

# ENMAR MSDO 440

## Safety Data Sheet

according to Regulation (EU) 2015/830  
Date of issue: 21/12/23 Version: 1.0



### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Mixture  
Product name : ENMAR MSDO 440  
Product code : 152028

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

##### Relevant identified uses

Use of the substance/mixture : Lubricant for heavy-fuel diesel engine

##### Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

Nerita Limited Ltd., Hong Kong  
technical@neritaltd.com

#### 1.4. Emergency telephone number

Emergency contact : technical@neritaltd.com

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

##### Adverse physicochemical, human health and environmental effects

No additional information available

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

#### 2.3. Other hazards

No additional information available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Paraffin oils (petroleum), catalytic dewaxed heavy, Baseoil - unspecified, [A complex combination of hydrocarbons obtained from a catalytic dewaxing process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil with a viscosity of at least 100 SUS at 100 °F (19cSt at 40 °C).] (Note L)	(CAS No) 64742-70-7 (EC no) 265-174-4 (EC index no) 649-477-00-2 (REACH-no) 01-2119487080-42-0003; 01-2119487080-42 01-2119484627-25-0025; 01-2119484627-25 01-2119471299-27-0019; 01-2119471299-27	77,5	Carc. not classified according to note L of CLP  (contains less than 3 % DMSO extract)

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Residual oils (petroleum), hydrotreated, Baseoil - unspecified, [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 greater than C25 and boiling above approximately 400 °C (752 °F).] (Note L)	(CAS No) 64742-57-0 (EC no) 265-160-8 (EC index no) 649-470-00-4 (REACH-no) 01-2119489287-22 01-2119480472-38-0013; 01-2119480472-38	15,4	Carc. not classified according to note L of CLP  (contains less than 3 % DMSO extract)
Phosphorodithioic acid, mixed O,O-bis(isobutyl and pentyl) esters, zinc salts-	(CAS No) 68457-79-4 (EC no) 270-608-0 (REACH-no) not available	0,1 - 0,3	Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411

Note L : The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346 'Determination of polycyclic aromatics in unused lubricating base oils and asphaltene free petroleum fractions — Dimethyl sulphoxide extraction refractive index method', Institute of Petroleum, London. This note applies only to certain complex oil-derived substances in Part 3.

Full text of H-statements: see section 16

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- First-aid measures after skin contact : Take off immediately all contaminated clothing. Wash off immediately with soap and plenty of water. If skin irritation occurs: Get medical advice/attention.
- First-aid measures after eye contact : Rinse immediately and plentifully with water, also under the eyelids, for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- First-aid measures after ingestion : Do not induce vomiting. Never give anything by mouth to an unconscious person. Immediately get medical attention.

#### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries after inhalation : May cause irritation to the respiratory tract. May cause drowsiness or dizziness.
- Symptoms/injuries after skin contact : Injection under the skin of pressurized hydrocarbons can cause severe, permanent tissue damage. May cause skin irritation / dermatitis.
- Symptoms/injuries after eye contact : May cause eye irritation.
- Symptoms/injuries after ingestion : Swallowing the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis. Caution if victim vomits: Risk of aspiration!

#### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : carbon dioxide (CO<sub>2</sub>), water, dry chemical powder.
- Unsuitable extinguishing media : None known.

#### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : None known.
- Explosion hazard : None known.
- Hazardous decomposition products in case of fire : Hazardous decomposition products may be released during prolonged heating like smokes, carbon monoxide and dioxide. Aldehydes. Sulfur oxides.

#### 5.3. Advice for firefighters

- Firefighting instructions : Cool down the containers exposed to heat with a water spray.
- Protective equipment for firefighters : Wear proper protective equipment. In case of fire: Wear self-contained breathing apparatus.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### For non-emergency personnel

- Protective equipment : Wear personal protection equipment.
- Emergency procedures : Evacuate area. Avoid contact with skin, eyes and clothes.

##### For emergency responders

- Protective equipment : Wear suitable protective clothing. In case of fire: Wear self-contained breathing apparatus.
- Emergency procedures : Evacuate and limit access. Stop leak if safe to do so. Use ventilation/water spray/fog to disperse vapours. Do not touch spilled material.

#### 6.2. Environmental precautions

Avoid release to the environment. Notify authorities if liquid enters sewers or public waters.

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### 6.3. Methods and material for containment and cleaning up

- For containment : Clean up any spills as soon as possible, using an absorbent material to collect it. For larger spills, dike area and pump into waste containers.
- Methods for cleaning up : Collect all waste in suitable and labelled containers and dispose according to local legislation.

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Additional hazards when processed : Handling this product may result in electrostatic accumulation. Use proper grounding procedures.
- Precautions for safe handling : Avoid contact with skin, eyes and clothing. Avoid inhalation of vapours. Avoid static electricity discharges. Provide earthing of containers, equipment, pumps and ventilation facilities.
- Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Handle in accordance with good industrial hygiene and safety practices. Take off contaminated clothes. Wash contaminated clothing prior to re-use.

### 7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in a dry, cool and well-ventilated place.
- Special rules on packaging : Keep only in original container.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

- Appropriate engineering controls : Either local exhaust or general room ventilation is usually required.
- Personal protective equipment : Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.
- Materials for protective clothing : Wear suitable protective clothing. Natural fibres (e.g. cotton)
- Hand protection : Wear suitable gloves tested to EN374. Thickness of glove material: > 0.13 mm. Break through time: ≥ 480 min
- Eye protection : Use splash goggles when eye contact due to splashing is possible. DIN EN 166
- Respiratory protection : In case of inadequate ventilation wear respiratory protection. Wear a respirator conforming to EN140 with Type A/P2 filter or better



## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

- Physical state : Liquid
- Colour : Brown
- Odour : Characteristics.
- Odour threshold : No data available
- pH : No data available
- Relative evaporation rate (butyl acetate=1) : No data available
- Melting point : No data available
- Freezing point : No data available
- Boiling point : No data available
- Flash point : 266 °C
- Auto-ignition temperature : No data available
- Decomposition temperature : No data available

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Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 0.910 g/cm <sup>3</sup> @ 15.5°C
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: 14.5 mm <sup>2</sup> /s @ 100°C
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive. However, formation of explosive air/vapour mixtures are possible.
Oxidising properties	: not oxidizing.
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

None known under normal conditions of use. No polymerization.

### 10.4. Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

### 10.5. Incompatible materials

Strong oxidizing agents.

### 10.6. Hazardous decomposition products

No hazardous decomposition products known at room temperature.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

#### Phosphorodithioic acid, mixed O,O-bis(isobutyl and pentyl) esters, zinc salts- (68457-79-4)

LD50 oral rat	1830 mg/kg
LD50 dermal rabbit	> 3160 mg/kg

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

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Viscosity, kinematic	14.5 mm <sup>2</sup> /s @ 100°C
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## SECTION 12: Ecological information

### 12.1. Toxicity

#### Phosphorodithioic acid, mixed O,O-bis(isobutyl and pentyl) esters, zinc salts- (68457-79-4)

LC50 fish 1	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [semi-static])
LC50 fish 2	25 - 50 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 1	4,0 - 6,0 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 96h algae (1)	1,0 - 5,0 mg/l (Species: Pseudokirchneriella subcapitata)

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### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Regional legislation (waste) : Waste disposal according to EC directives 75/442/EEC and 91/689/EEC in the corresponding versions, covering waste and dangerous waste.  
Waste treatment methods : Can be incinerated according to local regulations.  
Waste disposal recommendations : Dispose of this material and its container to hazardous or special waste collection point.  
European List of Waste (LoW) code : 13 02 05\* - mineral-based non-chlorinated engine, gear and lubricating oils

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

### 14.1. UN number

UN-No. (ADR) : Not applicable  
UN-No. (IMDG) : Not applicable  
UN-No. (IATA) : Not applicable  
UN-No. (ADN) : Not applicable  
UN-No. (RID) : Not applicable

### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable  
Proper Shipping Name (IMDG) : Not applicable  
Proper Shipping Name (IATA) : Not applicable  
Proper Shipping Name (ADN) : Not applicable  
Proper Shipping Name (RID) : Not applicable

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : Not applicable

#### IMDG

Transport hazard class(es) (IMDG) : Not applicable

#### IATA

Transport hazard class(es) (IATA) : Not applicable

#### ADN

Transport hazard class(es) (ADN) : Not applicable

#### RID

Transport hazard class(es) (RID) : Not applicable

### 14.4. Packing group

Packing group (ADR) : Not applicable  
Packing group (IMDG) : Not applicable  
Packing group (IATA) : Not applicable  
Packing group (ADN) : Not applicable  
Packing group (RID) : Not applicable

### 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
Other information : No supplementary information available

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### Special precautions for user

#### - Overland transport

Not applicable

#### - Transport by sea

Not applicable

#### - Air transport

Not applicable

#### - Inland waterway transport

Not applicable

#### - Rail transport

Not applicable

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Other information, restriction and prohibition regulations

: International regulatory information:

AICS: Australia. Inventory of Chemical Substances (AICS) (as amended through 1 September 2015)

CAS RN: 64742-70-7

Name: Paraffin oils, petroleum, catalytic dewaxed heavy

Note(s): aU This entry is a chemical of unknown or variable composition, a complex product of a chemical reaction, or a biological material (UVCB); the Australian inventory denotes this by putting an asterisk (\*) after the CAS number.

DSL: Canada. Domestic Substances List (DSL), as amended through September 23, 2015  
CAS RN: 64742-70-7 may be regulated as a member of the Generics group for CAS RN: 8012-95-1

Generics group name: PARAFFIN OILS

Substance category: UORG

Meets CEPA criteria: Yes

Meets human health criteria: Yes

Human health priority: Moderate

Meets environmental criteria: No

Persistent: No

Bioaccumulative: No

Inherently toxic to aquatic organisms: No

ENCS: not listed

KECI: Korea. Existing Chemicals Inventory (KECI, January 27, 2015, amended through MoE 2015-95, July 1, 2015)

Name: Paraffin oils (petroleum), catalytic dewaxed heavy

Korean ID Number: KE-27774

PICCS: Philippines. Inventory of Chemicals and Chemical Substances (PICCS) 2012

CAS RN: 64742-70-7

Name: Paraffin oils (petroleum), catalytic dewaxed heavy

TSCA: U.S. Federal, TSCA

TSCA IUR 2006, Partially Exempt Petroleum Process Streams (40 CFR 710.46(b)(1))

TSCA CDR, Partially Exempt Petroleum Process Streams (40 CFR 711.6(b)(1)) (September 6, 2011)

CAS RN: 64742-70-7

Name: PARAFFIN OILS (PETROLEUM), CATALYTIC DEWAXED HEAVY

CAS RN: 64742-70-7 may be regulated as a member of the Generics group for CAS RN: 8012-95-1

Generics group name: PARAFFIN OILS

TSCA High Production Volume (HPV) Chemicals: 1990, 1994 & Post-1994 Additions (01/20/06)

CAS RN: 64742-70-7 may be regulated as a member of the Generics group for CAS RN: 8012-95-1

Generics group name: Paraffin oils

CAS RN: 64742-70-7

Name: Paraffin oils (petroleum), catalytic dewaxed heavy

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CAS RN: 64742-70-7  
Name: PARAFFIN OILS, PETROLEUM, CATALYTIC DEWAXED HEAVY  
1990 HPV Challenge Program Chemical  
HPV Indicator Value (see notes): 0  
HPV Sponsorship Value (see notes): F  
Notes: 0 Chemical is a candidate for sponsorship under the HPV Challenge Program; F Fully Sponsored Chemical  
. International regulatory information:  
AICS. Australia. Inventory of Chemical Substances (as amended through 1 September 2015)  
CAS RN: 64742-57-0  
Name: Residual oils, petroleum, hydrotreated  
Note(s): aU  
Notes: aU This entry is a chemical of unknown or variable composition, a complex product of a chemical reaction, or a biological material (UVCB); the Australian inventory denotes this by putting an asterisk (\*) after the CAS number.  
DSL. Canada. Domestic Substances List, as amended through September 23, 2015  
CAS RN: 64742-57-0  
Name: Residual oils, petroleum, hydrotreated  
Canada. Categorization of Existing Substances on DSL (September 2006)  
CAS RN: 64742-57-0 may be regulated as a member of the Generics group for CAS RN: 8012-95-1  
Generics group name: PARAFFIN OILS  
Substance category: UORG  
Meets CEPA criteria: Yes  
Meets human health criteria: Yes  
Human health priority: Moderate  
Meets environmental criteria: No  
Persistent: No  
Bioaccumulative: No  
Inherently toxic to aquatic organisms: No  
ENCS. Japan. Inventory of Existing & New Chemical Substances, as amended through July 30, 2015  
CAS RN: 64742-57-0  
Name: Residual oils (petroleum), hydrotreated (en-US)  
Japanese ENCS Number: (9)-1689  
Japan. Industrial Safety & Health Law (ISHL) Inventory, as amended through June 26, 2015  
CAS RN: 64742-57-0  
Name: Residual oils (petroleum), hydrotreated (en-US)  
Japanese ENCS Number: (9)-1689  
Japanese ISHL Number: (9)-1689  
Notes iencs: Grandfathered onto ISHL from ENCS according to the Chemical Substance Control Law.  
KECI. Korea Existing Chemicals Inventory (January 27, 2015, amended through MoE 2015-95, July 1, 2015)  
CAS RN: 64742-57-0  
Name: Residual oils (petroleum), hydrotreated  
Korean ID Number: KE-30119  
PICCS. Philippines. Inventory of Chemicals and Chemical Substances (PICCS) 2012  
CAS RN: 64742-57-0  
Name: Residual oils (petroleum), hydrotreated  
U.S. Federal, TSCA. IUR 2006, Partially Exempt Petroleum Process Streams (40 CFR 710.46(b)(1))  
CAS RN: 64742-57-0  
Name: RESIDUAL OILS (PETROLEUM), HYDROTREATED  
CAS RN: 64742-57-0 may be regulated as a member of the Generics group for CAS RN: 8012-95-1  
Generics group name: PARAFFIN OILS  
TSCA CDR, Partially Exempt Petroleum Process Streams (40 CFR 711.6(b)(1)) (September 6, 2011)  
CAS RN: 64742-57-0 may be regulated as a member of the Generics group for CAS RN: 8012-95-1  
Generics group name: Paraffin oils  
CAS RN: 64742-57-0 Name: Residual oils (petroleum), hydrotreated  
TSCA High Production Volume (HPV) Chemicals: 1990, 1994 & Post-1994 Additions (01/20/06)  
CAS RN: 64742-57-0 Name: RESIDUAL OILS, PETROLEUM, HYDROTREATED  
1990 HPV Challenge Program Chemical  
HPV Indicator Value (see notes): 0  
HPV Sponsorship Value (see notes): F  
Notes: 0 Chemical is a candidate for sponsorship under the HPV Challenge Program. F Fully Sponsored Chemical.



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### Germany

VwVwS Annex reference : Water hazard class (WGK) 3, severe hazard to waters (Classification according to VwVwS, Annex 4)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

### Netherlands

SZW-lijst van kankerverwekkende stoffen : Paraffin oils (petroleum), catalytic dewaxed heavy, Baseoil - unspecified, [A complex combination of hydrocarbons obtained from a catalytic dewaxing process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil with a viscosity of at least 100 SUS at 100 °F (19cSt at 40 °C).],Residual oils (petroleum), hydrotreated, Baseoil - unspecified, [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 greater than C25 and boiling above approximately 400 °C (752 °F).],Phosphorodithioic acid, mixed O,O-bis(isobutyl and pentyl) esters, zinc salts- are listed

SZW-lijst van mutagene stoffen : Paraffin oils (petroleum), catalytic dewaxed heavy, Baseoil - unspecified, [A complex combination of hydrocarbons obtained from a catalytic dewaxing process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil with a viscosity of at least 100 SUS at 100 °F (19cSt at 40 °C).],Residual oils (petroleum), hydrotreated, Baseoil - unspecified, [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 greater than C25 and boiling above approximately 400 °C (752 °F).],Phosphorodithioic acid, mixed O,O-bis(isobutyl and pentyl) esters, zinc salts- are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

### Denmark

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed

Recommendations Danish Regulation : The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

## Chemical safety assessment

A chemical safety assessment has been carried out for the substance or the mixture by the supplier

## SECTION 16: Other information

Other information : It is the user's responsibility to take the mentioned precautionary measures and to ensure that this information is complete and sufficient for the use of this product. Such information is actually to be best of our knowledge and believes accurate as reliable.

Full text of H- and EUH-statements:

Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Skin Irrit. 2	Skin corrosion/irritation Category 2
H315	Causes skin irritation
H318	Causes serious eye damage
H411	Toxic to aquatic life with long lasting effects

SDS EU (REACH Annex II)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*