

SAFETY DATA SHEET

according to the COMMISSION REGULATION (EU) № 453/2010

**Turbine oil «BORA B» Turbine Oil ISO VG 46
(BORA Turbine Oil 46)**

Date: 07.10.19

Version 1.0

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY**1.1 Product identifier**

Trade name:	Turbine oil «BORA B» Turbine Oil ISO VG 46 (BORA Turbine Oil 46)
REACH registration number:	Not applicable. Mixture
Molecular formula:	Not applicable. Mixture

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

Identified uses:	Used as a lubricating oil for steam and gas turbochargers with or without gearbox; for lubrication to gears
Uses advice:	Apply the oil for its intended purpose and according to the recommendation

1.3 Details of the manufacturer/supplier of the safety data sheet

Manufacturer:	«Bora B» LLC.
Address:	Larisa Rudenko Str., 6A, Kyiv, Ukraine
Communication tools:	+380-44-496-23-52 Email: bora-b@ukr.net


1.4 Emergency telephone number

+380-67-408-21-19

2. HAZARDS IDENTIFICATION**2.1 Classification of product according to Regulation (EC) No 1272/2008 [CLP/GHS]**

Reproductive toxicity 1, H360
Carcinogenicity 1, H350

2.2 Label elements

Hazard pictograms:			
Signal word:	Danger		
Hazard statements:	H350 H360	May cause cancer May damage fertility or the unborn child	
Precautionary statements:	P201 P202 P281	Obtain special instructions before use Do not handle until all safety precautions have been read and understood Use personal protective equipment as required	
Measures for safe handling:	P308+P313	If exposed or concerned: get medical advice/attention	
Safe storage conditions:	P405	Store locked up	
Additional labeling requirements:	P501	Dispose of contents/container to special organization, which deals with the disposal of hazardous wastes in accordance with the requirements of national legislation	

2.3 Other hazards

The oil does not meet the criteria for PBT or vPvB

3. COMPOSITION/INFORMATION ON INGREDIENTS**3.1 Product**

The oil is a mixture of organic substances

3.2 Components

For the mixture classification an actual content of hazardous components is applied.

Hazardous components

Name	EINECS	CAS	Classification (CLP/GHS)	Weight (%), content (or range)
Lubricating oils (petroleum),	276-738-1	72623-87-1	Carcinogenicity 1, H350	Not less 50

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Oil-based				
Additive packages	Mixture		Skin irritation 2, H315 Serious eye damage 1, H318 Reproductive toxicity 1, H360 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	Not above 2
4. FIRST AID MEASURES				
4.1 Description of first aid measures				
General measures:	Show a medical doctor a safety data sheet. Do not leave the victim unattended.			
In case of eye contact:	Wash your eyes with plenty of warm water for at least 15 minutes, raising the upper and lower eyelids. Seek medical advice			
In case of skin contact:	Remove contaminated clothing. Immediately wash contaminated areas of the body with soap and water, as well as areas that may be contaminated. Dispose of contaminated clothing			
In case of ingestion:	Rinse your mouth. Give plenty of water (only if the victim is conscious). Seek immediate medical attention. Do not induce vomiting			
In case of inhalation:	Provide access to fresh air. If the symptoms do not pass or are in doubt, seek medical attention. Immediately seek medical attention if there is an irritation of the respiratory tract, dizziness, nausea, or the victim is in an unconscious state. At stopping breathing - artificial breathing "mouth to mouth"			
4.2 Most important symptoms and effects, both acute and delayed				
Acute symptoms:	See Section 2 and / or Section 11.			
4.3 Indication of any immediate medical attention and special treatment needed				
Treatment: symptomatic treatment				
5. FIREFIGHTING MEASURES				
5.1 Extinguishing media				
Suitable extinguishing media:	Carbon dioxide, extinguishing foam, flame retardant powder, sand, soil, spray water			
Unsuitable extinguishing media:	Strong water jet			
5.2 Special hazards arising from the substance or mixture				
Carbon oxide, carbon dioxide, decomposition products are formed during a fire				
5.3 Advice for firefighters				
Use standard firefighting procedures and consider the hazards of other involved materials. Reservoirs prone to fire action should be cooled by irrigation. Special protective equipment: in the event of a major fire or in closed or poorly ventilated areas, wear a complete set of fireproof protective clothing and an autonomous breathing apparatus with compressed air with a mask on the entire face				
6. ACCIDENTAL RELEASE MEASURES				
6.1 Personal precautions, protective equipment and emergency procedures				
Report emergency personnel immediately. Withdraw all incompetent personnel from an area. Only trained personnel can perform the liquidation of pollution. Ensure adequate ventilation. Eliminate all sources of ignition if it is safe. Spilled material may be slippery.				
6.1.1 For non-emergency personnel	Do not touch or walk on the spilled material. Avoid contact with skin and eyes. Avoid inhaling vapors			
6.1.2 For emergency responders	Persons who are in contact with a spillage product must necessarily wear a complete set of protective clothing and respirators. Protective equipment should be used in accordance with section 8.			
6.2 Environmental precautions				
The oil is posing an environmental hazard. Do not allow product to come into contact with atmosphere, soil, sewage,				

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surface water or groundwater. Prevention of product intrusion into the sewage and drainage system should be avoided. Inform the relevant service in case of emergency foreclosure of the product in the environment.		
6.3 Methods and material for containment and cleaning up		
Avoid contact with spilled material.		
<i>Spillage into a land:</i> stop leak if it is possible without risk. Do not touch or walk on the spilled material. Eliminate all sources of ignition, if it not associated with risk. <i>Small spillage:</i> collect spilled material with soil, sand or other non-combustible material, and place in a sealed container for further disposal. <i>Large spillage:</i> remove larger spills using a vacuum truck.		
<i>Spillage into a watercourse:</i> stop leak if it is possible without risk. Limit the spill immediately with booms. Pick up the material from a water surface by removing a slick or using a suitable absorbent.		
Keep containers closed and disposed of in accordance with all applicable environmental regulations.		
6.4 Reference to other section		
Information about personal precautions - see Section 8.		
Information about waste disposal - see Section 13.		
7. HANDLING AND STORAGE		
7.1 Precautions for safe handling		
Protective measures: Do not inhale the dust. Do not allow product to get into eyes, skin or clothing. Use a local ventilation system or take other technical measures to prevent the dust in the air. Use personal protective equipment. Spilled material can be slippery.		
Measures to prevent fire: protect from open fire, sparks, and hot surfaces. No smoking. Take preventive measures against static discharges. Fire extinguishers should be kept in a safe place.		
Environmental precautions: adhere to the technological regime and the rules of storage and transportation of the product. Effective work of ventilation systems.		
Advice on occupational hygiene: Avoid eating and drinking in the working area. Remove contaminated clothing before entering the eating areas. Wash hands and face thoroughly after handling with product.		
7.2 Conditions for safe storage, including any incompatibilities		
Storage conditions	Store in a dry and well-ventilated place. Away from sources of ignition	
Special requirements for packaging:	Hermetically sealed steel container	
Requirements for storage rooms:	Closed premises	
Additional information on storage requirements:	Prevent unauthorized access	
7.3 Specific end use(s)		
None		
8. EXPOSURE CONTROLS / PERSONAL PROTECTION		
8.1 Control parameters		
Maximum permissible concentrations of harmful substances in the air of the working zone	Lubricating oils (petroleum), oil-based	DNEL – 2,73 mg/m ³
8.2 Exposure controls		
The information in this section contains generic advice and guidance.		
8.2.1 Appropriate engineering controls		
Provide the mechanization and automation of production processes. Ensure tightness of equipment and containers. Production facilities must be equipped with general exhaust and local ventilation. Conduct periodic monitoring of volatile components in the air of the working area		
8.2.2 Individual protection measures, such as personal protective equipment		
Respiratory protection:	When using mask or semi-mask: filter for gases or vapors of organic compounds (boiling point> 65 ° C, e.g. EN 14387 Type A)	
Hands protection:	Gloves that are resistant to chemicals in standard EN 374: protective gloves against the effects of chemicals (nitric-rubber, butyl rubber, PVC, neoprene, rubber) are used. When extending a long or repeated contact, it is recommended to use gloves with protection class	

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	3 or higher.
Eye protection:	Use protective goggles. Goggles must comply with EN 166 or similar document.
Skin cover protection:	Protective antistatic clothing to minimize skin contact.

8.2.3 Environmental exposure controls

Measures to prevent exposure:	Do not allow large quantities of product to come into contact to soil, sewers and ground-water.
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9. PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

Appearance	Liquid
Odor	Specific
Odor threshold	No data available
pH	Not applicable
Melting point/range, °C	No data available
Initial boiling point/range, °C	No data available
Flash point, °C	> 220
Evaporation rate	No data available
Inflammation temperature, °C	No data available
Lower-Upper flammability or explosive limits	No data available
Vapor pressure	No data available
Vapor density (depending on the pressure)	No data available
Density, g/sm ³	0,84 (15°C)
Solubility in water	Not solubility
Partition coefficient: n-octanol / water	No data available
Auto-ignition temperature, °C	No data available
Decomposition temperature, °C	No data available
Viscosity, mm ² /s	48 (40°)
Explosive properties	Non-explosive

9.1 Other information

None

10. STABILITY AND REACTIVITY

10.1 Reactivity	Not reactive
10.2 Chemical stability	Stable under regular storage, use and transportation conditions.
10.3 Possibility of hazardous reactions	Will not occur if use, transportation and storage conditions are met
10.4 Conditions to avoid	Avoid heat, sparks, open flames and other sources of ignition
10.5 Incompatible materials	Strong alkyls and acids
10.6 Hazardous decomposition products	Under the conditions of application, storage and transportation, the product does not decompose

11. TOXICOLOGICAL INFORMATION**11.1 Information on toxicological effects**

Clinical performance of acute poisoning	May cause cancer. May damage fertility or the unborn child
The most affected organs, tissues, systems	Skin, mucous membranes
Acute toxicological indication	Lubricating oils (petroleum), oil-based - LD ₅₀ – (300-2000) mg/kg (rat) Additive packages - LD ₅₀ – (300-2000) mg/kg (rat)
Skin corrosion/irritation	The skin may be slightly irritated
Serious eye damage/eye irritation	The eyes may be slightly irritated

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Respiratory or skin sensitization	Not sensitizing
Germ cell mutagenicity	Not expected to be a germ cell mutagen.
Carcinogenicity	Category 1. May cause cancer
Reproductive toxicity	Category 1. May damage fertility or the unborn child
STOT - single exposure	No adverse effects expected.
STOT - repeated exposure	No adverse effects expected.
Aspiration hazard	Not classification
12. ECOLOGICAL INFORMATION	
12.1 Toxicity for environment:	
Ecotoxicity	The contamination of the environment is possible: atmosphere, waters and soils as a result of spills, releases, process flow disruption, incompliance with storage or transportation regulations, the emergency situations and accidents
Ecotoxicity values:	
Acute toxicity to fish:	Lubricating oils (petroleum), oil-based - LL50 (4 days) – 100 mg/l
Toxicity to aquatic invertebrates:	Lubricating oils (petroleum), oil-based - LL50 (48 h) - 10 g/l
Toxicity to aquatic algae and cyanobacteria:	No data available
Toxicity to microorganisms:	Lubricating oils (petroleum oil-based - NOEL (10 min) > 1,93 mg/l
12.2 Persistence and degradability	
Abiotic Degradation	No data available
Biodegradation	No data available
12.3 Bioaccumulative potential	
Not determined	
12.4 Mobility in soil	
No data available	
12.5 Results of PBT and vPvB assessment	
The oil doesn't contain any PBT or vPvB constituent	
12.6 Other adverse effects	
None	
13. DISPOSAL CONSIDERATIONS	
13.1 Waste treatment methods	
Proper disposal / product	Waste disposal must be carried out in strict accordance with the requirements of national, regional and local waste disposal legislation. Incineration under approved conditions and with continuous control in furnaces is the preferred disposal method.
Waste Norms / waste categories by European Waste Catalogue EWC / AVV	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.
Proper disposal / packaging	Packaging must be disposed of in accordance with national, regional and local regulations.
14. TRANSPORT INFORMATION	
The product is transported:	
By railway (RID)	The product is not considered as dangerous goods under TDG regulations
By road (ADR)	The product is not considered as dangerous goods under TDG regulations
By marine transport (IMDG)	The product is not considered as dangerous goods under TDG regulations
By air transport (IATA/ICAO)	The product is not considered as dangerous goods under TDG regulations
14.1 UN number	none
14.2 UN proper shipping name	none

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14.3 Transport hazard class(es)	none
14.4 Packing group	none
14.5 Environmental hazards	none
14.6 Special precautions for user	none
15. REGULATORY INFORMATION	
15.1 Safety, health and environmental regulations/legislation specific for the substance	
1. Regulation (EC) No 1272/2008 2. Regulation (EC) No 453/2010 3. Regulation (EC) No 1907/2006	
15.2 Chemical Safety Assessment	
Chemical safety assessment has not been carried for the product	
16. OTHER INFORMATION	
Assignment of safety data sheet	Safety Data Sheet informs downstream users about the hazards of products and ways to prevent its adverse effects on human health and the environment. Safety Data Sheet can be used during custom control, transportation of goods, emergency operations, waste management, development of emergency response plan, briefing, development of special teaching programs, staff qualification, labeling, also can be used as pictorial information and agitation, or product advertising.
Safety Data Sheet usage	During the development of normative documents concerning occupational safety requirements and environmental protection; as the basis for medical and ecological activities during manufacture, use, storage and transportation of the product, during organization of manufacture and hygienic assessment of working conditions, when importing or exporting as part of support documentation.
Training instructions	Read carefully the Safety Data Sheet before using these products.
Uses advised against when using chemical product	Information applies to a specific product. It may be invalid in case this product is used together with any other materials or in any other production process. A consumer of product is responsible for the consequences of its use in specific purposes.
Abbreviations	LD ₅₀ – lethal dose; DNEL - the minimum level of influence is set; LC50 - average lethal concentration; NOEC - no observed effect concentration EC50 - effective concentration; PBT or vPvB - persistent bioaccumulative or very persistent very bioaccumulative substance.
Information sources	The Hazardous Substances Database (HSDB) of the US National Library of Medicine. ECHA database of registered substances. GESTIS database of environmental substances.