

# SAFETY DATA SHEET



MOBIL RARUS 829

## Section 1. Identification

**Product name** : MOBIL RARUS 829  
**Product description** : Synthetic base stocks and additives

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

**Identified uses** : Compressor oil  
**Uses advised against** : This product is not recommended for any industrial, professional or consumer use other than the Identified Uses above.

**Supplier** : ExxonMobil Asia Pacific Pte.Ltd. (Company No.: 196800312N)  
1 HarbourFront Place  
#06-00 HarbourFront Tower One 098633 Singapore

**24 Hour Emergency Telephone** : 800 101 2201 / +65 3158 1349 (CHEMTREC)

**Supplier General Contact** : (65) 6885 8000  
**FAX** : (65) 6885 8938

## Section 2. Hazards identification

**Classification of the substance or mixture** : Not classified.

This material is considered to be NON-HAZARDOUS according to regulatory guidelines.

**Other hazards which do not result in classification** : None known.

**Nota** : This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

| Ingredient name                                                                                                | %    | Identifiers     |
|----------------------------------------------------------------------------------------------------------------|------|-----------------|
| n-phenyl-1-naphthylamine                                                                                       | <1   | CAS: 90-30-2    |
| 4,4',4''-(1-methylpropanyl-3-ylidene)tris[6-tert-butyl-m-cresol]                                               | ≤0.3 | CAS: 1843-03-4  |
| 9-octadecenoic acid (z)-, reaction products with dihydro-3-(dodecenyl)-2,5-furandione and triethylenetetramine | ≤0.3 | CAS: 68478-81-9 |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First-aid measures

### Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury. Wash clothing before reuse. Clean shoes thoroughly before reuse. Continue to rinse for at least 10 minutes. Get medical attention.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : Local necrosis as evidenced by delayed onset of pain and tissue damage a few hours after injection.
- Ingestion** : No specific data.

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

## Section 5. Firefighting measures

### Extinguishing media

**Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

**Unsuitable extinguishing media** : Do not use water jet.

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous combustion products** : Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, sulfur oxides

**Special protective actions for fire-fighters** : Use standard firefighting procedures and consider the hazards of other involved materials. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Assure an extended cooling down period to prevent re-ignition. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and material for containment and cleaning up

**Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Confine the spill immediately with booms. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants. Warn other shipping. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 6. Accidental release measures

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

## Section 7. Handling and storage

### Precautions for safe handling

#### Protective measures

Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

#### Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

#### Static Accumulator

This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

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

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

None.

#### Appropriate engineering controls

If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

#### Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

#### Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## Section 8. Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. < 1 hour (breakthrough time): Nitrile, minimum 0.38 mm thickness or comparable protective barrier material
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties and safety characteristics

**Note:** Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

- Physical state** : Liquid.
- Colour** :  Amber.
- Odour** :  Characteristic
- Odour threshold** : Not available.
- pH** :  Not applicable.
- Melting point/freezing point** : Not available.
- Boiling point or initial boiling point and boiling range** :  315.56°C (>600°F)
- Flash point** :  Open cup: >220°C (>428°F) [ASTM D-92]
- Evaporation rate** : Not available.
- Flammability** : Ignitable
- Lower and upper explosion limit/flammability limit** :  Lower: 0.9%  
Upper: 7%
- Vapour pressure** :  0.1 mm Hg [20 °C]
- Relative vapour density** :  2 [Air = 1]
- Relative density** :  0.968 [ASTM D4052]
- Solubility in water** :  Negligible
- Partition coefficient: n-octanol/water** :  3.5
- Auto-ignition temperature** : Not available.

## Section 9. Physical and chemical properties and safety characteristics

**Decomposition temperature** : Not available.

**Viscosity** : 1750 cSt [40 °C] [ASTM D 445]  
13.2 cSt [100 °C] [ASTM D 445]

### Particle characteristics

**Median particle size** : Not applicable.

**Pour point** : 30°C [ASTM D 5950]

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : High energy sources of ignition. Excessive heat.

**Incompatible materials** : Strong oxidisers

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

| Product/ingredient name  | Test      | Species | Result     | Duration |
|--------------------------|-----------|---------|------------|----------|
| n-phenyl-1-naphthylamine | LD50 Oral | Rat     | 1625 mg/kg | -        |

#### Conclusion/Summary

**Inhalation** : Minimally Toxic. No end point data for material. Based on assessment of the components.

**Dermal** : Minimally Toxic. No end point data for material. Based on assessment of the components.

**Oral** : Minimally Toxic. No end point data for material. Based on assessment of the components.

#### Irritation/Corrosion

#### Conclusion/Summary

**Skin** : Negligible irritation to skin at ambient temperatures. No end point data for material. Based on assessment of the components.

**Eyes** : May cause mild, short-lasting discomfort to eyes. No end point data for material. Based on assessment of the components.

**Respiratory** : Negligible hazard at ambient/normal handling temperatures. No end point data for material.

#### Respiratory or skin sensitization

#### Conclusion/Summary

**Skin** : Not expected to be a skin sensitizer. No end point data for material. Based on assessment of the components.

**Respiratory** : Not expected to be a respiratory sensitizer. No end point data for material.

#### Mutagenicity

**Conclusion/Summary** : Not expected to be a germ cell mutagen. No end point data for material. Based on assessment of the components.

## Section 11. Toxicological information

### Carcinogenicity

**Conclusion/Summary** : ☒ Not expected to cause cancer. No end point data for material. Based on assessment of the components.

### Reproductive toxicity

**Conclusion/Summary** : ☒ May damage fertility. May damage the unborn child. No end point data for material. Based on assessment of the components.

### Specific target organ toxicity (single exposure)

**Conclusion/Summary** : ☒ Not expected to cause organ damage from a single exposure. No end point data for material.

### Specific target organ toxicity (repeated exposure)

| Product/ingredient name | Category        | Target organs |
|-------------------------|-----------------|---------------|
| MOBIL RARUS 829         | Not applicable. | -             |

**Conclusion/Summary** : Not expected to cause organ damage from prolonged or repeated exposure. No end point data for material. Based on assessment of the components.

### Aspiration hazard

**Conclusion/Summary** : ☒ Not expected to be an aspiration hazard. Based on physico-chemical properties of the material. Data available.

### Other information

**Contains** : N-phenyl-1-naphthylamine (PAN): A single oral overexposure may result in clinical signs/symptoms of cyanosis, headache, shallow respiration, dizziness, confusion, low blood pressure, convulsions, coma, or jaundice. Hematuria may occur due to bladder and kidney irritation, and anemia may develop later. Repeated exposure in laboratory animals caused liver and kidney damage and depressed bone marrow activity. Undiluted PAN is a skin sensitizer. Human testing of lubricants containing 1.0% PAN resulted in no reactions indicative of sensitisation. Synthetic base oils: Not expected to cause significant health effects under conditions of normal use, based on laboratory studies with the same or similar materials. Not mutagenic or genotoxic. Not sensitising in test animals and humans.

## Section 12. Ecological information

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

### Toxicity

| Product/ingredient name | Duration | Species                        | Result                                         |
|-------------------------|----------|--------------------------------|------------------------------------------------|
| MOBIL RARUS 829         | 21 days  | daphnia - <i>Daphnia magna</i> | Chronic NOEL 1 mg/l data for similar materials |

### Conclusion/Summary

**Acute toxicity** : Not expected to be harmful to aquatic organisms.

**Chronic toxicity** : Not expected to demonstrate chronic toxicity to aquatic organisms

### Persistence and degradability

Not determined.

### Bioaccumulative potential

Not determined.

### Mobility in soil

**Mobility** : ☒ Base oil component -- Expected to partition to sediment and wastewater solids. Low solubility and floats and is expected to migrate from water to the land.

## Section 12. Ecological information

### Other ecological information

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

## Section 14. Transport information

|                            | ADR            | IMDG           | IATA           |
|----------------------------|----------------|----------------|----------------|
| UN number                  | Not regulated. | Not regulated. | Not regulated. |
| UN proper shipping name    | -              | -              | -              |
| Transport hazard class(es) | -              | -              | -              |
|                            |                |                |                |
| Packing group              | -              | -              | -              |
| Environmental hazards      | No.            | No.            | No.            |

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not applicable.

## Section 15. Regulatory information

Material is not hazardous as defined by Specification for hazard communication for hazardous chemicals and dangerous goods (Singapore Standard SS586) Part 2:2014 - Globally harmonised system of classification and labelling of chemicals - Singapore's adaptations.

[Singapore – hazardous chemical under government control, Second Schedule of the Environmental Protection And Management Act S 436, National Environment Agency](#)

None.

## Section 15. Regulatory information

### Inventory list

|                                                    |                                                                                                                            |
|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Australia inventory (AIRC)                         | :  All components are listed or exempted. |
| Canada inventory (DSL-NDSL)                        | :  Restrictions Apply                     |
| China inventory (IECSC)                            | :  All components are listed or exempted. |
| Japan inventory (CSCL)                             | :  All components are listed or exempted. |
| Japan inventory (Industrial Safety and Health Act) | :  All components are listed or exempted. |
| New Zealand Inventory of Chemicals (NZIoC)         | :  All components are listed or exempted. |
| Philippines inventory (PICCS)                      | :  All components are listed or exempted. |
| Korea inventory (KECI)                             | :  Restrictions Apply                     |
| Taiwan Chemical Substances Inventory (TCSI)        | :  All components are listed or exempted. |
| United States inventory (TSCA 8b)                  | :  All components are active or exempted. |

## Section 16. Other information

### History

|                                |                  |
|--------------------------------|------------------|
| Date of issue/Date of revision | : 9 October 2024 |
| Date of previous issue         | : 26 July 2024   |
| Version                        | : 2.01           |

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Key to abbreviations | : ATE = Acute Toxicity Estimate<br>BCF = Bioconcentration Factor<br>GHS = Globally Harmonized System of Classification and Labelling of Chemicals<br>IATA = International Air Transport Association<br>IBC = Intermediate Bulk Container<br>IMDG = International Maritime Dangerous Goods<br>LogPow = logarithm of the octanol/water partition coefficient<br>MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)<br>N/A = Not available<br>SGG = Segregation Group<br>UN = United Nations |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|            |                  |
|------------|------------------|
| References | : Not available. |
|------------|------------------|

 Indicates information that has changed from previously issued version.

|              |                                                                                                           |
|--------------|-----------------------------------------------------------------------------------------------------------|
| Product code | :  01560203020_1168482 |
|--------------|-----------------------------------------------------------------------------------------------------------|

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