

ENMAR MSDO 430

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 430
Product code : 152027

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 (CO₂), 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.

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.

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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 |
| 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 ³ @ 15.5°C |
| Solubility | : No data available |
| Log Pow | : No data available |

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| | |
|----------------------|--|
| Viscosity, kinematic | : 14.5 mm ² /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 |
| ENMAR MSDO 430 | |
| Viscosity, kinematic | 14.5 mm ² /s @ 100°C |

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) |

Persistence and degradability

No additional information available

Bioaccumulative potential

No additional information available

Mobility in soil

No additional information available

Results of PBT and vPvB assessment

No additional information available

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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

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 |

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 |

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

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 |

Environmental hazards

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

Special precautions for user

- Overland transport

Not applicable

- Transport by sea

Not applicable

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- 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

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

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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.

National regulations

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

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- 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