

## 22516, 20518, 20494, 22515 MARINE 2T DFI MOTOR OIL 1L, 4L, 20L, 205L

Liqui Moly GmbH

Chemwatch Hazard Alert Code: 1

Chemwatch: 5450-44

Version No: 2.1.1.1

Safety Data Sheet according to WHMIS 2015 requirements

Issue Date: 10/02/2021

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S.GHS.CAN.EN

### SECTION 1 Identification

#### Product Identifier

Product name	22516, 20518, 20494, 22515 MARINE 2T DFI MOTOR OIL 1L, 4L, 20L, 205L
Chemical Name	Not Applicable
Synonyms	Not Available
Chemical formula	Not Applicable
Other means of identification	Not Available

#### Recommended use of the chemical and restrictions on use

Relevant identified uses	Use according to manufacturer's directions.
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#### Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	Liqui Moly GmbH
Address	Jerg-Wieland-Strasse 4 Ulm D-89081 Germany
Telephone	+49 731 1420 0
Fax	+49 731 1420 82
Website	<a href="http://www.liqui-moly.com/">http://www.liqui-moly.com/</a>
Email	Not Available

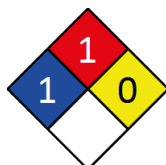
#### Emergency phone number

Association / Organisation	INFOTRAC
Emergency telephone numbers	+1800 535 5053 (US, Canada & Mexico)
Other emergency telephone numbers	+1 352 323 3500 (International)

### SECTION 2 Hazard(s) identification

#### Classification of the substance or mixture

NFPA 704 diamond




Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

#### Canadian WHMIS Symbols

Classification	Specific target organ toxicity - single exposure Category 3 (narcotic effects)
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#### Label elements

Hazard pictogram(s)	
Signal word	Warning

#### Hazard statement(s)

H336	May cause drowsiness or dizziness.
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**Physical and Health hazard(s) not otherwise classified**

Not Applicable

**Precautionary statement(s) Prevention**

<b>P271</b>	Use only outdoors or in a well-ventilated area.
<b>P261</b>	Avoid breathing mist/vapours/spray.

**Precautionary statement(s) Response**

<b>P312</b>	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
<b>P304+P340</b>	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

**Precautionary statement(s) Storage**

<b>P405</b>	Store locked up.
<b>P403+P233</b>	Store in a well-ventilated place. Keep container tightly closed.

**Precautionary statement(s) Disposal**

<b>P501</b>	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
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**SECTION 3 Composition / information on ingredients**

**Substances**

See section below for composition of Mixtures

**Mixtures**

CAS No	%[weight]	Name
64742-54-7.	30-60	<u>paraffinic distillate, heavy, hydrotreated (severe)</u>
64742-48-9.	10-30	<u>Naphtha (petroleum), hydrotreated heavy</u>
64741-88-4.	1-5	<u>paraffinic distillate, heavy, solvent-refined (severe)</u>
Not Available	10-30	Ingredients determined not to be hazardous

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

**SECTION 4 First-aid measures**

**Description of first aid measures**

<b>Eye Contact</b>	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Wash out immediately with fresh running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Seek medical attention without delay; if pain persists or recurs seek medical attention.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
<b>Skin Contact</b>	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li>▶ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>▶ Transport to hospital, or doctor.</li> </ul>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>▶ <b>If swallowed do NOT induce vomiting.</b></li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Seek medical advice.</li> <li>▶ Avoid giving milk or oils.</li> <li>▶ Avoid giving alcohol.</li> <li>▶ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.</li> </ul>

**Indication of any immediate medical attention and special treatment needed**

For petroleum distillates

- In case of ingestion, gastric lavage with activated charcoal can be used promptly to prevent absorption - decontamination (induced emesis or lavage) is controversial and should be considered on the merits of each individual case; of course the usual precautions of an endotracheal tube should be considered prior to lavage, to prevent aspiration.
- Individuals intoxicated by petroleum distillates should be hospitalized immediately, with acute and continuing attention to neurologic and cardiopulmonary function.
- Positive pressure ventilation may be necessary.
- Acute central nervous system signs and symptoms may result from large ingestions of aspiration-induced hypoxia.
- After the initial episode, individuals should be followed for changes in blood variables and the delayed appearance of pulmonary oedema and chemical pneumonitis. Such patients should be followed for several days or weeks for delayed effects, including bone marrow toxicity, hepatic and renal impairment. Individuals with chronic pulmonary disease will be more seriously impaired, and recovery from inhalation exposure may be complicated.
- Gastrointestinal symptoms are usually minor and pathological changes of the liver and kidneys are reported to be uncommon in acute intoxications.

Chlorinated and non-chlorinated hydrocarbons may sensitize the heart to epinephrine and other circulating catecholamines so that arrhythmias may occur. Careful consideration of this potential adverse effect should precede administration of epinephrine or other cardiac stimulants and the selection of bronchodilators.

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- ▶ Heavy and persistent skin contamination over many years may lead to dysplastic changes. Pre-existing skin disorders may be aggravated by exposure to this product.
- ▶ In general, emesis induction is unnecessary with high viscosity, low volatility products, i.e. most oils and greases.
- ▶ High pressure accidental injection through the skin should be assessed for possible incision, irrigation and/or debridement.

**NOTE:** Injuries may not seem serious at first, but within a few hours tissue may become swollen, discoloured and extremely painful with extensive subcutaneous necrosis. Product may be forced through considerable distances along tissue planes.

## SECTION 5 Fire-fighting measures

### Extinguishing media

- ▶ Foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.

### Special hazards arising from the substrate or mixture

<b>Fire Incompatibility</b>	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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### Special protective equipment and precautions for fire-fighters

<b>Fire Fighting</b>	<ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear full body protective clothing with breathing apparatus.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> <li>▶ Use water delivered as a fine spray to control fire and cool adjacent area.</li> </ul>
<b>Fire/Explosion Hazard</b>	<ul style="list-style-type: none"> <li>▶ Combustible.</li> <li>▶ Slight fire hazard when exposed to heat or flame.</li> <li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>▶ On combustion, may emit toxic fumes of carbon monoxide (CO).</li> </ul> <p>Combustion products include: carbon dioxide (CO<sub>2</sub>) sulfur oxides (SO<sub>x</sub>) other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes.</p> <p><b>CARE:</b> Water in contact with hot liquid may cause foaming and a steam explosion with wide scattering of hot oil and possible severe burns. Foaming may cause overflow of containers and may result in possible fire.</p>

## SECTION 6 Accidental release measures

### Personal precautions, protective equipment and emergency procedures

See section 8

### Environmental precautions

See section 12

### Methods and material for containment and cleaning up

<b>Minor Spills</b>	<p>Slippery when spilt.</p> <ul style="list-style-type: none"> <li>▶ Remove all ignition sources.</li> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing vapours and contact with skin and eyes.</li> <li>▶ Control personal contact with the substance, by using protective equipment.</li> </ul>
<b>Major Spills</b>	<p>Slippery when spilt. Moderate hazard.</p> <ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> </ul>

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## SECTION 7 Handling and storage

### Precautions for safe handling

<b>Safe handling</b>	<p>The conductivity of this material may make it a static accumulator. A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10 000 pS/m. Whether a liquid is nonconductive or semi-conductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid.</p> <ul style="list-style-type: none"> <li>▶ Containers, even those that have been emptied, may contain explosive vapours.</li> <li>▶ Do NOT cut, drill, grind, weld or perform similar operations on or near containers.</li> <li>▶ Electrostatic discharge may be generated during pumping - this may result in fire.</li> <li>▶ Ensure electrical continuity by bonding and grounding (earthing) all equipment.</li> <li>▶ Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (&lt;=1 m/sec until fill pipe submerged to twice its diameter, then &lt;= 7 m/sec).</li> <li>▶ Avoid splash filling.</li> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ Prevent concentration in hollows and sumps.</li> </ul>
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<b>Other information</b>	<ul style="list-style-type: none"> <li>▶ Store in original containers.</li> <li>▶ Keep containers securely sealed.</li> <li>▶ No smoking, naked lights or ignition sources.</li> <li>▶ Store in a cool, dry, well-ventilated area.</li> </ul>
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**Conditions for safe storage, including any incompatibilities**

<b>Suitable container</b>	<ul style="list-style-type: none"> <li>▶ Metal can or drum</li> <li>▶ Packaging as recommended by manufacturer.</li> <li>▶ Check all containers are clearly labelled and free from leaks.</li> </ul>
<b>Storage incompatibility</b>	<p><b>CARE:</b> Water in contact with heated material may cause foaming or a steam explosion with possible severe burns from wide scattering of hot material. Resultant overflow of containers may result in fire.</p> <ul style="list-style-type: none"> <li>▶ Avoid reaction with oxidising agents</li> </ul>

**SECTION 8 Exposure controls / personal protection****Control parameters****Occupational Exposure Limits (OEL)****INGREDIENT DATA**

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	paraffinic distillate, heavy, hydrotreated (severe)	Oil mist, mineral	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Not Available	Not Available
Canada - Nova Scotia Occupational Exposure Limits	paraffinic distillate, heavy, hydrotreated (severe)	Oil mist - mineral	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Not Available	TLV Basis: lung. As sampled by method that does not collect vapor.
Canada - Alberta Occupational Exposure Limits	paraffinic distillate, heavy, hydrotreated (severe)	Oil mist, mineral	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	paraffinic distillate, heavy, hydrotreated (severe)	Oil mist, mineral	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Not Available	Not Available
Canada - Manitoba Occupational Exposure Limits	paraffinic distillate, heavy, hydrotreated (severe)	Not Available	5 mg/m <sup>3</sup>	Not Available	Not Available	TLV® Basis: URT irr
Canada - British Columbia Occupational Exposure Limits	paraffinic distillate, heavy, hydrotreated (severe)	Oil mist - mineral, severely refined	1 mg/m <sup>3</sup>	Not Available	Not Available	Not Available
Canada - Prince Edward Island Occupational Exposure Limits	paraffinic distillate, heavy, hydrotreated (severe)	Mineral oil, excluding metal working fluids - Pure, highly and severely refined	5 mg/m <sup>3</sup>	Not Available	Not Available	TLV® Basis: URT irr
Canada - Northwest Territories Occupational Exposure Limits	paraffinic distillate, heavy, hydrotreated (severe)	Oil mist, mineral	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Not Available	Not Available
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	paraffinic distillate, heavy, hydrotreated (severe)	Mineral oil (mist)	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Not Available	Not Available
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	Naphtha (petroleum), hydrotreated heavy	Oil mist, mineral	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Not Available	Not Available
Canada - Nova Scotia Occupational Exposure Limits	Naphtha (petroleum), hydrotreated heavy	Oil mist - mineral	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Not Available	TLV Basis: lung. As sampled by method that does not collect vapor.
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Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	Naphtha (petroleum), hydrotreated heavy	Oil mist, mineral	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Not Available	Not Available
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Canada - British Columbia Occupational Exposure Limits	Naphtha (petroleum), hydrotreated heavy	Oil mist - mineral, severely refined	1 mg/m <sup>3</sup>	Not Available	Not Available	Not Available
Canada - Prince Edward Island Occupational Exposure Limits	Naphtha (petroleum), hydrotreated heavy	Mineral oil, excluding metal working fluids - Pure, highly and severely refined	5 mg/m <sup>3</sup>	Not Available	Not Available	TLV® Basis: URT irr
Canada - Northwest Territories Occupational Exposure Limits	Naphtha (petroleum), hydrotreated heavy	Oil mist, mineral	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Not Available	Not Available
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	Naphtha (petroleum), hydrotreated heavy	Mineral oil (mist)	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Not Available	Not Available
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	paraffinic distillate, heavy, solvent-refined (severe)	Oil mist, mineral	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Not Available	Not Available


Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Canada - Nova Scotia Occupational Exposure Limits	paraffinic distillate, heavy, solvent-refined (severe)	Oil mist - mineral	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Not Available	TLV Basis: lung. As sampled by method that does not collect vapor.
Canada - Alberta Occupational Exposure Limits	paraffinic distillate, heavy, solvent-refined (severe)	Oil mist, mineral	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	paraffinic distillate, heavy, solvent-refined (severe)	Oil mist, mineral	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Not Available	Not Available
Canada - Manitoba Occupational Exposure Limits	paraffinic distillate, heavy, solvent-refined (severe)	Not Available	5 mg/m <sup>3</sup>	Not Available	Not Available	TLV® Basis: URT irr
Canada - British Columbia Occupational Exposure Limits	paraffinic distillate, heavy, solvent-refined (severe)	Oil mist - mineral, severely refined	1 mg/m <sup>3</sup>	Not Available	Not Available	Not Available
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Canada - Northwest Territories Occupational Exposure Limits	paraffinic distillate, heavy, solvent-refined (severe)	Oil mist, mineral	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Not Available	Not Available
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	paraffinic distillate, heavy, solvent-refined (severe)	Mineral oil (mist)	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Not Available	Not Available

**Emergency Limits**

Ingredient	TEEL-1	TEEL-2	TEEL-3
paraffinic distillate, heavy, hydrotreated (severe)	140 mg/m <sup>3</sup>	1,500 mg/m <sup>3</sup>	8,900 mg/m <sup>3</sup>
Naphtha (petroleum), hydrotreated heavy	350 mg/m <sup>3</sup>	1,800 mg/m <sup>3</sup>	40,000 mg/m <sup>3</sup>
paraffinic distillate, heavy, solvent-refined (severe)	140 mg/m <sup>3</sup>	1,500 mg/m <sup>3</sup>	8,900 mg/m <sup>3</sup>

Ingredient	Original IDLH	Revised IDLH
paraffinic distillate, heavy, hydrotreated (severe)	2,500 mg/m <sup>3</sup>	Not Available
Naphtha (petroleum), hydrotreated heavy	2,500 mg/m <sup>3</sup>	Not Available
paraffinic distillate, heavy, solvent-refined (severe)	2,500 mg/m <sup>3</sup>	Not Available

**Exposure controls**

<b>Appropriate engineering controls</b>	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.</p>
<b>Personal protection</b>	
<b>Eye and face protection</b>	<ul style="list-style-type: none"> <li>▶ Safety glasses with side shields.</li> <li>▶ Chemical goggles.</li> <li>▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.</li> </ul>
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	<p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Personal hygiene is a key element of effective hand care.</p> <ul style="list-style-type: none"> <li>▶ Wear chemical protective gloves, e.g. PVC.</li> <li>▶ Wear safety footwear or safety gumboots, e.g. Rubber</li> </ul>
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	<ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ P.V.C apron.</li> <li>▶ Barrier cream.</li> <li>▶ Skin cleansing cream.</li> </ul>

**Respiratory protection**

Type AK-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	AK-AUS P2	-	AK-PAPR-AUS / Class 1 P2
up to 50 x ES	-	AK-AUS / Class 1 P2	-
up to 100 x ES	-	AK-2 P2	AK-PAPR-2 P2 ^

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- ▶ Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- ▶ The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- ▶ Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

## SECTION 9 Physical and chemical properties

### Information on basic physical and chemical properties

<b>Appearance</b>	Red liquid with characteristic odour; not miscible with water.		
<b>Physical state</b>	Liquid	<b>Relative density (Water = 1)</b>	0.865
<b>Odour</b>	Not Available	<b>Partition coefficient n-octanol / water</b>	Not Available
<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	Not Available
<b>pH (as supplied)</b>	Not Applicable	<b>Decomposition temperature</b>	Not Available
<b>Melting point / freezing point (°C)</b>	-39	<b>Viscosity (cSt)</b>	37.5, 7 @ 100C
<b>Initial boiling point and boiling range (°C)</b>	Not Available	<b>Molecular weight (g/mol)</b>	Not Applicable
<b>Flash point (°C)</b>	104	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Available	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Not Applicable	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	Not Available	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Available
<b>Lower Explosive Limit (%)</b>	Not Available	<b>Volatile Component (%vol)</b>	Not Available
<b>Vapour pressure (kPa)</b>	Not Available	<b>Gas group</b>	Not Available
<b>Solubility in water</b>	Immiscible	<b>pH as a solution (1%)</b>	Not Available
<b>Vapour density (Air = 1)</b>	Not Available	<b>VOC g/L</b>	Not Available

## SECTION 10 Stability and reactivity

<b>Reactivity</b>	See section 7
<b>Chemical stability</b>	<ul style="list-style-type: none"> <li>▶ Unstable in the presence of incompatible materials.</li> <li>▶ Product is considered stable.</li> <li>▶ Hazardous polymerisation will not occur.</li> </ul>
<b>Possibility of hazardous reactions</b>	See section 7
<b>Conditions to avoid</b>	See section 7
<b>Incompatible materials</b>	See section 7
<b>Hazardous decomposition products</b>	See section 5

## SECTION 11 Toxicological information

### Information on toxicological effects

<b>Inhaled</b>	<p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.</p> <p>There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.</p> <p>Inhalation hazard is increased at higher temperatures.</p> <p>Inhaling high concentrations of mixed hydrocarbons can cause narcosis, with nausea, vomiting and lightheadedness. Low molecular weight (C<sub>2</sub>-C<sub>12</sub>) hydrocarbons can irritate mucous membranes and cause incoordination, giddiness, nausea, vertigo, confusion, headache, appetite loss, drowsiness, tremors and stupor.</p> <p>Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.</p> <p>Inhalation of oil droplets or aerosols may cause discomfort and may produce chemical inflammation of the lungs.</p> <p>Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination.</p>
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<b>Ingestion</b>	Accidental ingestion of the material may be damaging to the health of the individual. Ingestion of petroleum hydrocarbons can irritate the pharynx, oesophagus, stomach and small intestine, and cause swellings and ulcers of the mucous. Symptoms include a burning mouth and throat; larger amounts can cause nausea and vomiting, narcosis, weakness, dizziness, slow and shallow breathing, abdominal swelling, unconsciousness and convulsions.
<b>Skin Contact</b>	The liquid may be able to be mixed with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives. Open cuts, abraded or irritated skin should not be exposed to this material The material may accentuate any pre-existing dermatitis condition Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
<b>Eye</b>	This material can cause eye irritation and damage in some persons.
<b>Chronic</b>	Oil may contact the skin or be inhaled. Extended exposure can lead to eczema, inflammation of hair follicles, pigmentation of the face and warts on the soles of the feet. Constant or exposure over long periods to mixed hydrocarbons may produce stupor with dizziness, weakness and visual disturbance, weight loss and anaemia, and reduced liver and kidney function. Skin exposure may result in drying and cracking and redness of the skin. Repeated application of mildly hydrotreated oils (principally paraffinic), to mouse skin, induced skin tumours; no tumours were induced with severely hydrotreated oils.

<b>22516, 20518, 20494, 22515 MARINE 2T DFI MOTOR OIL 1L, 4L, 20L, 205L</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available
<b>paraffinic distillate, heavy, hydrotreated (severe)</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: >2000 mg/kg <sup>[2]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
	Inhalation(Rat) LC50; 2.18 mg/L <sup>[4]</sup>	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
	Oral(Rat) LD50; >5000 mg/kg <sup>[2]</sup>	
<b>Naphtha (petroleum), hydrotreated heavy</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: >1900 mg/kg <sup>[1]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
	Inhalation(Rat) LC50; >4.42 mg/L <sup>[4]</sup>	Skin: adverse effect observed (irritating) <sup>[1]</sup>
	Oral(Rat) LD50; >4500 mg/kg <sup>[1]</sup>	
<b>paraffinic distillate, heavy, solvent-refined (severe)</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: >2000 mg/kg <sup>[2]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
	Inhalation(Rat) LC50; 2.18 mg/L <sup>[4]</sup>	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
	Oral(Rat) LD50; >5000 mg/kg <sup>[2]</sup>	
<b>Legend:</b>	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

<b>NAPHTHA (PETROLEUM), HYDROTREATED HEAVY</b>	<p>for C10-12-isoparaffins:</p> <p>The safety of isoparaffins as used in cosmetic products was reviewed by the Cosmetic Ingredient Review (CIR) Expert Panel. These ingredients function mostly as solvents and also function as emollients in the 0001% to 90% concentration range. The CIR Expert Panel has reviewed relevant animal and clinical data and concluded that these ingredients are safe in the present practices of use and concentration. The CIR Expert Panel noted that most of the available data related to oral or inhalation exposure to isoparaffins, but the dermal and ocular exposure data that were available, suggested mild ocular irritation, mild-to-severe irritation, no sensitization or photosensitization, and no phototoxicity. No significant toxicity was identified in oral or inhalation exposure studies of the following end points: genotoxicity, reproductive and developmental toxicity, or carcinogenicity. Nephrotoxicity, however, was a concern. The Expert Panel noted the involvement of a2u-globulin in the mechanism for isoparaffin-induced nephrotoxicity/renal tubule cell proliferation in male rats of various strains in oral and inhalation exposure studies.</p> <p>Animal studies indicate that normal, branched and cyclic paraffins are absorbed from the gastrointestinal tract and that the absorption of n-paraffins is inversely proportional to the carbon chain length, with little absorption above C30. With respect to the carbon chain lengths likely to be present in mineral oil, n-paraffins may be absorbed to a greater extent than iso- or cyclo-paraffins.</p> <p>The major classes of hydrocarbons are well absorbed into the gastrointestinal tract in various species. In many cases, the hydrophobic hydrocarbons are ingested in association with fats in the diet. Some hydrocarbons may appear unchanged as in the lipoprotein particles in the gut lymph, but most hydrocarbons partly separate from fats and undergo metabolism in the gut cell.</p>
<b>PARAFFINIC DISTILLATE, HEAVY, SOLVENT-REFINED (SEVERE)</b>	No significant acute toxicological data identified in literature search.
<b>PARAFFINIC DISTILLATE, HEAVY, HYDROTREATED (SEVERE) &amp; PARAFFINIC DISTILLATE, HEAVY, SOLVENT-REFINED (SEVERE)</b>	<p>The materials included in the Lubricating Base Oils category are related from both process and physical-chemical perspectives; The potential toxicity of a specific distillate base oil is inversely related to the severity or extent of processing the oil has undergone, since:</p> <ul style="list-style-type: none"> <li>• The adverse effects of these materials are associated with undesirable components, and</li> <li>• The levels of the undesirable components are inversely related to the degree of processing;</li> <li>• Distillate base oils receiving the same degree or extent of processing will have similar toxicities;</li> <li>• The potential toxicity of residual base oils is independent of the degree of processing the oil receives.</li> <li>• The reproductive and developmental toxicity of the distillate base oils is inversely related to the degree of processing.</li> </ul> <p>Unrefined &amp; mildly refined distillate base oils contain the highest levels of undesirable components, have the largest variation of hydrocarbon molecules and have shown the highest potential cancer-causing and mutation-causing activities. Highly and severely refined distillate base oils are produced from unrefined and mildly refined oils by removing or transforming undesirable components. In comparison to unrefined and mildly refined base oils, the highly and severely refined distillate base oils have a smaller range of hydrocarbon molecules and have demonstrated very low mammalian toxicity. Testing of residual oils for mutation-causing and cancer-causing potential has shown negative results, supporting the belief that these materials lack biologically active components or the components are largely non-bioavailable due to their molecular size. Toxicity testing has consistently shown that lubricating base oils have low acute toxicities.</p> <p>For highly and severely refined distillate base oils:</p> <p>In animal studies, the acute, oral, semilethal dose is &gt;5g/kg body weight and the semilethal dose by skin contact is &gt;2g/kg body weight. The semilethal concentration for inhalation is 2.18 to &gt;4 mg/L. The materials have varied from "non-irritating" to "moderately irritating" when tested for skin and eye irritation. Testing for sensitisation has been negative.</p>



22516, 20518, 20494, 22515 MARINE 2T DFI MOTOR OIL 1L, 4L, 20L, 205L

	The substance is classified by IARC as Group 3: <b>NOT</b> classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing.		
Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✗	Reproductivity	✗
Serious Eye Damage/Irritation	✗	STOT - Single Exposure	✓
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

**Legend:** ✗ – Data either not available or does not fill the criteria for classification  
✓ – Data available to make classification

SECTION 12 Ecological information

Toxicity

22516, 20518, 20494, 22515 MARINE 2T DFI MOTOR OIL 1L, 4L, 20L, 205L	Endpoint	Test Duration (hr)	Species	Value	Source
		Not Available	Not Available	Not Available	Not Available
paraffinic distillate, heavy, hydrotreated (severe)	Endpoint	Test Duration (hr)	Species	Value	Source
	ErC50	72	Algae or other aquatic plants	>1000mg/l	1
	NOEC(ECx)	504	Crustacea	>1mg/l	1
	EC50	48	Crustacea	>1000mg/l	1
	EC50	96	Algae or other aquatic plants	>1000mg/l	1
Naphtha (petroleum), hydrotreated heavy	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50(ECx)	96	Algae or other aquatic plants	64mg/l	2
	EC50	96	Algae or other aquatic plants	64mg/l	2
paraffinic distillate, heavy, solvent-refined (severe)	Endpoint	Test Duration (hr)	Species	Value	Source
	ErC50	72	Algae or other aquatic plants	>1000mg/l	1
	NOEC(ECx)	504	Crustacea	>1mg/l	1
	EC50	48	Crustacea	>1000mg/l	1
	EC50	96	Algae or other aquatic plants	>1000mg/l	1

**Legend:** *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

**DO NOT** discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	<p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"> <li>▶ Reduction</li> <li>▶ Reuse</li> <li>▶ Recycling</li> <li>▶ Disposal (if all else fails)</li> </ul> <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.</p> <ul style="list-style-type: none"> <li>▶ <b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b></li> <li>▶ It may be necessary to collect all wash water for treatment before disposal.</li> <li>▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.</li> </ul>
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- ▶ Where in doubt contact the responsible authority.
- ▶ Recycle wherever possible or consult manufacturer for recycling options.
- ▶ Consult State Land Waste Authority for disposal.
- ▶ Bury or incinerate residue at an approved site.
- ▶ Recycle containers if possible, or dispose of in an authorised landfill.

## SECTION 14 Transport information

### Labels Required

Marine Pollutant	NO
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**Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Transport in bulk according to Annex II of MARPOL and the IBC code**

Not Applicable

**Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code**

Product name	Group
paraffinic distillate, heavy, hydrotreated (severe)	Not Available
Naphtha (petroleum), hydrotreated heavy	Not Available
paraffinic distillate, heavy, solvent-refined (severe)	Not Available

**Transport in bulk in accordance with the ICG Code**

Product name	Ship Type
paraffinic distillate, heavy, hydrotreated (severe)	Not Available
Naphtha (petroleum), hydrotreated heavy	Not Available
paraffinic distillate, heavy, solvent-refined (severe)	Not Available

## SECTION 15 Regulatory information

### Safety, health and environmental regulations / legislation specific for the substance or mixture

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

#### paraffinic distillate, heavy, hydrotreated (severe) is found on the following regulatory lists

Canada Categorization decisions for all DSL substances  
Canada Domestic Substances List (DSL)

Chemical Footprint Project - Chemicals of High Concern List  
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

#### Naphtha (petroleum), hydrotreated heavy is found on the following regulatory lists

Canada Categorization decisions for all DSL substances  
Canada CEPA Environmental Registry Substance Lists - List of substances on the DSL that are Persistent, Bioaccumulative, and Inherently Toxic to the Environment  
Canada Domestic Substances List (DSL)

Chemical Footprint Project - Chemicals of High Concern List  
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

#### paraffinic distillate, heavy, solvent-refined (severe) is found on the following regulatory lists

Canada Categorization decisions for all DSL substances  
Canada Domestic Substances List (DSL)

Chemical Footprint Project - Chemicals of High Concern List  
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

### National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (paraffinic distillate, heavy, hydrotreated (severe); Naphtha (petroleum), hydrotreated heavy; paraffinic distillate, heavy, solvent-refined (severe))
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (Naphtha (petroleum), hydrotreated heavy)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes

National Inventory	Status
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - ARIPS	Yes

**Legend:**

Yes = All CAS declared ingredients are on the inventory

No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets)

**SECTION 16 Other information**

<b>Revision Date</b>	10/02/2021
<b>Initial Date</b>	10/02/2021

**SDS Version Summary**

Version	Issue Date	Sections Updated
2.1.1.1	10/02/2021	Classification, Ingredients

**Other information**

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

**Definitions and abbreviations**

PC—TWA: Permissible Concentration-Time Weighted Average  
 PC—STEL: Permissible Concentration-Short Term Exposure Limit  
 IARC: International Agency for Research on Cancer  
 ACGIH: American Conference of Governmental Industrial Hygienists  
 STEL: Short Term Exposure Limit  
 TEEL: Temporary Emergency Exposure Limit.  
 IDLH: Immediately Dangerous to Life or Health Concentrations  
 OSF: Odour Safety Factor  
 NOAEL :No Observed Adverse Effect Level  
 LOAEL: Lowest Observed Adverse Effect Level  
 TLV: Threshold Limit Value  
 LOD: Limit Of Detection  
 OTV: Odour Threshold Value  
 BCF: BioConcentration Factors  
 BEI: Biological Exposure Index

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