



SAFETY DATA SHEET

according to SS 586

SDS # : 084224

DISOLA M 4015

Issuing date: 2015-06-30

Revision Date: 2015-06-30

Version 1

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

| | |
|--------------------------|----------------------|
| Product name | DISOLA M 4015 |
| Number | EPU |
| Substance/mixture | Mixture |

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

| | |
|------------------------|---------------------------------|
| Identified uses | Marine Trunk Piston Engine Oil. |
|------------------------|---------------------------------|

1.3. Details of the supplier of the safety data sheet

| | |
|-----------------|--|
| Supplier | TOTAL OIL ASIA PACIFIC PTE LTD 331 North Bridge Road #23-01 Odeon Towers Singapore 188720 Tel: +65 6879 2200 Fax: +65 6879 2203 |
|-----------------|--|

For further information, please contact:

| | |
|-----------------------|---------------------|
| Contact Point | HSE |
| E-mail Address | ms.ap-sds@total.com |

1.4. Emergency telephone number

Singapore: 800-101-2201 (toll-free in country) or +65 3158 1349
International: CHEMTREC +1 703 527 3887 (collect calls accepted)

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

This product is not classified as hazardous according to Singapore Standard SS 586 on the Hazard Communication for Hazardous Chemicals and Dangerous Goods

Label elements

This product is not classified as hazardous according to Singapore Standard SS 586 on the Hazard Communication for Hazardous Chemicals and Dangerous Goods

Version SGPE



SAFETY DATA SHEET

according to SS 586

SDS # : 084224

DISOLA M 4015

Issuing date: 2015-06-30

Revision Date: 2015-06-30

Version 1

Other hazards which do not result in classification

Physical-Chemical Properties Contaminated surfaces will be extremely slippery.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | EC-No | Weight % |
|---|-------------|-------|----------|
| Calcium long chain alkarylsulphonate | 722503-69-7 | - | 1-2 |
| Branched alkylphenol and calcium branched alkylphenol | ^ | - | 0.1-0.4 |

4. FIRST AID MEASURES

4.1. Description of first-aid measures

| | |
|-----------------------|---|
| General advice | IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE. |
| Eye contact | Rinse thoroughly with plenty of water, also under the eyelids. |
| Skin contact | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. |
| Inhalation | Move to fresh air. |
| Ingestion | Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately. |

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

| | |
|---------------------|--|
| Skin contact | Not classified. May produce an allergic reaction. |
| Eye contact | Not classified. |
| Inhalation | Not classified. Inhalation of vapors in high concentration may cause irritation of respiratory system. |
| Ingestion | Not classified. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. |

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Version SGPE



SAFETY DATA SHEET

according to SS 586

SDS # : 084224

DISOLA M 4015

Issuing date: 2015-06-30

Revision Date: 2015-06-30

Version 1

5.1. Extinguishing media

Suitable Extinguishing Media Carbon dioxide (CO₂). ABC powder. Foam. Water spray or fog.

Unsuitable Extinguishing Media Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Special Hazard Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. These may be highly dangerous if inhaled in confined spaces or at high concentration.

5.3. Advice for fire-fighters

Special protective equipment for fire-fighters Wear self-contained breathing apparatus and protective suit.

Other information Cool containers / tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

General Information Do not touch or walk through spilled material. Contaminated surfaces will be extremely slippery. Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.

6.2. Environmental precautions

General Information Do not allow material to contaminate ground water system. Try to prevent the material from entering drains or water courses. Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and materials for containment and cleaning up

Methods for cleaning up Dam up. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

Personal Protective Equipment See Section 8 for more detail.

Waste treatment See section 13.

Version SGPE



SAFETY DATA SHEET

according to SS 586

SDS # : 084224

DISOLA M 4015

Issuing date: 2015-06-30

Revision Date: 2015-06-30

Version 1

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

| | |
|---|---|
| Advice on safe handling | When using, do not eat, drink or smoke. For personal protection see section 8. Use only in well-ventilated areas. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. |
| Prevention of fire and explosion | Take precautionary measures against static discharges: Ground/bond containers, tanks and transfer/receiving equipment. |
| Hygiene measures | Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and at the end of workday. Do not use abrasives, solvents or fuels. Do not dry hands with rags that have been contaminated with product. Do not put product contaminated rags into workwear pockets. |

7.2. Conditions for safe storage, including any incompatibilities

| | |
|--|--|
| Technical measures/Storage conditions | Keep away from food, drink and animal feedingstuffs. Keep in a banded area. Keep container tightly closed. Keep preferably in the original container. Otherwise reproduce all indication of the regulation label on the new container. Do not remove the hazard labels of the containers (even if they are empty). Design the installations in order to avoid accidental emissions of product (due to seal breakage, for example) onto hot casings or electrical contacts. Protect from frost, heat and sunlight. Protect from moisture. |
| Materials to Avoid | Strong oxidizing agents. |

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

| | |
|------------------------|--|
| Exposure limits | Mineral oil mist: USA: OSHA (PEL) TWA 5 mg/m ³ , NIOSH (REL) TWA 5 mg/m ³ , STEL 10 mg/m ³ , ACGIH (TLV) TWA 5 mg/m ³ (highly refined). |
| Legend | See section 16 |

8.2. Exposure controls

Occupational Exposure Controls

Version SGPE



SAFETY DATA SHEET

according to SS 586

SDS # : 084224

DISOLA M 4015

Issuing date: 2015-06-30

Revision Date: 2015-06-30

Version 1

Engineering Measures

Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Personal Protective Equipment

General Information

If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied.

Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Respirator with combination filter for vapour/particulate (EN 14387). The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.

Eye Protection

If splashes are likely to occur, wear: Safety glasses with side-shields.

Skin and body protection

Wear suitable protective clothing. Protective shoes or boots. Long sleeved clothing.

Hand Protection

Hydrocarbon-proof gloves: Fluorinated rubber, Nitrile rubber. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves.

Environmental exposure controls

General Information

The product should not be allowed to enter drains, water courses or the soil.

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

| | |
|----------------------|--------------------------|
| Color | No information available |
| Physical State @20°C | liquid |
| Odor | Characteristic |

Important health safety and environmental information

| <u>Property</u> | <u>Values</u> | <u>Remarks</u> | <u>Method</u> |
|-----------------------------|----------------------|--------------------------|-----------------------|
| pH | | No information available | |
| Boiling point/boiling range | | No information available | |
| Flash point | > 230 °C > 446 °F | | ASTM D92 ASTM D92. |
| Evaporation rate | | No information available | |

Version SGPE



SAFETY DATA SHEET

according to SS 586

SDS # : 084224

DISOLA M 4015

Issuing date: 2015-06-30

Revision Date: 2015-06-30

Version 1

| | | | |
|---|------------------------------|--------------------------|----------|
| Flammability Limits in Air | | No information available | |
| Vapor Pressure | | No information available | |
| Vapor density | | No information available | |
| Density | 900 kg/m ³ | @ 15 °C | ISO 3675 |
| Water solubility | | Insoluble | |
| Solubility in other solvents | | No information available | |
| logPow | | No information available | |
| Autoignition temperature | | No information available | |
| Viscosity, kinematic | 145 mm ² /s | @ 40 °C | ISO 3104 |
| | 14.2 mm ² /s | @ 100 °C | ISO 3104 |
| Explosive properties | Not explosive | | |
| Oxidizing Properties | No information available | | |
| Possibility of hazardous reactions | None under normal processing | | |

Other information

| | | |
|-------------------|-------|----------|
| Pour point | -9 °C | ASTM D97 |
|-------------------|-------|----------|

10. STABILITY AND REACTIVITY

10.1. Reactivity

| | |
|----------------------------|---|
| General Information | No dangerous reaction known under conditions of normal use. |
|----------------------------|---|

10.2. Chemical stability

| | |
|------------------|--|
| Stability | Stable under recommended storage conditions. |
|------------------|--|

10.3. Possibility of hazardous reactions

| | |
|----------------------------|-------------------------------|
| Hazardous Reactions | None under normal processing. |
|----------------------------|-------------------------------|

10.4. Conditions to Avoid

| | |
|----------------------------|---|
| Conditions to Avoid | Heat (temperatures above flash point), sparks, ignition points, flames, static electricity. |
|----------------------------|---|

10.5. Incompatible Materials

| | |
|---------------------------|--------------------------|
| Materials to Avoid | Strong oxidizing agents. |
|---------------------------|--------------------------|

10.6. Hazardous Decomposition Products

Version SGPE



SAFETY DATA SHEET

according to SS 586

SDS # : 084224

DISOLA M 4015

Issuing date: 2015-06-30

Revision Date: 2015-06-30

Version 1

Hazardous Decomposition Products Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Information on likely routes of exposure

Principle Routes of Exposure Skin contact, Eye contact, Inhalation, Ingestion.

Numerical measures of toxicity - Product Information

No information available

Information on toxicological effects

| | |
|---------------------|--|
| Skin contact | Not classified. May produce an allergic reaction. |
| Eye contact | Not classified. |
| Inhalation | Not classified. Inhalation of vapors in high concentration may cause irritation of respiratory system. |
| Ingestion | Not classified. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. |

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|--|---|
| Skin corrosion/irritation | Not classified. |
| Serious eye damage/eye irritation | Not classified. |
| Sensitization | Not classified as a sensitizer. Contains sensitizer(s). May produce an allergic reaction. The supplier of one of the components contained within this formulation has indicated that they have data, which confirms that at the concentration used, no sensitisation classification is required . |
| Germ Cell Mutagenicity | This product is not classified as mutagenic. No known effect based on information supplied. |

Version SGPE



SAFETY DATA SHEET

according to SS 586

SDS # : 084224

DISOLA M 4015

Issuing date: 2015-06-30

Revision Date: 2015-06-30

Version 1

Carcinogenicity

This product is not classified carcinogenic. No known effect based on information supplied. During use in engines, contamination of oil with low levels of combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil is thoroughly removed by washing with soap and water.

Reproductive toxicity

Not classified. Contains a presumed human reproductive toxicant substance. The provider of a component used in the formulation indicates that the data available show that use applied rates, no classification as toxic for reproduction is required.

| Chemical Name | European Union |
|--|-----------------|
| Branched alkylphenol and calcium branched alkylphenol ^ | Repr. 1B (H360) |

STOT-single exposure

Not classified. No known effect based on information supplied.

STOT - repeated exposure

Not classified. No known effect based on information supplied.

Aspiration Hazard

Not classified. No known effect based on information supplied.

Other adverse effects

Characteristic skin lesions (pimples) may develop following prolonged and repeated exposures (contact with contaminated clothing).

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Not Classified.

Acute aquatic toxicity - Product Information

No information available.

Acute aquatic toxicity - Component Information

No information available.

Chronic aquatic toxicity - Product Information

No information available.

Chronic aquatic toxicity - Component Information

No information available.

Effects on terrestrial organisms

No information available.

Version SGPE



SAFETY DATA SHEET

according to SS 586

SDS # : 084224

DISOLA M 4015

Issuing date: 2015-06-30

Revision Date: 2015-06-30

Version 1

12.2. Persistence and degradability

General Information No information available.

12.3. Bioaccumulative potential

Product Information No information available.

logPow No information available

Component Information No information available.

12.4. Mobility in soil

Soil Given its physical and chemical characteristics, the product generally shows low soil mobility.

Air Loss by evaporation is limited.

Water The product is insoluble and floats on water.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

12.6. Other adverse effects

General Information No information available.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Methods Should not be released into the environment. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. After use, this oil must be sent to a licensed waste oil facility. Incorrect disposal of used oil poses a risk to the environment. Mixture with other waste types such as solvents, brake- and cooling liquids is forbidden.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

Disposal Precautions Refer to section 8 for safety and protective measures for disposal personnel.

14. TRANSPORT INFORMATION

Version SGPE



SAFETY DATA SHEET

according to SS 586

SDS # : 084224

DISOLA M 4015

Issuing date: 2015-06-30

Revision Date: 2015-06-30

Version 1

ADR/RID Not regulated

IMDG/IMO Not regulated

ICAO/IATA Not regulated

15. REGULATORY INFORMATION

International Inventories No information available

National regulatory information

Singapore

Applicable National Regulation:
Workplace Safety and Health (General Provision) Regulations

16. OTHER INFORMATION

Abbreviations, acronyms

Legend Section 8

TWA: Time Weight Average

STEL: Short Time Exposure Limit

+ Sensitizer

** Hazard Designation

M: Mutagen

*

C:

R:

Skin designation

Carcinogen

Toxic to reproduction

Revision Date: 2015-06-30

Revision Note *** Indicates updated section.

This safety data sheet serves to complete but not to replace the technical product sheets. The information contained herein is given in good faith and is accurate to the best of knowledge at the date indicated above. It is understood by the user that any use of the product for purposes other than those for which it was designed entails potential risk. The information given herein in no way dispenses the user from knowing and applying all provisions regulating his activity. The user bears sole liability for the precautions required when using the product. The regulatory texts indicated herein are intended to aid the user to fulfil his obligations. This list is not to be considered complete and exhaustive. It is the user's responsibility to ensure that he is subject to no other obligations than those mentioned.

End of the safety data sheet

Version SGPE