

Material Safety Data Sheet

Section 1 - Chemical Product and Company Identification

Product Name : BOER MVI 150BS
Chemical Name: severely Hydrotreated Heavy Naphthenic Distillate/Hydrotreated Residual Oils
Chemical Family : Petroleum Distillate Blend.
Industrial category: Petroleum
Chemical Formula : Not Applicable.
CAS Number : 64742-57-0/64742-52-5
Company Details : TENOIT CO., LTD.
Room 4, 5FL., No.109, Sec. 6, Mingquan East Road, Taipei, Taiwan
EMERGENCY TELEPHONE NUMBER : TEL (886) 2 8792-2185 8792-2187
FAX (886) 2 8792-2151

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, boiling above 400°C and produces a finished oil with a viscosity near 3500 SUS @100°F (640 cSt@40°C).

| Ingredient | EC No. | CAS No. | % vol. | Classification |
|--|-----------|------------|--------|----------------|
| Residual Oils, Hydrotreated (petroleum) | 265-160-8 | 64742-57-0 | 75-95 | Nonhazardous |
| Distillates, Hydrotreated Heavy Naphthenic | 265-155-0 | 64742-52-5 | 5-25 | Nonhazardous |

Section 3 - Hazardous Identification

Classification: Nonhazardous
Human and Environmental 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. Temporary redness or burning may occur.
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, may have a laxative effect if swallowed.
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.
Other Effects
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.
Ingestion : If swallowed, observe for signs of stomach discomfort or nausea. If symptoms persist, seek medical help. Do not induce vomiting.
Information for Physicians: If there is any suspicion of aspiration into the lungs obtain medical advice.

Material Safety Data Sheet

Section 5 - Fire Fighting Measures

Extinguishing Media : Halon, dry chemical, foam, CO₂ and water mist or fog. Water may be used to cool below flash point.

Extinguishing Methods Not Used: Do not use forced stream as this could cause fire to spread.

Exposure Hazard (Combustion Products) : Fumes, Smoke, and Carbon monoxide.

Fire-Fighting equipment: Fire fighting personnel should wear respiratory protection (Positive pressure if available).

Fire-Fighting Instruction : Use water to cool containers exposed to flames. Do not enter enclosed or a confined work space without proper protective equipment. Do not point solid water stream directly into burning oil to avoid spreading.

Section 6 - Accidental release Measures

Personal Precautions:

Spill/Leak Procedures: Stop spill at source if possible without risk. Contain spill. Eliminate sources of ignition. Wear appropriate protective equipment and clothing during clean-up. Spill area will be slick.

Environmental Precautions:

Spill to navigable Waters: If this material is spilled into navigable waters and creates a visible sheen, mutual assistance may be obtained from National Response Center.

Water Hazard Class: WGK 1 (Slightly water polluting)

Methods For Clean-up:

Recover all possible material for reclamation. Use non-flammable absorbent material to pick up remainder of spill. Surfaces may become slippery after spillage. Absorb with inert absorbent such as dry clay, sand or diatomaceous earth. Scoop up used absorbent into drums. Dispose of spent absorbent in an approved industrial waste landfill.

Section 7 - Handling and Storage

Handling

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. 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.

Storage : 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

Exposure Controls :

Occupational Exposure Controls:

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.

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.

Environmental Exposure Controls:

Adequate ventilation is required where excessive heating or agitation may occur to maintain concentration below exposure limits.

Exposure Limit Values:

EUROPE:

Workplace Exposure Limits (WELs)/ Occupational Exposure Limits (OELs): None established

Material Safety Data Sheet

INTERNATIONAL:
 GETIS International Limit values: 8 Hr Limit:5 mg/m³ STL:10 mg/m³ (UK, ES, CA, US)
 UNITED STATES:
 Trace Impurities:

| Ingredient | OSHA PEL | | ACGIH TLV | | NIOSH REL | | NIOSH |
|---|--------------------------------------|----------------|--------------------------------------|---------------------------------------|----------------|----------------|----------------|
| | TWL | STEL | TWA | STEL | TWA | STEL | IDLH |
| Residual Oils (petroleum) Hydrotreated | 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. |
| 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 9 - Physical and Chemical Properties

| | |
|---|---|
| Physical State : Liquid Appearance : Clear & bright Color : Yellow to Amber Odor : Mild petroleum (Hydrocarbon) odor Odor Threshold : Not determined Vapor Pressure : Not applicable Evaporation Rate : Not available Viscosity: near 3500 SUS@100°F(640 cSt @ 40°C) Autoignition temperature: >315°C Lower Explosive Level(LEL): not determined | Vapor Density(Air=1) : 1 Specific Gravity(H₂O=1) : 0.9100 Water Solubility(H₂O) : Nil Boiling Point : ≥ 700°F (370°C) Pour Point: 20°F (-6.7°C) Molecular weight: 650 Flash Point: 555°F(291°C) typical COC % Volatile : Nil(LVP-VOC) PH : Not applicable Upper Explosive Level(UEL): not determined |
|---|---|

Section 10 - Stability and Reactivity

Condition to Avoid(Stability) : Sources of ignition, high temperature and open flame.
Materials to Avoid/ Chemical Incompatibilities: Strong oxidizers.
Hazardous Decomposition Products : Combustion products include carbon dioxide, carbon monoxide, oxides of sulfur & nitrogen.
Polymerization : Polymerization will not occur.
Stability : Stable

Section 11 - Toxicological Information

Acute Effect :
Acute Oral Toxicity : Tests on similar materials indicate low order of acute oral toxicity.
Acute Inhalation Effects : Low acute toxicity expected on inhalation.
Skin Toxicity : Practically non-toxic if absorbed. Other similar highly refined products have not shown skin tumors in mouse, skin painting studies.
Eyes Irritation : Minimal irritation on contact. Eye Irritation slight or practically non-irritating based on similar products.
Skin Irritation : May cause mild irritation with prolonged and repeated exposure.
Sensitization:
Skin Sensitization : Skin sensitization is indicated as non-sensitizing based on data from similar products.
CMR Properties:
Carcinogenicity: Not considered a potential carcinogen based on IP346 DMSO of less than 3.0 wt%.
Mutagenicity: 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

Material Safety Data Sheet

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

Ecotoxicity: Available data indicate this product is not acutely toxic. 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. No other information is available on ecotoxicity of this product.

Biodegradability: No information available; based on similar product is not readily biodegradable in the environment.

Aquatic Release: Advise authorities if product has entered or may enter watercourses or sewer drains.

Section 13 - Disposal Considerations

Disposal: Consider recycling. If permitted incineration may be practical.

Additional: Follow National and Local regulations. Do not flush to drain/storm sewer. Contract authorized disposal service.

Section 14 - Transport Information

| | |
|----------------------------|----------------------------------|
| Land | Air |
| DOT- Not regulated | ICAO/IATA (Air)- Not classified |
| ADR (Road)- Not classified | Sea |
| RID (Rail)- Not classified | IMDG/IMO (Water)- Not classified |

Section 15 - Regulatory Information

EU (Europe) REGULATIONS: This product does not need to be labeled in accordance with EC directives and is not known to be a dangerous goods internationally.

REACH: this product is pre-registered with ECHA.

Labeling:

Hazard Label None

Danger Symbol None

Phrases: None

Restrictions on use (uses advised against): this product has poor compatibility with certain types of rubber; therefore verify material compatibility before using.

U. S. Federal Regulatory Information :

CERCLA/SARA :

302/303/304 categories: Extremely hazardous substances : No

311/312 categories : Immediate(Acute) Health Effects : No

(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 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: 64742-57-0/64742-52-5

United States- State Regulations:

Material Safety Data Sheet

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.

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.

Foreign Inventories : The components of this product are listed under the following inventories :

1. **European Union's EINICS No. 264 -160 -8/ 265-155-0**
2. **USA's TSCA CAS No. 64742-57-0/64742-52-5**
3. **Korea's ECL No. KE - 12543**
4. **Australia's AICS No.64742-57-0/64742-52-5**
5. **CANADA's DSL No. 64742-57-0/64742-52-5**
6. **Philippines' PICCS**
7. **New Zealand's NZIoC(ERMA)**
8. **Japan's METI or NITE**
9. **Sweden's Keml**

Section 16 - Other Information

Relevant R-Phrases & Hazards

EC Label: None (Non-hazardous)

Hazard Symbol: None

R-Phrase: None

S-Phrase: None

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.