

Product Name: MOBIL RARUS 829  
Revision Date: 23 Jul 2020  
Page 1 of 10

## SAFETY DATA SHEET

### SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

#### PRODUCT

**Product Name:** MOBIL RARUS 829  
**Product Description:** Synthetic Base Stocks and Additives  
**Product Code:** 201560203020, 606269-00, 970787  
**Intended Use:** Compressor oil

#### COMPANY IDENTIFICATION

**Supplier:** EXXON MOBIL CORPORATION  
22777 Springwoods Village Parkway  
Spring, TX 77389 USA

**24 Hour Health Emergency** 609-737-4411  
**Transportation Emergency Phone** 800-424-9300 or 703-527-3887 CHEMTREC  
**Product Technical Information** 800-662-4525  
**MSDS Internet Address** [www.exxon.com](http://www.exxon.com), [www.mobil.com](http://www.mobil.com)

### SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to regulatory guidelines (see (M)SDS Section 15).

#### CLASSIFICATION:

Reproductive toxicant (developmental): Category 2. Reproductive toxicant (fertility): Category 2.

#### LABEL:

##### Pictogram:



**Signal Word:** Warning

#### Hazard Statements:

H361: Suspected of damaging fertility or the unborn child.

#### Precautionary Statements:

P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P280: Wear protective gloves and clothing. P308 + P313: IF exposed or concerned: Get medical advice/ attention. P405: Store locked up. P501: Dispose of contents and container in accordance with local regulations.

**Contains:** LONG-CHAIN ALKENYLAMIDE

Product Name: MOBIL RARUS 829  
 Revision Date: 23 Jul 2020  
 Page 2 of 10

**Other hazard information:**

**HAZARD NOT OTHERWISE CLASSIFIED (HNOC):** None as defined under 29 CFR 1910.1200.

**PHYSICAL / CHEMICAL HAZARDS**

No significant hazards.

**HEALTH HAZARDS**

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

**ENVIRONMENTAL HAZARDS**

No significant hazards.

<b>NFPA Hazard ID:</b>	Health: 1	Flammability: 1	Reactivity: 0
<b>HMIS Hazard ID:</b>	Health: 1*	Flammability: 1	Reactivity: 0

**NOTE:** 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.

<b>SECTION 3</b>	<b>COMPOSITION / INFORMATION ON INGREDIENTS</b>
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This material is defined as a mixture.

**Hazardous Substance(s) or Complex Substance(s) required for disclosure**

Name	CAS#	Concentration*	GHS Hazard Codes
1-NAPHTHYLAMINE, N-PHENYL-	90-30-2	0.1 - < 1%	H302, H317, H373, H400(M factor 1), H410(M factor 1)
4,4',4''-(1-METHYLPROPANYL-3-YLIDENE)TRIS[6-TERT-BUTYL-M-CRESOL]	1843-03-4	0.1 - < 1%	H317
9-OCTADECENOIC ACID (Z)-, REACTION PRODUCTS WITH DIHYDRO-3-(DODECENYL)-2,5-FURANDIONE AND TRIETHYLENETETRAMINE	68478-81-9	0.1 - < 1%	H315, H361(D), H361(F), H413

\* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

<b>SECTION 4</b>	<b>FIRST AID MEASURES</b>
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**INHALATION**

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental

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oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device.

#### SKIN CONTACT

Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse. 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.

#### EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

#### INGESTION

Seek immediate medical attention.

<b>SECTION 5</b>	<b>FIRE FIGHTING MEASURES</b>
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#### EXTINGUISHING MEDIA

**Appropriate Extinguishing Media:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

**Inappropriate Extinguishing Media:** Straight Streams of Water

#### FIRE FIGHTING

**Fire Fighting Instructions:** Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

**Hazardous Combustion Products:** Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides

#### FLAMMABILITY PROPERTIES

**Flash Point [Method]:** >220°C (428°F) [ASTM D-92]

**Flammable Limits (Approximate volume % in air):** LEL: 0.9 UEL: 7.0

**Autoignition Temperature:** N/D

<b>SECTION 6</b>	<b>ACCIDENTAL RELEASE MEASURES</b>
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#### NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

#### PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

Product Name: MOBIL RARUS 829

Revision Date: 23 Jul 2020

Page 4 of 10

## SPILL MANAGEMENT

**Land Spill:** Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

**Water Spill:** Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

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.

## ENVIRONMENTAL PRECAUTIONS

**Large Spills:** Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

## SECTION 7

## HANDLING AND STORAGE

### HANDLING

Avoid all personal contact. This material is not intended for use in air compressors for breathing applications. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

**Static Accumulator:** This material is a static accumulator.

### STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers.

## SECTION 8

## EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure limits/standards for materials that can be formed when handling this product:** When mists/aerosols can occur the following are recommended: 5 mg/m<sup>3</sup> - ACGIH TLV (inhalable fraction), 5 mg/m<sup>3</sup> - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

## ENGINEERING CONTROLS

Product Name: MOBIL RARUS 829

Revision Date: 23 Jul 2020

Page 5 of 10

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The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

## PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

**Respiratory Protection:** If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

**Hand Protection:** Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Chemical resistant gloves are recommended.

**Eye Protection:** If contact is likely, safety glasses with side shields are recommended.

**Skin and Body Protection:** Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

Chemical/oil resistant clothing is recommended.

**Specific Hygiene Measures:** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

## ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

<b>SECTION 9</b>	<b>PHYSICAL AND CHEMICAL PROPERTIES</b>
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**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.

## GENERAL INFORMATION

**Physical State:** Liquid

**Color:** Brown

Product Name: MOBIL RARUS 829  
 Revision Date: 23 Jul 2020  
 Page 6 of 10

**Odor:** Characteristic  
**Odor Threshold:** N/D

**IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION**

**Relative Density (at 15.6 °C):** 0.968 [ASTM D4052]  
**Flammability (Solid, Gas):** N/A  
**Flash Point [Method]:** >220°C (428°F) [ASTM D-92]  
**Flammable Limits (Approximate volume % in air):** LEL: 0.9 UEL: 7.0  
**Autoignition Temperature:** N/D  
**Boiling Point / Range:** > 316°C (600°F)  
**Decomposition Temperature:** N/D  
**Vapor Density (Air = 1):** > 2 at 101 kPa  
**Vapor Pressure:** < 0.013 kPa (0.1 mm Hg) at 20 °C  
**Evaporation Rate (n-butyl acetate = 1):** N/D  
**pH:** N/A  
**Log Pow (n-Octanol/Water Partition Coefficient):** > 3.5  
**Solubility in Water:** Negligible  
**Viscosity:** 150 cSt (150 mm<sup>2</sup>/sec) at 40 °C | 13.2 cSt (13.2 mm<sup>2</sup>/sec) at 100°C [ASTM D 445]  
**Oxidizing Properties:** See Hazards Identification Section.

**OTHER INFORMATION**

**Freezing Point:** N/D  
**Melting Point:** N/A  
**Pour Point:** -30°C (-22°F) [ASTM D97]

<b>SECTION 10</b>	<b>STABILITY AND REACTIVITY</b>
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**REACTIVITY:** See sub-sections below.

**STABILITY:** Material is stable under normal conditions.

**CONDITIONS TO AVOID:** Excessive heat. High energy sources of ignition.

**MATERIALS TO AVOID:** Strong oxidizers

**HAZARDOUS DECOMPOSITION PRODUCTS:** Material does not decompose at ambient temperatures.

**POSSIBILITY OF HAZARDOUS REACTIONS:** Hazardous polymerization will not occur.

<b>SECTION 11</b>	<b>TOXICOLOGICAL INFORMATION</b>
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**INFORMATION ON TOXICOLOGICAL EFFECTS**

<b>Hazard Class</b>	<b>Conclusion / Remarks</b>
<b>Inhalation</b>	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
<b>Ingestion</b>	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.

Product Name: MOBIL RARUS 829

Revision Date: 23 Jul 2020

Page 7 of 10

<b>Skin</b>	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
<b>Eye</b>	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
<b>Sensitization</b>	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
<b>Aspiration:</b> Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
<b>Germ Cell Mutagenicity:</b> No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
<b>Carcinogenicity:</b> No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
<b>Reproductive Toxicity:</b> No end point data for material.	Contains a substance that may be a reproductive toxicant. Based on assessment of the components.
<b>Lactation:</b> No end point data for material.	Not expected to cause harm to breast-fed children.
<b>Specific Target Organ Toxicity (STOT)</b>	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

## TOXICITY FOR SUBSTANCES

NAME	ACUTE TOXICITY
1-NAPHTHYLAMINE, N-PHENYL-	Oral Lethality: LD50 1625 mg/kg (Rat)

## OTHER INFORMATION

### For the product itself:

Component concentrations in this formulation would not be expected to cause skin sensitization, based on tests of the components, this formulation, or similar formulations.

### Contains:

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 sensitizing in test animals and humans.

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 sensitization.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--





Product Name: MOBIL RARUS 829  
 Revision Date: 23 Jul 2020  
 Page 9 of 10

<b>SECTION 14</b>	<b>TRANSPORT INFORMATION</b>
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**LAND (DOT):** Not Regulated for Land Transport

**LAND (TDG):** Not Regulated for Land Transport

**SEA (IMDG):** Not Regulated for Sea Transport according to IMDG-Code

**Marine Pollutant:** No

**AIR (IATA):** Not Regulated for Air Transport

<b>SECTION 15</b>	<b>REGULATORY INFORMATION</b>
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**OSHA HAZARD COMMUNICATION STANDARD:** This material is considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

**Listed or exempt from listing/notification on the following chemical inventories:** AIIC, ENCS, IECSC, ISHL, PICCS, TCSI, TSCA

**Special Cases:**

Inventory	Status
NDSL	Restrictions Apply

**SARA 302:** No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

**SARA (311/312) REPORTABLE GHS HAZARD CLASSES:** Reproductive toxicity

**SARA (313) TOXIC RELEASE INVENTORY:** This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

**The following ingredients are cited on the lists below:** None.

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

<b>SECTION 16</b>	<b>OTHER INFORMATION</b>
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Product Name: MOBIL RARUS 829  
Revision Date: 23 Jul 2020  
Page 10 of 10

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N/D = Not determined, N/A = Not applicable

**KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):**

H302: Harmful if swallowed; Acute Tox Oral, Cat 4  
H315: Causes skin irritation; Skin Corr/Irritation, Cat 2  
H317: May cause allergic skin reaction; Skin Sensitization, Cat 1  
H361(D): Suspected of damaging the unborn child; Repro Tox, Cat 2 (Develop)  
H361(F): Suspected of damaging fertility; Repro Tox, Cat 2 (Fertility)  
H373: May cause damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 2  
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1  
H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1  
H413: May cause long lasting harmful effects to aquatic life; Chronic Env Tox, Cat 4

**THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:**

Composition: Component Table information was modified.  
GHS Health Symbol information was modified.  
Section 04: First Aid Ingestion information was modified.  
Section 04: First Aid Inhalation information was modified.  
Section 15: National Chemical Inventory Listing information was modified.  
Section 16: HCode Key information was modified.

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