SAFETY DATA SHEET

Prepared in accordance with Regulation (EC) No 1907/2006 (REACH), Annex II, as amended by Regulation (EU) 2020/878
Issue date: 02 November 2026 | Rev. 01

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

1.1 Product identifier. Product name: AddVation ST Seal Core Plus. Product type: mixture. UFI: not applicable. The mixture is not classified for human-health or physical hazards and is therefore outside the notification scope of CLP Annex VIII.

1.2 Relevant identified uses and uses advised against. Identified use: professional additive for controlled treatment of outgoing stern tube lip-seal oil leakage, typically 12 to less than 48 L/day, in mineral-oil-based systems. Uses advised against: use in EAL or bio-based lubricant systems, or use outside the conditions stated in the AddVation-issued Vessel Treatment Plan.

1.3 Details of the supplier of the safety data sheet. AddVation ApS Ellesøpark 25, 2950 Vedbæk, Denmark. E-mail: info@addvation.com. Website: www.addvation.com. Telephone: +45 50 181 182.

1.4 Emergency telephone number. Denmark Poison Information Centre (Giftlinjen): +45 82 12 12 12, available 24 hours. For life-threatening emergencies call 112.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture. Not classified as hazardous according to Regulation (EC) No 1272/2008 (CLP), based on component information, applicable concentration limits and mixture assessment. Supplemental EUH208 information applies but does not change the classification.

2.2 Label elements. No hazard pictogram, signal word or hazard statement is required. Supplemental information: EUH208 - Contains N-phenyl-1-naphthylamine and (4-nonylphenoxy)acetic acid. May produce an allergic reaction.

2.3 Other hazards. Spilled product creates a slip hazard. Excessive heating may release toxic and irritating fluorinated decomposition products and may cause polymer fume fever. Based on the available component information, the mixture does not contain substances identified as PBT, vPvB or endocrine disruptors at concentrations of 0.1% or above.

COMPOSITION, FIRST AID AND FIRE RESPONSE

SECTION 3: Composition/information on ingredients

3.1 Substances. Not applicable; the product is a mixture.

3.2 Mixtures. Mixture based on highly refined mineral oil and non-hazardous solid lubricant components. Hazardous ingredients requiring disclosure under REACH Annex II are listed below. All other ingredients are non-hazardous or below applicable disclosure thresholds. The remaining composition is confidential business information.

Interchangeable highly refined base oil (petroleum UVCB; Note L applies): 30-60%. Asp. Tox. 1, H304. The finished mixture is not classified for aspiration hazard because of its high viscosity and paste form.

N-phenyl-1-naphthylamine (CAS 90-30-2; EC 201-983-0): 0.05-<0.13%. Acute Tox. 4, H302; Skin Sens. 1B, H317; STOT RE 2, H373; Aquatic Acute 1, H400; Aquatic Chronic 1, H410.

(4-nonylphenoxy)acetic acid (CAS 3115-49-9; EC 221-486-2): <0.05%. Acute Tox. 4, H302; Skin Corr. 1B, H314; Skin Sens. 1A, H317; Aquatic Acute 1, H400; Aquatic Chronic 1, H410.

SECTION 4: First aid measures

4.1 Description of first aid measures. Inhalation: move to fresh air and obtain medical advice if symptoms occur. Skin: remove contaminated clothing and wash with soap and water. Eyes: rinse cautiously with water for at least 15 minutes; seek advice if irritation persists. Ingestion: rinse mouth; do not induce vomiting; obtain medical advice if unwell.

4.2 Most important symptoms and effects, both acute and delayed. Repeated skin contact may cause dryness or irritation. Eye contact may cause temporary irritation. Fumes from excessive heating may cause delayed flu-like symptoms associated with polymer fume fever.

4.3 Indication of immediate medical attention and special treatment needed. Treat symptomatically. Following suspected exposure to thermal decomposition fumes, medical observation should consider the possibility of delayed polymer fume fever.

SECTION 5: Firefighting measures

5.1 Extinguishing media. Suitable media: water spray, foam, dry chemical powder or carbon dioxide. Avoid a direct high-pressure water jet where it could spread burning oil.

5.2 Special hazards arising from the substance or mixture. The product is not classified as flammable, but it will burn. Excessive heating or fire may generate hydrogen fluoride, carbonyl fluoride, carbon monoxide, carbon dioxide, smoke and other toxic or irritating fluorinated fumes.

5.3 Advice for firefighters. Use positive-pressure self-contained breathing apparatus and full protective equipment. Cool exposed containers with water spray where safe.

SPILL, HANDLING AND EXPOSURE CONTROL

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures. Restrict access, ventilate the area, avoid contact and prevent slipping. Wear suitable gloves, eye protection and workwear. Respiratory protection may be required if oil mist, aerosol or decomposition fumes are present.

6.2 Environmental precautions. Prevent entry into drains, surface water, groundwater and soil. Avoid unnecessary release to the environment.

6.3 Methods and material for containment and cleaning up. Stop and contain the spill where safe. Collect mechanically or with inert absorbent material and place in a suitable labelled container. Avoid methods that create aerosol or disperse material. Clean residual slippery film using an appropriate industrial method.

6.4 Reference to other sections. See Section 8 for personal protection and Section 13 for disposal considerations.

SECTION 7: Handling and storage

7.1 Precautions for safe handling. Use good industrial hygiene. Avoid eye and prolonged skin contact, mist formation and environmental release. Keep containers closed. Do not overheat. Do not eat, drink or smoke while handling.

7.2 Conditions for safe storage, including any incompatibilities. Store in the tightly closed original container in a dry, well-ventilated area at 5–30 °C. Protect from contamination, direct sunlight, excessive heat, moisture and freezing. Keep away from strong oxidising agents.

7.3 Specific end use(s). Professional treatment of outgoing lip-seal oil leakage in mineral oil-based stern tube systems. Follow the AddVation-issued Vessel Treatment Plan for Initial Blend and Top-Up Blend quantities, the approved filter configuration, application and reporting. Plus filter guidance is 100 µm. Before addition, confirm that the approved filter configuration allows treatment particles to reach the seal. If unclear, contact AddVation before adding product. Filter removal or bypass requires permission under vessel procedures and applicable OEM requirements. The Application Guide provides technical background.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters. Apply the current national occupational exposure limits for mineral-oil mist and airborne particles at the place of use. No product-specific DNEL or PNEC values are available.

8.2 Exposure controls. Provide adequate ventilation where mist or aerosol may form. Wear safety glasses where splash risk exists and suitable oil-resistant gloves for prolonged contact. Standard protective workwear is recommended. Respiratory protection is not normally required; use suitable protection if controls are inadequate or decomposition fumes are present.

PHYSICAL AND CHEMICAL PROPERTIES

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties. Available product information is listed below.

Property	Current value / status
Physical state	Paste at 20 degrees C
Colour	White to off-white
Odour	Characteristic, mild oil-like
Melting point / freezing point	Not determined for the mixture
Boiling point or initial boiling point and boiling range	>280 degrees C (supplier data for liquid carrier; finished mixture not tested)
Flammability	Not classified as flammable (component and mixture assessment)
Lower and upper explosion limit	Not determined
Flash point	>180 degrees C (based on liquid-carrier data; finished mixture not tested)

Property	Current value / status
Auto-ignition temperature	>300 degrees C (supplier data for liquid carrier; finished mixture not tested)
Decomposition temperature	Hazardous decomposition may occur at elevated temperatures
pH	Not applicable (non-aqueous mixture)
Kinematic viscosity	Not determined; product is a high-viscosity, non-Newtonian paste
Solubility	Insoluble / negligible in water
Partition coefficient n-octanol/water	Not determined for the mixture
Vapour pressure	<0.5 Pa at 20 degrees C (supplier data for liquid carrier)
Density	Approx. 1.15 kg/L at 20 degrees C (indicative estimate)
Relative vapour density	Not determined for the mixture
Particle characteristics	Solid lubricant particles dispersed in paste; not an airborne powder under normal use

9.2 Other information. Mineral-oil-based, high-viscosity paste. Where a finished-mixture test is unavailable, the stated value is identified as calculated or based on supplier data; it is not a product specification guarantee.

STABILITY AND HEALTH INFORMATION

SECTION 10: Stability and reactivity

10.1 Reactivity. No hazardous reaction is expected under recommended handling and use. Avoid contact with incompatible materials and excessive heating.

10.2 Chemical stability. Stable under recommended handling and storage conditions.

10.3 Possibility of hazardous reactions. No hazardous reaction is expected under normal use. Avoid strong oxidising agents and excessive heating.

10.4 Conditions to avoid. Excessive heat, direct sunlight, ignition sources under abnormal conditions and contamination.

10.5 Incompatible materials. Strong oxidising agents and potent oxidisers.

10.6 Hazardous decomposition products. Fire or excessive heating may produce hydrogen fluoride, carbonyl fluoride, carbon monoxide, carbon dioxide and other irritating or toxic fluorinated fumes.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008. No finished-mixture toxicological tests are available. Based on component information and mixture assessment, the classification criteria are not considered met for acute toxicity, skin corrosion/irritation, serious eye damage/irritation, respiratory or skin sensitisation, germ cell mutagenicity, carcinogenicity, reproductive toxicity, STOT or aspiration hazard. The mixture contains trace sensitising components and EUH208 applies. Repeated skin contact may cause dryness or irritation. Thermal decomposition fumes may cause polymer fume fever.

11.2 Information on other hazards. Based on the available component information, the mixture does not contain substances identified as having endocrine-disrupting properties at concentrations of 0.1% or above.

ENVIRONMENT, DISPOSAL AND TRANSPORT

SECTION 12: Ecological information

12.1 Toxicity. No finished-mixture aquatic or terrestrial toxicity data are available. Based on the available component information and mixture assessment, the product is not classified as hazardous to the aquatic environment.

12.2 Persistence and degradability. The product contains components that are not readily biodegradable and persistent solid particles.

12.3 Bioaccumulative potential. No finished-mixture data are available.

12.4 Mobility in soil. The product is insoluble in water and is expected to adsorb to soil and sediment.

12.5 Results of PBT and vPvB assessment. Based on the available component information, the mixture does not contain substances identified as PBT or vPvB at concentrations of 0.1% or above.

12.6 Endocrine-disrupting properties. Based on the available component information, the mixture does not contain substances identified as having endocrine-disrupting properties at concentrations of 0.1% or above.

12.7 Other adverse effects. Prevent entry into drains, waterways and soil.

SECTION 13: Disposal considerations

13.1 Waste treatment methods. Do not discharge to drains or waterways. Dispose of product, spill residues, contaminated absorbent and packaging through an authorised waste contractor in accordance with applicable requirements. Assign the waste code according to use and waste origin.

SECTION 14: Transport information

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated as dangerous goods
14.3 Transport hazard class(es)	Not regulated under ADR/RID, IMDG or IATA
14.4 Packing group	Not applicable
14.5 Environmental hazards	Not classified as a marine pollutant
14.6 Special precautions for user	Prevent container damage, leakage and environmental release
14.7 Maritime transport in bulk according to IMO instruments	Not intended for transport in bulk

TRANSPORT STATUS Not regulated as dangerous goods under ADR/RID, IMDG or IATA, based on the current mixture assessment.

REGULATORY CONTROL AND RELEASE BASIS

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture. Assessment basis: REACH Regulation (EC) No 1907/2006, Annex II as amended by Regulation (EU) 2020/878; CLP Regulation (EC) No 1272/2008; and Regulation (EU) 2023/707. Supplier safety and technical documentation is maintained in the confidential regulatory file.

15.2 Chemical safety assessment. No chemical safety assessment has been carried out for the finished mixture.

SECTION 16: Other information

16.1 Issue status. Rev. 01 - 02 November 2026. First issue for ST Seal Core Plus. Product identity, identified use and filter guidance reflect the Plus application. The hazard assessment uses the same mineral-oil carrier, solid-lubricant types and disclosed concentration ranges as the supplied ST Seal Core safety information. This assessment applies only while that composition basis remains valid. Changes to carrier, ingredient concentrations or physical form require reassessment. Physical-property estimates are identified in Section 9.

16.2 Abbreviations. ADR: road transport of dangerous goods; CAS: Chemical Abstracts Service; CLP: Classification, Labelling and Packaging; EC: European Community; EWC: European Waste Catalogue; IATA: International Air Transport Association; ICAO: International Civil Aviation Organization; IMDG: International Maritime Dangerous Goods; PBT: persistent, bioaccumulative and toxic; REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals; STOT: specific target organ toxicity; UFI: Unique Formula Identifier; vPvB: very persistent and very bioaccumulative.

16.3 Key references. REACH Regulation (EC) No 1907/2006, Annex II; Regulation (EU) 2020/878; CLP Regulation (EC) No 1272/2008; Regulation (EU) 2023/707; current supplier safety data sheets for the mineral-oil carrier and solid lubricant components; confidential formulation assessment.

16.4 Classification method. Classification is based on the supplied component information, applicable concentration limits, calculation methods and weight of evidence under Regulation (EC) No 1272/2008. Section 3 concentration ranges express the composition basis of this assessment; they are not a complete manufacturing formulation.

16.5 Full text of hazard statements. H302: Harmful if swallowed. H304: May be fatal if swallowed and enters airways. H314: Causes severe skin burns and eye damage. H317: May cause an allergic skin reaction. H373: May cause damage to organs through prolonged or repeated exposure. H400: Very toxic to aquatic life. H410: Very toxic to aquatic life with long lasting effects.

16.6 Training advice. Personnel should be trained in safe handling of oil-based mixtures, spill control, use of protective equipment and the vessel-specific treatment instructions.