

# Material Safety Data Sheet

## Section 1 - Chemical Product and Company Identification

**Product Name :** TOER I  
**Chemical Name:** Distillates(Petroleum), severely hydrotreated light naphthenic/heavy paraffinic  
**Chemical Family :** Petroleum Distillate.  
**Chemical Formula :** Not Applicable.  
**CAS Number :** 64742-53-6 / 64742-54-7  
**EINECS No. :** 265-156-6/265-157-1  
**Use of substance:** Electrical Insulating Oil  
**Industrial category:** Petroleum  
**Other Designations:** Electrical insulating oil, mineral oil, petroleum distillates, hydrotreated distillates  
**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 - Hazardous Identification

**Classification:** Nonhazardous  
**Human and Environmental Effects**  
**Primary Entry Routes :** 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.  
**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.  
**Eye :** Eye contact may result in slight irritation and redness.  
**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.  
**Other Effects**  
**Medical Conditions Aggravated by Long-Term Exposure:**  
Personnel with pre-existing skin disorders should avoid contact with this product.

## Section 3 - Composition And Information On Ingredients

Ingredient Name	EC No.	CAS No.	% Vol	Classification
Distillate, Hydrotreated light naphthenic (Base Oil unspecified)	265-156-6	64742-53-6	80-95%	Nonhazardous
Distillates, hydrotreated heavy paraffinic	265-157-1	64742-54-7	5-20%	Nonhazardous

Severely hydrotreated naphthenic distillate is 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 C15 through C30 and produces finished oil with a viscosity near 10 cSt(mm<sup>2</sup>/s) @40°C.

## Section 4 - First Aid Measures

**Inhalation :** Remove to fresh air. Assist breathing if necessary. Seek medical help.  
**Skin Contact :** Wash thoroughly with soap and water. Remove contaminated clothing. Reuse only after cleaning.  
**Eye Contact:** Wash with water. If irritation or redness persists seek medical help.  
**Ingestion :** If swallowed, observe for signs of stomach discomfort or nausea. If symptoms

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<p style="text-align: center;">persist, seek medical help. Do not induce vomiting.</p> <p><b>Information for Physicians:</b> If there is any suspicion of aspiration into the lungs obtain medical advise.</p>							
<b>Section 5 - Fire Fighting Measures</b>							
<p><b>Extinguishing Media :</b> Halon, dry chemical, foam, CO<sub>2</sub> and water mist or fog. Water may be used to cool below flash point.</p> <p><b>Extinguishing Methods Not Used:</b> Do not use forced stream as this could cause fire to spread.</p> <p><b>Exposure Hazard (Combustion Products):</b> Fumes, smoke and carbon monoxide.</p> <p><b>Fire-Fighting Equipment:</b> Fire fighting personnel should wear respiratory protection (positive pressure if available).</p> <p><b>Fire-Fighting Instruction :</b> Use water to cool containers exposed to flames. Do not enter enclosed or a confined work space without proper protective equipment.</p>							
<b>Section 6 - Accidental release Measures</b>							
<p><b>Personal Precautions:</b></p> <p style="padding-left: 20px;"><b>Spill/Leak Procedures:</b> Stop spill at source if possible without risk. Contain spill. Eliminate sources of ignition. Spill area will be slick.</p> <p><b>Environmental Precautions:</b></p> <p style="padding-left: 20px;"><b>Spill to Navigable Waters:</b> If this material is spilled into navigable waters and creates a visible sheen, mutual assistance may be obtained from National Response Center.</p> <p style="padding-left: 20px;"><b>Water Hazard Class:</b> WGK 1 (Slightly water polluting)</p> <p><b>Methods For Clean-up:</b></p> <p style="padding-left: 20px;">Recover all possible material for reclamation. Use non-flammable absorbent material to pick up remainder of spill.</p>							
<b>Section 7 - Handling and Storage</b>							
<p><b>Handling :</b></p> <p style="padding-left: 20px;"><b>Precaution:</b> 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.</p> <p style="padding-left: 20px;"><b>Work/Hygienic Practices :</b> 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 laundry before reuse. Discard contaminated shoes and leather gloves.</p> <p><b>Storage :</b></p> <p style="padding-left: 20px;">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.</p>							
<b>Section 8 - Exposure Controls/Personal Protection</b>							
<p><b>Exposure Limit Values</b></p> <p><b>EUROPE:</b> Workplace Exposure Limits(WELs)/Occupational Exposure Limits(OELs): None established</p> <p><b>INTERNATIONAL:</b> GETIS International Limit values: 8Hr Limit:5 mg/m<sup>3</sup>, STL:10 mg/m<sup>3</sup> (UK, ES, CA, , US)</p> <p><b>UNITED STATES:</b></p> <p><b>Trace Impurities</b></p>							
	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH
Ingredient	TWA	STEL	TWA	STEL	TWA	STEL	IDLH
Hydrotreated Light Naphthenic Distillate	5 mg/m <sup>3</sup> (oil mist)	None estab	5 mg/m <sup>3</sup> (oil mist)	10 mg/m <sup>3</sup> (oil mist)	None estab	None estab	None estab
Hydrotreated Heavy Paraffinic Distillate	5 mg/m <sup>3</sup> (oil mist)	None estab	5 mg/m <sup>3</sup> (oil mist)	10 mg/m <sup>3</sup> (oil mist)	None estab	None estab	None estab
<p><b>Exposure Controls :</b></p> <p style="padding-left: 20px;"><b>Occupational Exposure Controls:</b></p>							

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**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.  
**Environmental Exposure Controls:** Adequate ventilation is required where excessive heating or agitation may occur to maintain concentration below exposure limits.

### Section 9 - Physical and Chemical Properties

<b>Physical State :</b> Liquid <b>Appearance :</b> Clear & bright <b>Color :</b> Water white to pale <b>Odor :</b> Mild petroleum odor <b>Odor Threshold :</b> Not determined <b>Vapor Pressure :</b> Not applicable <b>Vapor Density(Air=1):</b> >5 <b>% volatile:</b> Nil LVP-VOC <b>Specific Gravity(H<sub>2</sub>O=1):</b> 0.883 <b>Viscosity:</b> near 10.0 cSt @40°C	<b>Water Solubility :</b> Nil <b>Boiling Point :</b> 260-370°C <b>Pour Point:</b> -57°C <b>Evaporation Rate:</b> Not available <b>PH :</b> Not applicable <b>Molecular weight:</b> 280 <b>Flash point:</b> ≥135°C PMCC (typical 145°C) <b>Autoignition temperature:</b> >315°C <b>Lower Explosive Level (LEL):</b> Not determined <b>Upper Explosive Limit (UEL):</b> Not determined
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### Section 10 - Stability and Reactivity

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

### Section 11 - Toxicological Information

#### Acute Effects:

**Acute Oral Toxicity :** Tests on similar materials show a low order of acute oral and toxicity.  
**Acute Inhalation Toxicity :** 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 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

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<b>Ecotoxicity :</b> Available data indicate this product is not acutely toxic. 96 hr. acute static toxicity for pimephales promelas(Fathead Minnow)LC <sub>50</sub> mortality is greater than 30,000 mg/L. Other similar products have shown 48 hr EL <sub>50</sub> for Daphnia magna greater than 1000 mg/L , and 96 hr 1rL <sub>50</sub> for Scenedesmus subspicatus (Alga) greater than 1000 mg/L.		
<b>Biodegradability :</b> This product reaches less than 10% biodegradation in standard 28-day test and is not readily biodegradable in the environment.		
<b>Aquatic Release :</b> Advise authorities if product has entered or may enter watercourses or sewer drains.		
<b>Section 13 - Disposal Considerations</b>		
<b>Disposal:</b> Consider recycling. If permitted incineration may be practical. <b>Additional :</b> Follow National and Local regulations. Do not flush to drain/storm sewer. Contract to authorized disposal service.		
<b>Section 14 - Transport Information</b>		
<b>Land</b>	<b>Sea</b>	<b>Air</b>
ADR(Road)-Not classified	IMDG/IMO(Water)- Not classified	ICAO/IATA(Air)- Not classified
RID(Rail)-Not classified		
DOT-Not classified		
<b>Section 15 - Regulatory Information</b>		
<b>EU(European) Regulation :</b> This product does not need to be labeled in accordance with EC directives and is not known to be a dangerous good internationally. <b>REACH:</b> This product is pre-registered with ECHA. <b>Labelling:</b> Hazard Label: None Danger Symbol: None Phrases: None <b>Restrictions on use:</b> This product has poor compatibility with certain types of rubber; therefore verify material compatibility before using.		
<b>OTHER REGULATIONS</b>		
<b>Canada(WHMIS)</b> Not listed on the Canadian Controlled Product Ingredient Disclosure and is compliant with Controlled Products Regulation		
<b>United states Federal Regulations:</b>		
CERCLA/SARA		
302/303/304 Categories	Extremely Hazardous Substances	None
311/312 Categories	Immediate (Acute) Health Effects	No
	Delayed (Acute)Health Effects	No
	Fire Hazard	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  (40 CFR 116;401.15)	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(29 CFR 1910)	This product is not hazardous under Hazard Communication	

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	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. 64742-53-6/ 64742-54-7
<b>United States-State Regulatory Lists:</b>	
<b>California Prop 65</b>	No Proposition 65 chemicals exist in this product, no labeling required.
<b>Florida</b>	No listed ingredients are present
<b>Massachusetts RTK</b>	No listed ingredients are present
<b>Minnesota RTK</b>	No listed ingredients are present
<b>New Jersey RTK</b>	Lists petroleum oil, but this product does not contain hazardous ingredients.
<b>Pennsylvania RTK</b>	Lists petroleum oil, but this product does not contain hazardous ingredients greater than 3%.
<b>Illinois DOL TSL</b>	No listed ingredients are present
<b>CONEG Metals</b>	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.
<b>Foreign/International Inventories:</b>	
The components of this product are listed under the following foreign inventories:	
European Union's EINICS	No. 265-156-6/265-157-1
USA's TSCA CAS	No. 64742-53-6/64742-54-7
Korea's ECL	No. KE-12552/KE-12546
Australia's AICS	No. 64742-53-6/64742-54-7
Canada's DSL	No. 64742-53-6/64742-54-7
Philippines' PICCS	
New Zealand's NzIoC(ERMA)	
Japan's MITI or NITE	
Sweden's KemI	
<b>Section 16-Other Information</b>	
<b>Relevant R-Phrases &amp; Hazards</b> <b>EC Label:</b> None(Non-hazardous) <b>Hazard Symbol:</b> None <b>R-Phrase:</b> None <b>S-Phrase:</b> None <b>Training recommendations:</b> Person placing substance on market shall ensure that competent persons have received appropriate training. <b>Restrictions on use(uses advised against):</b> This product has poor compatibility with certain types of rubber;therefore verify material compatibility before using.	

**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.