

Material Safety Data Sheet

Section 1 - Chemical Product and Company Identification

Product Name : BOER 100

Chemical Name: severely Hydrotreated Heavy Naphthenic Distillate

Chemical Family : Petroleum Distillate.

Chemical Formula : Not Applicable.

CAS Number : 64742-52-5

Company Details : TENOIT CO., LTD.

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Section 2 - Composition And Information On Ingredients

A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces finished oil with a viscosity near 100 SUS @100°F(19 cSt@40°C).

Ingredient	CAS Number	Percentage	Hazardous
Severely Hydrotreated Heavy Naphthenic Petroleum Oil.	64742-52-5	100.0	No

Trace Impurities:

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH
	TWA	STEL	TWA	STEL	TWA	STEL	IDLH
Severely Hydrotreated Heavy Naphthenic Petroleum Oil	5 mg/m ³ (oil mist)	None estab	5 mg/m ³ (oil mist)	10 mg/m ³ (oil mist)	None estab	None estab	None estab

Section 3 - Hazardous Identification

Potential Health Effects

Primary Entry Route : Skin

Inhalation : Inhalation of vapors or mist may be irritating to respiratory passages. Target Organ for mineral oil mist is lungs. Prolonged exposure may result in dizziness and nausea.

Eye : Eye contact may result in slight irritation and redness.

Skin : Short term contact with skin is unlikely to cause any problems ; excessive or prolonged and repeated contact and poor hygiene conditions may result in dryness, dermatitis, erythema, oil acne, cracking and defatting of the skin.

Ingestion : May result in nausea or stomach discomfort.

Carcinogenicity : Based on OSHA 1910. 1200 and IARC study requirements, this product does not require labeling. Meets EU requirement of less than 3%(w/w)DMSO extract for total polycyclic aromatic compound(PAC) using IP 346. NTP and OSHA do not list this product as a potential carcinogen.

Mutagenicity : This product gives negative mutagenic results from Modified Ames Assay.

Medical Conditions Aggravated by Long-Term Exposure: Personnel with pre-existing skin disorders should avoid contact with this product.

Section 4 - First Aid Measures

Eye Contact: Wash with water. If irritation or redness persists seek medical help.

Skin Contact : Wash thoroughly with soap and water. Remove contaminated clothing. Reuse only after cleaning.

Inhalation : Remove to fresh air. Assist breathing if necessary. Seek medical help.

Aspiration : If there is any suspicion of aspiration into the lungs obtain medical advice.

Ingestion : If swallowed, observe for signs of stomach discomfort or nausea. If symptoms persist, seek medical help. Do not induce vomiting.

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Section 5 - Fire Fighting Measures

Flash Point : $\geq 325^{\circ}\text{F}(163^{\circ}\text{C})$, **Flash Point Method :** COC
Burning Rate : Not available
Autoignition Temperature : $> 600^{\circ}\text{F}(> 315^{\circ}\text{C})$
Lower Explosive Level(LEL):Not determined.
Upper Explosive Limit(UEL) : Not determined.
Flammability Classification : OSHA CLASS III-B Combustible Liquid.
Extinguishing Media : Halon, dry chemical, foam, CO₂ and water mist or fog. Water may be used to cool below flash point.
Unusual Fire or Explosion Hazards : Do not use forced stream as this could cause fire to spread.
Combustion Products : Fumes, Smoke, and Carbon monoxide.
Fire-Fighting Instruction and Equipment : Use water to cool containers exposed to flames. Do not enter enclosed or a confined work space without proper protective equipment. Fire fighting personnel should wear respiratory protection (positive pressure if available).

Section 6 - Accidental release Measures

Spill/Leak Procedures: Stop spill at source if possible without risk. Contain spill. Eliminate sources of ignition. Spill area will be slick. Recover all possible material for reclamation. Use non-flammable absorbent material to pick up remainder of spill.
Spill to navigable Waters: If this material is spilled into navigable waters and creates a visible sheen, it is reportable to the National Response Center.

Section 7 - Handling and Storage

Handling and storage Precautions : Keep away from flames, sparks or hot surfaces. Never use a torch to cut or weld on or near container. Empty oil containers can contain explosive vapors. NFPA Class IIIB storage. Wash thoroughly after handling.
Work/Hygienic Practices : Wash hands with soap and water before eating, drinking, smoking or use of toilet facilities. Do not use gasoline, solvents, kerosene, or harsh abrasive skin cleaners for washing exposed skin areas. Take a shower after work if general contact occurs. Remove oil-soaked clothing and launder before reuse. Discard contaminated shoes and leather gloves.
Shelf Life : Product should be stored in clean, dry containers at ambient temperatures and it should remain stable with exception of slight color stability loss unless it is contaminated.

Section 8 - Exposure Controls/Personal Protection

Engineering Controls : Adequate ventilation is required where excessive heating or agitation may occur to maintain concentration below exposure limits.
Eye/Face Protection : Safety glasses or face shield where splashing is possible.
Skin Protection : As needed to prevent repeated skin contact. Solvent resistant gloves should be used if needed.
Respiratory Protection : Not Normally Needed. Respirator should be used in areas where vapor concentrations are excessive due to high temperatures or where oil misting occurs.

Section 9 - Physical and Chemical Properties

Physical State : Liquid	Vapor Density(Air=1) : > 5
Appearance : Clear & bright	Specific Gravity(H₂O=1) : 0.90
Color : Water white to pale or light amber	Water Solubility(H₂O) : Nil
Odor : Mild petroleum odor	Boiling Point : Not determined
Odor Threshold : Not determined	Melting Point : $-40^{\circ}\text{F}(-40^{\circ}\text{C})$
Vapor Pressure : Not applicable	% Volatile : Nil(LVP-VOC)
Evaporation Rate : Not available	PH : Not applicable

Section 10 - Stability and Reactivity

Stability : Stable

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Polymerization : Polymerization will not occur.
Chemical Incompatibilities : Strong oxidizers.
Condition to Avoid(Stability) : Sources of ignition.
Hazardous Decomposition Products : Combustion products include carbon dioxide and carbon monoxide.

Section 11 - Toxicological Information

Acute Toxicity : Tests on similar materials show a low order of acute oral and dermal toxicity.
Acute Oral Effects : Tests on similar materials indicate low order of acute oral toxicity.
Acute Inhalation Effects : Low acute toxicity expected on inhalation.
Eyes Irritation : Minimal irritation on contact. Eye Irritation slight or practically non-irritating based on similar products.
Skin Effects : Practically non-toxic if absorbed. Other similar highly refined products have not shown skin tumors in mouse, skin painting studies.
Skin Irritation : May cause mild irritation with prolonged and repeated exposure.
Skin Sensitization : Is indicated as non-sensitizing based on data from similar products.
Carcinogenicity :
Skin : Not considered a potential carcinogen based on IP346 DMSO of less than 3.0 wt%.
Genotoxicity : This product is considered non-mutagenic and has negative potential for tumor development based on results from Modified Ames Assay , with Mutagenic Index of less than 1.0.

This product is severely hydrotreated at greater than 800 psi , and does not require a cancer warning under OSHA Hazard Communication Standard(29 CFR 1910.1200). Similar products have not been listed in NTP reports , and are classified by IARC as having inadequate evidence of carcinogenicity. IARC indicates that based on preponderance of data highly refined mineral oils are not mutagenic either in vitro or in vivo. Severely hydrotreated naphthenic petroleum oils have not been found to be carcinogenic or potential carcinogens.

Section 12 - Ecological Information

Aquatic Release : Advise authorities if product has entered or may enter watercourses or sewer drains.
Ecotoxicity : Available data indicate this product is not acutely toxic. 96 hr. acute static toxicity for Pimephales promelas(Fathead Minnow)LC₅₀ mortality is greater than 30,000 mg/L. Other similar products have shown 48 hr EL₅₀ for Daphnia magna greater than 1000 mg/L , and 96 hr 1rL₅₀ for Scenedesmus subspicatus (Alga) greater than 1000 mg/L.
Biodegradability : This product reaches less than 10% biodegradation in standard 28-day test and is not readily biodegradable in the environment.

Section 13 - Disposal Considerations

Follow Federal, State and Local regulations. Not a RCRA hazardous waste if uncontaminated. If "used" , RCRA criteria must be determined. Do not flush to drain/storm sewer. Contract to authorized disposal service. If permitted incineration may be practical. Consider recycling.

Section 14 - Transport Information

Proper Shipping Name : Not regulated by DOT (Contains Oil)
Hazard Class : Not Applicable
DOT ID No. : Not Applicable
DOT Shipping Label : Not regulated by DOT

Section 15 - Regulatory Information

U.S. Federal Regulatory Information :
CERCLA/SARA :
302/303/304 categories(40 CFR 355 Appendix A): Extremely hazardous substances : No
311/312 categories : Immediate(Acute) Health Effects : No

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(40 CFR 370)	Delayed(Chronic) health effects : No Fire Hazards : No Sudden Release of Pressure Hazard : No Reactivity Hazard : No
313 categories	: Toxic Chemicals(40 CFR 372) : None
Clean Air act	: Hazardous Air Pollutants(HAPS) : None Ozone depleting Compounds(ODC) : None
Clean Water Act	: If spilled into navigable waters it is reportable to National Response Center, 800-424-8802
(40 CFR 116;401.15)	Reportable Quantity= Oil sheen present on navigable water surface.
OSHA(29CFR 1910)	: This product is not hazardous under Hazard Communication Standard 29 CFR 1910.1200
RCRA(40 CFR 261.33)	: This product does not meet hazardous waste criteria.
EPA/TSCA Inventory	: The components of this product are listed on the EPA/TSCA inventory of chemicals. CAS No: 64742-52-5
State Regulations:	
California Prop 65: No Proposition 65 chemicals exist in this product, no labeling required.	
Florida: No listed ingredients are present.	
Massachusetts RTK: No listed ingredients are present.	
Minnesota RTK: No listed ingredients are present.	
New Jersey RTK: Lists petroleum oil, but this product does not contain hazardous ingredients.	
Pennsylvania RTK: Lists petroleum oil, but this product does not contain hazardous ingredients greater than 3%.	
Illinois DOL TSL: No listed ingredients are present.	
Other Regulation :	
WHMIS(Canada) : Not listed on the Canadian Controlled Product Ingredient Disclosure and is compliant with Controlled Products Regulation.	
CONEG Metals : Since cadmium , chromium , lead and mercury are not detectable and it does not exceed 100 ppm total in this product , it is compliant with CONEG Metals regulation.	
EEC(Europe) : This product is not known to be a dangerous good internationally. No known R-Phrases or S-Phrases Hazard Label None Danger Symbol None	
Foreign Inventories : The components of this product are listed under the following inventories :	
1. European Union's EINICS No. 265 -155 -0 2. Korea's ECL No. KE - 12543 3. Australia's AICS No.64742-52-5 4. CANADA's DSL No.:64742-52-5 5. Philippines' PICCS- on List	
Section 16 - Other Information	
Hazard Rating 0 = Least 1 = Slight 2 = Moderate 3 = High 4 = Extreme	NFPA/HMIS Classification Health = 1 Slight Fire = 1 Slight Reactivity = 0 Least

Disclaimer :

The information contained herein is based upon data believed to be reliable and reflects our best professional judgment. It is the responsibility of the user to determine the suitability of the material for their purpose. No warranty is expressed or implied, is given.