

**Vorstab Hydrobar AW 32/46/68/100/150**

(Anti-wear type hydraulic Oils)

1. Identification of the Product and the Company:

Product	Vorstab Hydrobar 32/46/68/100/150
Use	Antiwear hydraulic fluid
Company identification	VORSTAB India Specialities 5, Pramod Niwas, Near Shankar Mandir, Kalwa (w), Thane (w), India Pin 400605
Email	customercare@vorstabspeciality.com
Emergency Contact No.	+ 0225394009 / 25381446
Company	As above

2. Information on Ingredients:

These are a judicious blend of highly refined paraffinic base oil fractions with high performance additives.

See section number 16 for wording of the hazard symbols and R-phrases if dangerous ingredients are mentioned

3. Hazards Identification:

Classification of substance or mixture	This product is not classified as hazardous according to the criteria of SWA. Not a Dangerous Good according to Australian Dangerous Goods (ADG) Code, IATA and IMDG/IMSBC criteria.
Most important adverse Physico-chemical effects	Combustible liquid



Most important adverse human health effects	High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation. Sensitizing substances, allergic reaction possible
Most important adverse environmental effects	No specific risk to environment
Safety advice:	Do not empty into drain, dispose of this material and container in a safe manner. During use in engine, contamination of oil with low level of cancer-causing combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used oil is not expected to have serious effect on humans if the oil is thoroughly removed by washing with soap and water. Over exposure to oil mist may cause respiratory irritation. Oil mist deposited on surface may cause slip hazard

4. First Aid Measures:

If inhaled	Move to fresh air. In case of irritation of the respiratory system or mucous membranes, seek medical attention if you feel unwell or if exposure prolonged.
On skin contact	Remove and discard contaminated clothing quickly. Wash with plenty of soap and water. Do not use organic solvents. If skin irritation or dermatitis commences or persists seek medical attention. Wipe immediately with absorbent paper or textile towels



On eye contact	Rinse immediately with plenty of water for at least 10 minutes taking care to wash under the eyelids. Seek medical attention
On ingestion	Ingestion of lubricating oil is an unlike event. In case of spontaneous vomiting be sure that vomiter can freely drain due to danger of suffocation. Rinse mouth and then drink plenty of water. Seek medical attention

5. Fire-Fighting Measures:

Suitable extinguishing media	Combustible material, low hazard. The product can form flammable mixtures or can burn only on heating above the flash point, However, minor contamination by hydrocarbons of higher volatility may increase the hazard. The suitable extinguishing media are carbon dioxide, foam, dry chemical powder, water spray
Unsuitable extinguishing media for safety reasons	Do not use heavy water jet
Combustion products	Hazardous fumes of sulphur oxides, carbon oxides. toxic and irritant gases/vapours, nitrogen oxides can occur
Exposure hazards	Do not release chemically contaminated water into drains, soil or surface water. Sufficient measures must be taken to retain the water used for extinguishing. Dispose of contaminated water and soil according to local regulations
Advice to firefighter and special protective equipment	Wear a self-contained breathing apparatus, rubber boots and thick rubber gloves. Do not enter fire area without protective equipments, including respiratory protector. Use water spray or fog to cooling exposed containers



6. Accidental Release Measures:

Personal precautions, protective equipments and emergency procedures	Evacuate unnecessary personnel. Sources of ignition should be kept well away. Wear suitable protective clothing, gloves and eye or face protector. Avoid contact with the skin, eyes and clothing. Do not breathe vapours/dust
Environmental precautions	Prevent entry into sewage systems, ground and surface waters Methods for cleaning-up or taking-up collect the waste in suitable containers, which can be labeled and sealed. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder)
On soil	May require excavation of contaminated soil.
On water	The product is immiscible with water and will separate on the surface of water. Major quantity can be recollected.

7. Handling and Storage:

Precautions for safe handling	Keep away from source of ignition. No naked lights, No smoking, Use well ventilated area. Do not eat, drink while using the product. Wash hands and other exposed area with soap and water before leaving the work. Handle and open container with care. Avoid vapor formation and ignition sources. Ensure good local exhaust ventilation. Do not eat, drink or smoke at the workplace. Protect against fire and explosion. Take precautionary measures against static discharges.
Storage	Loading unloading temperature is 60 ° C maximum. Maximum storage temperature is 60 ° C. Keep away from heat, sparks, open flame,
	strong oxidizer, radiation and other initiators. Keep only in the original container. Keep the container in well ventilated place.



8. Exposure Control /Personal Protection:

European Union	Occupational Exposure Standard (OES) of 5 mg/m ³ , 8-hour time-weighted average reference period for oil mist.
America	The American Conference of Governmental Industrial Hygienists (ACGIH) has assigned mineral oil mist a threshold limit value (TLV) of 5 mg/m(3) as a Time Weighted Average (TWA) for a normal 8-hour workday and a 40-hour workweek and a short-term exposure limit (STEL) of 10 mg/m(3) for periods not to exceed 15 minutes. Exposures at the STEL concentration should not be repeated more than four times a day and should be separated by intervals of at least 60 minutes. [ACGIH 1994, p. 28]
Exposure limits values	Not tested. No data
Technical measures/precautions	No special technical protective measures required. Standard personal protective equipment is suffice the purpose
Respiratory protection	Wear respiratory protection if ventilation is inadequate
Hand protection	Use thick rubber protective gloves
Eye protection	Use tightly fitting safety goggles and face shield
Skin and body protection	Use closed footwear, regular working clothes

9. Physical and Chemical Properties (Typical):



Properties/Grade	32	46	68	100	150
Physical state	Liquid	Liquid	Liquid	Liquid	Liquid
Colour	Pale brown	Pale brown	Pale brown	Pale brown	Pale brown
Odour	Mild petroleum	Mild petroleum	Mild petroleum	Mild petroleum	Mild petroleum
K. Viscosity @ 40 °C, cSt	32	46	68	100	150
Viscosity Index	98	98	98	97	96
Flash point, ° C	210	220	225	230	230
Pour point, ° C	- 9	- 6	- 6	-3	-3
FZG, Part II	> 12	> 12	> 12	> 12	> 12
Solubility in water	Immiscible	Immiscible	Immiscible	Immiscible	Immiscible
Neutralization number	0.12	0.12	0.12	0.12	0.12

10. Stability and Reactivity:

Reactivity	It is non reactive product; No data available
Chemical stability	Stable under normal condition
Possibility of hazardous reaction	None under normal condition
Conditions to avoid	Storage at elevated (above 60 ° C) temperature
Materials to avoid	Strong acids, strong bases, strong oxidizing agents



Hazardous decomposition products	None under normal condition. By overheating may give carbon oxide, hydrocarbon
---	--

11. Toxicological Information:

Acute toxicity	No test data are available for fully formulated products. The potential health hazards were therefore derived from what is known of the toxicity of base oils and additives used in general. The general effects of base oils of this type are well known and are described in numerous publications including CONCAWE Report 5/87 "Health Aspects of Lubricants".
Acute dermal toxicity	No adverse effect is noted
Skin and eye irritation	Not expected to be an irritant to skin or eye
Skin Sensitization	Repeated exposure may cause sensitization due to allergic reaction of the skin
Carcinogenicity	This product contains mineral oils which are severely refined and are considered to be not carcinogenic under IARC; all of the oils in this product have been demonstrated to contain less than 3% extractable by the IP 346 test
Mutagenicity	Not expected to be mutagenetic
After ingestion	Ingestion may cause nausea, vomiting and diarrhea
After inhalation	Negligible hazard at ambient/normal handling temperatures. Elevated temperatures or mechanical action may form vapours, mists, or fumes which may be irritating to the eyes, nose, throat, and lungs. Avoid breathing vapours, mists, or fumes. Inhalation of vapours may cause respiratory irritation



After skin contact	Prolonged or repeated skin contact with the material will remove natural oils and could lead to dermatitis
CHRONIC	Base oil components of this product have shown no carcinogenicity in experimental animals (long term repeated skin painting tests) Prolonged and/or repeated contact with used diesel engine oils has caused skin cancer in experimental animals. The relationship of these results to humans has not been fully established

12. Ecological Information:

Toxicity	No specific ecotoxicity data on this product available
Persistence and degradability	Major components are inherently biodegradable
Mobility in soil	It is to be expected small mobility in soil. Some or a few components may get into the soil and may cause pollution of ground water. Product spreads on the water surface.
Toxicity to aquatic invertebrates and plant	No data available. Not tested
Other adverse effects	May contaminates ground water supplies
Additional remarks environmental fate and pathway	Do not discharge product uncontrolled into the environment.

13. Disposal Consideration:

Waste from residue/unused products	Residual chemical should be disposed by incineration or by other modes of disposal in compliance with local legislation.
---	--



Contaminated packaging	Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance / product dispose of in accordance with national, state and local regulations. Clean packaging material should be subjected to waste management schemes (recovery recycling, reuse) according to local legislation
-------------------------------	--

14. Transport Information:

Usual shipping containers and Transport temperature	Rail cars, tank trucks, drums and small containers Ambient to maximum 40 ° C
DOT shipping description	Not regulated as dangerous good under 49 CRF
ICAO/IATA shipping description	Not regulated as dangerous good transport under the ICAO code
TC shipping description	Not regulated as dangerous good for transport under transport Canada (TDG)
ADR/RID Class	Not regulated as dangerous good transport under the ADR/RID class
IMO/IMDG shipping description	Not regulated as dangerous good transport under the IMDG code

15. Regulatory Information:

European Inventory of Existing Commercial Chemical Substances (EINECS)	All components are listed
---	---------------------------



USA Toxic Substances Control Act (TSCA):	All components of this material are on the US TSCA Inventory or are exempt
Regulations of the European Union (Labeling) / National legislation/regulations	
R-phrases (s)	
R43	May cause sensitization by skin contact
R52/53	Harmful to aquatic organisms may cause long-term adverse effects in the aquatic environment
S-phrases(s):	
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
S61	Avoid release to the environment. Refer to special instructions/safety data sheets
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

16. Other Information:

Key to abbreviations and acronyms used in the safety data sheet:

ACGIH	American Conference of Industrial Hygienists
CLP	Classification and Labeling of Substances and Preparations
EC	European Commission
EN	European Norm
IARC	International Agency for Research on Cancer
IP	Institute of Petroleum
ISO	International Organization for Standardization
NLGI	National Lubricating Grease Institute
PCA	Polycyclic Aromatics



TLV	Threshold Limit Value
TWA	Time Weighted Average
VG	Viscosity Grade

R-phrases and hazard symbols:

R43	May cause sensitization by skin contact
R22	Harmful if swallowed
R35	Causes severe burns
R36/38	Irritating to eyes and skin
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R48/22	Harmful: danger of serious damage to health by prolonged exposure if swallowed
R38	Irritating to skin
R41	Risk of serious damage to eyes
Xi	Irritant
C	Corrosive
N	Dangerous for the environment
Xn	Harmful
P102	Keep out of reach of children
P261	Avoid breathing mist
P262	Do not get in eyes, on skin, or on clothing
P281	Use personal protective equipment as required
Note	This product should be stored, handled and used in accordance with good industrial hygiene practices and in conformity with any legal regulation. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.



PREVENTION

P102: Keep out of reach of children.

P261: Avoid breathing mists.

P262: Do not get in eyes, on skin, or on clothing.

P281: Use personal protective equipment as required.

RESPONSE

P352: Wash with plenty of soap and water.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P370+P378: In case of fire, use carbon dioxide, dry chemical, foam.

STORAGE

P402+P404: Store in a dry place. Store in a closed container

DISPOSAL

P501: If product cannot be recycled, consider controlled incineration, or contact a specialist waste disposal company (see Section 13 of this SDS).

Manufactured By: Mark Speciality India Pvt. Ltd.

Survey No. 185, Plot No. 11&20, Dheku, Khopoli, Dist. Raigad, Maharashtra - 410203.

Tel.: 0225394009 / 25381446 | Email id: customercare@vorstabspeciality.com

VORSTAB INDIA SPECIALITIES