

MANNOL[®] MATERIAL SAFETY DATA SHEET

Prepared according to Annex II of EC Regulation 1907/2006

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: PSF

Product Use: PSF is special power steering fluid for systems with requirements of MB 236.3.

Date of issue : 10.01.2011

Revision Date : 10.12.2012

Company Information: Sudheimer Car Technik Vertriebs GmbH

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2. HAZARDS IDENTIFICATION

This product is not classified as dangerous, according to Directive 1999/45/EC or 67/548/EEC

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients:

CAS No.	EU No.	Name	Weight %	Symbols/Risk Phrases
68649-42-3	272-028-3	Zinc alkylditiophosphate	0,4-0,6	N; Xi; R38-41-51/53
-	Confid.	Alkoxy heterocyclic ether	0,4-0,6	Xi; R36-53
-	Confid.	Thio alkyl long chain alkyl ester	0,4-0,6	R52/53
89347-09-1	289-493-3	Alkyl thiadiazole	0,4-0,6	Xi; R43

4. FIRST AID MEASURES

Inhalation: If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Skin Contact: Wash the skin with soap and water. Remove contaminated clothing as soon as possible. Seek medical advice if symptoms persist. Product in use under high pressure that has been forced under the skin, is a serious situation that requires IMMEDIATE hospital treatment.

Eye contact: Rinse with water for 10 – 15 minutes. Keep eyes open.

Ingestion: DO NOT INDUCE VOMITING. Get medical advice.

5. FIRE FIGHTING MEASURES

Proper Fire Fighting Equipment: Foam, powder, carbon dioxide.

Improper Fire Fighting Equipment: Water

Fire and Explosion Hazards: Heated product can form flammable vapours. Combustion can produce irritating fumes. Carbon monoxide (CO) may be formed in the event of incomplete combustion.

Personal Protection When Fire Fighting: Use respiratory protection.

Other Information: Fire in closed areas should only be extinguished by trained personnel. Containers near a fire must be moved and/or cooled with water.

6. ACCIDENTAL RELEASE MEASURES

Safety measurements to Protect Persons: Mark the spillage. Use personal protection as stated in section 8.

Safety measurements to Protect Environment: Contain the spillage using sand, soil or other suitable material. Avoid seepage into the drains. Collect the spillage using cloths or an oil absorbent material. Immediately inform the government agency (fire brigade) if the spillage escapes into the drains of waterways. At large spillage inform the government agency (fire brigade). Collect material to be handled as advised under section 13.

7. HANDLING AND STORAGE

Handling: Storage correctly to avoid spillage and oil vapours.

Storage: Best under cover. Store container on their side so that the filling bungs are under the fluid level.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Exposure control: Ensure a high level of personal hygiene. Ensure good ventilation. Do not wear cloths that are contaminated with product. Do not put oil wet cloth/towel in your pocket. If there is a risk of direct contact or splashes, wear face visor or goggles, impervious gloves and protective clothing.

Eye protection: Use suitable face visor or goggles.

Skin protection: Oil impervious protective clothing.

Hand protection: protective gloves: nitrile rubber gloves (minimal thickness 0.33mm), Breakthrough time 480 min (EN 374)

Butyl rubber gloves (minimal thickness 0.8 mm), breakthrough time 120 min (EN 374)

In practice, due to variable exposure conditions, this information can only be an aid to orientation for selection of a suitable chemical protection glove. In particular, this information does not substitute suitability tests by the end user.

General information

Gloves should be replaced regularly, especially after extended contact with the product. For each work-place a suitable glove type has to be selected.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Colour:	Yellow-Brownish
Odour:	Oil. Faint
Density at 20 ^o C	0,880-0,890
Solubility in water	Negligible
Pour point,	- 45 °C
Flash point open cup (ASTM D-92)	> 100 °C
Viscosity at 100 °C	6.5-8.5 mm ² /s (cSt)

10. STABILITY AND REACTIVITY

Stability: Chemically stable.

Materials to Avoid : Strong oxidizing agents, water.

Hazardous Decomposition Products : When heated or during combustion carbon monoxide (CO) and other health hazardous compounds may be formed.

11. TOXICOLOGICAL INFORMATION

General: Low order of acute toxicity, but aspiration following ingestion and vomiting may cause severe and potentially fatal chemical pneumonitis. Does not absorb in acute toxic amounts through the skin. Exposure to high concentrations of oil mist may cause irritation to the respiratory organ. Exposure to the eye is slightly irritating, but does not injure eye tissue. Continuous or repeated skin contact combined with poor personal hygiene may cause dermatitis like eczema and oil acne. Used oil may contain harmful contaminants.

Skin contact: Product that under high pressure has been forced under the skin, may cause serious cell damage/death under the skin. Often or prolonged skin contact with used engine oils can cause cancer of the skin.

12. ECOLOGICAL INFORMATION

Mobility: Low solubility in water, floats on water.

Persistence/Degradability: Potentially degradable, but will persist in the environment for long periods.

Accumulation: Contain components with the potential to bioaccumulate. ($\log P_{ow} > 3$)

Ecotoxicity: Not harmful to aquatic organisms. Expected LC/EC 50 value > 100 mg/l.

13. DISPOSAL CONSIDERATIONS

Disposal methods: Recover and reclaim or recycle, if practical. Do not allow runoff to sewer, waterway or ground. Confirm disposal procedures with environmental engineer and local regulations.

Contaminated packaging: Drums that are to be recycled must be thoroughly evacuated. Turn empty drum up side down, somewhat leaning (ca 10°) with opening in lowest position. Let remaining products run out until drum is drip-free. Do not reseal without ventilating at a place free from ignition sources. See section 7 for further instructions.

Code of waste EWC: 13 02 05

Waste engine, gear and lubricating oils-mineral-based non-chlorinated engine, gear and lubricating oils.

Always check the given waste codes according to the actual conditions of manufacturing, formulation or use in your facilities.

14. TRANSPORT INFORMATION

General: Not classified as dangerous goods according to ADR/RID/IMDG/IATA

Road transport UN No : -

15. REGULATORY INFORMATION

Label for supply: Not applicable

Risk phrases: Not applicable

Safety phrases: Not applicable

16. OTHER INFORMATION

Explanations of R-phrases in section 2:

R36 – Irritating to eye.

R38 – Irritating to skin.

R41- Risk of serious damage to eye.

R43 – May cause sensitization by skin contact.

R51/53 – Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R52/53 – Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R53 - May cause long-term adverse effects in the aquatic environment.

Information Sources: The Classification and Labelling of Petroleum Substances to the EU Dangerous Substance Directive. Information from raw material suppliers.

Disclaimer: This information is based on our current knowledge and is intended to describe the product for the purpose of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of product. Receiver of our product is responsible for that applicable laws and regulations are being followed.