according to European Standard EN 166.



Skin Protection:

Hand Protection: Wear protective gloves. Nitrile gloves are recommended. Consult manufacturer specifications for further information.

Body Protection: Wear protective clothing. For brief contact, no precautions other than clean body-covering clothing should be needed. Consult manufacturer specifications for further information.

Respiratory Protection:

If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an approved air-purifying respirator or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators. Wear a dust respirator for any activity such as sanding or grinding of cured coating.

Thermal Hazards:

Not applicable.

General Hygiene Considerations:

Handle according to established industrial hygiene and safety practices.

8.2.3. Environmental exposure controls:

Follow all applicable environmental protection legislation.

Section 9: Physical and chemical properties

Appearance:	Clear pale green oil.
Odour:	Mild.
Odour Threshold:	Not available.
Physical State:	Liquid.
pH:	Not available.
Melting Point / Freezing Point:	Not available.
Initial Boiling Point:	Not available.
Boiling Point:	Not available.
Flash Point:	199 °C (390.2 °F) (PMCC)
Evaporation Rate:	Not available.
Flammability (solid, gas):	Not applicable; product is a liquid.
Lower Flammability Limit:	Not available.
Upper Flammability Limit:	Not available.
Vapor Pressure:	Not available.
Vapor Density:	Not available.



SeaStar EPS Fluid

Safety Data Sheet according to 1907/2006/EC and its amendments

Date of Compilation: February 25, 2014

Relative Density:	0.860 ± .008 (Water = 1) at 15.6 °C (60.1 °F) (ASTM D287)
Solubilities:	Insoluble in water.
Partition Coefficient: n-Octanol/Water:	Not available.
Auto-ignition Temperature:	Not available.
Decomposition Temperature:	Not available.
Viscosity:	34.26 ± 2.0 cSt at 40 °C (104 °F) (ASTM D445)
Explosive Properties:	Not available.
Oxidising Properties:	Not available.

Section 10: Stability and reactivity

<u>10.1. Reactivity</u>	Contact with incompatible materials. Sources of ignition. Exposure to heat.
<u>10.2. Chemical stability</u>	Stable under normal storage conditions.
<u>10.3. Possibility of hazardous reactions</u>	None known.
<u>10.4. Conditions to avoid</u>	Contact with incompatible materials. Sources of ignition. Exposure to heat.
<u>10.5. Incompatible materials</u>	Strong oxidizers. Halogens.
<u>10.6. Hazardous decomposition products</u>	None known.

Section 11: Toxicological information

11.1. Information on toxicological effects

Acute Toxicity:

Inhalation:	May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
Eye:	May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
Skin:	May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.
Ingestion:	May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.



SeaStar EPS Fluid

Safety Data Sheet according to 1907/2006/EC and its amendments

Date of Compilation: February 25, 2014

Component	CAS No.	LD ₅₀ oral	LD ₅₀ dermal	LC ₅₀
Lubricating oils, refined used	68476-77-7	Not available.	Not available.	Not available.
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	72623-86-0	Not available.	Not available.	Not available.
Mineral oil	8042-47-5	Not available.	Not available.	Not available.

Skin corrosion / irritation: Not expected to cause skin irritation, based on component information.

Serious eye damage/irritation: Not expected to cause eye irritation, based on component information.

Respiratory or skin sensitisation: No data available.

Germ cell mutagenicity: No data available.

Carcinogenicity: This product does not contain any carcinogens or potential carcinogens as listed by ACGIH, IARC, or NTP.

Component Carcinogenicity

Component	ACGIH	IARC	NTP
Lubricating oils, refined used	A4	Group 3	Not listed.
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	A4	Group 3	Not listed.
Mineral oil	A4	Group 3	Not listed.

Reproductive toxicity: No data available.

STOT-single exposure No data available.

STOT-repeated exposure No data available.

Aspiration hazard: May be fatal if swallowed and enters airways.

Chronic Effects: Prolonged or repeated contact may dry skin and cause irritation.

Other information on adverse health effects: No other adverse effects expected.

Section 12: Ecological information

12.1. Toxicity **Aliphatic oils (Mineral oils and aliphatic petroleum hydrocarbons) *:**
 Not expected to be toxic to fish.
 Daphnia magna: EC50 < 0.9 mg/L;
 Daphnia magna: LC50 > 14 mg/L;
 Oysters: 6 mg/L.

* Data from "Exposure and Risk Assessment on Lower Risk Pesticide Chemicals", US Environmental Protection Agency, 2006.

12.2. Persistence and degradability Not expected to be readily biodegradable.

12.3. Bioaccumulative potential Not available.



12.4. Mobility in soil

The environmental assessment of Mineral oils and aliphatic petroleum hydrocarbons indicates that they have low to very low vapor pressures, very low water solubility, high octanol-water partition coefficients, and high sorption to organic matter. Thus, these chemicals will exhibit very poor migration. Fugacity modeling suggests aliphatic hydrocarbons would remain partitioned to the terrestrial phase, remaining sorbed into soil.*

* From "Exposure and Risk Assessment on Lower Risk Pesticide Chemicals", US Environmental Protection Agency, 2006.

12.5. Results of PBT and vPvB assessment

Not available as chemical safety assessment not required/not conducted.

12.6. Other adverse effects

Not available.

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal Instructions:

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. Waste should not be disposed of by release to sewers.

Section 14: Transport information

ADR / RID

14.1. UN number: Not regulated.

14.2. UN proper shipping name: Not applicable.

14.3. Transport hazard class(es): Not applicable.

14.4. Packing group: Not applicable.

14.5. Environmental hazards: Not applicable.

14.6. Special precautions for user: Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.



Section 15: Regulatory information

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

Authorisations: Not applicable.
Restrictions on use: None.
Other EU regulations: Not an ozone depleting substance, and not a persistent organic pollutant.
National regulations: Not applicable.

15.2. Chemical safety assessment

Chemical Safety Assessment: No Chemical Safety Assessments have been carried out for this substance.

Section 16: Other information

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

<u>Classification according to Regulation (EC) Nr. 1272/2008</u>	<u>Classification procedure</u>
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Not applicable.	Not applicable.
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Relevant R-phrases and/or H-statements (number and full text):

H-statements

H350: May cause cancer.

R-phrases

R45: May cause cancer.

Disclaimer:

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

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