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SAFETY DATA SHEET

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE

COMPANY / UNDERTAKING

As of the revision date above, this SDS meets the regulations in the United Kingdom excluding Northern Ireland.

1.1. PRODUCT IDENTIFIER

Product Name: MOBIL POLYREX EM 103
Product Description: Base Oil and Additives
Product Code: 2015A020G015

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Intended Use: Grease

Uses advised against: This product is not recommended for any industrial, professional or consumer use

other than the Identified Uses above.

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Supplier: EXXONMOBIL MARINE LIMITED

ERMYN HOUSE

MAILPOINT 31, ERMYN WAY KT22 8UX LEATHERHEAD

United Kingdom

Supplier General Contact:(UK) (+44) (0) 1372 222 000E-Mail:sds.uk@exxonmobil.com

1.4. EMERGENCY TELEPHONE NUMBER

24 Hour Emergency Telephone: (UK) (+44) (0) 23 8089 1558

National Poison Control Centre: (UK) 111

SECTION 2 HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF SUBSTANCE OR MIXTURE

Classification according to CLP

Chronic aquatic toxicant: Category 3., H412: Harmful to aquatic life with long lasting effects.

2.2. LABEL ELEMENTS

Label elements according to CLP

Pictograms: No Pictograms



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Signal Word: No Signal Word

Hazard Statements:

Environment:

H412: Harmful to aquatic life with long lasting effects.

Precautionary Statements:

Prevention:

P273: Avoid release to the environment.

Disposal:

P501: Dispose of contents and container in accordance with local regulations.

2.3. OTHER HAZARDS

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 additional hazards. Material does not meet the criteria for PBT or vPvB in accordance with REACH Annex XIII.

SECTION 3

COMPOSITION / INFORMATION ON INGREDIENTS

3.1. SUBSTANCES Not Applicable. This material is regulated as a mixture.

3.2. MIXTURES

This material is defined as a mixture.

Reportable hazardous substance(s) complying with the classification criteria and/or with an exposure limit (OEL)

Name	CAS#	EC#	Registration#	Concentration *	GHS/CLP classification
AMINES, C12-14-ALKYL, ISOOCTYL PHOSPHATES	68187-67-7	269-119-5	01-2120286234-55	0.1 - < 1%	Acute Tox. 4 H302, Acute Tox. 4 H312, EUH071, Aquatic Acute 1 H400 (M factor 1), Aquatic Chronic 1 H410 (M factor 1), Skin Corr. 1C H314



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Note - any classification in brackets is a GHS building block that was not adopted in CLP and therefore is not applicable in the countries which have implemented CLP and is shown for informational purposes only.

Note: See SDS Section 16 for full text of hazard statements.

SECTION 4

FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

INHALATION

Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

SKIN CONTACT

Wash contact areas with soap and water. 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

First aid is normally not required. Seek medical attention if discomfort occurs.

4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Local necrosis as evidenced by delayed onset of pain and tissue damage a few hours after injection.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

The need to have special means for providing specific and immediate medical treatment available in the workplace is not expected.

SECTION 5

FIRE FIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

Suitable Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Unsuitable Extinguishing Media: Straight streams of water

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

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

5.3. ADVICE FOR FIRE FIGHTERS

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



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and to protect personnel.

FLAMMABILITY PROPERTIES

Flash Point [Method]: >204°C (400°F) [EST. FOR OIL, ASTM D-92 (COC)]

Upper/Lower Flammable Limits (Approximate volume % in air): UEL: No data available LEL: No

data available

Autoignition Temperature: No data available

SECTION 6

ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

NOTIFICATION PROCEDURES

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

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.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

6.2. ENVIRONMENTAL PRECAUTIONS

Prevent entry into waterways, sewers, basements or confined areas.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Land Spill: Scrape up spilled material with shovels into a suitable container for recycle or disposal.

Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Skim from surface

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.

6.4. REFERENCES TO OTHER SECTIONS

See Sections 8 and 13.



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SECTION 7

HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Prevent small spills and leakage to avoid slip hazard.

This material is not a static accumulator. Static Accumulator:

7.2. CONDITIONS FOR SAFE STORAGE. INCLUDING ANY INCOMPATIBILITIES

Do not store in open or unlabelled containers.

7.3. SPECIFIC END USES

Section 1 informs about identified end-uses. No industrial or sector specific guidance available.

SECTION 8

EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. CONTROL PARAMETERS

Note: Information about recommended monitoring procedures can be obtained from the relevant agency(ies)/institute(s):

UK Health and Safety Executive (HSE)

8.2. EXPOSURE CONTROLS

ENGINEERING CONTROLS

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 protection is ordinarily required under normal 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/vapour 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



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conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

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:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

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.

SECTION 9

PHYSICAL AND CHEMICAL PROPERTIES

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.

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid Form: Semi-fluid Colour: Blue

Odour: Characteristic

Odour Threshold: No data available

pH: Not technically feasibleMelting Point: No data availableFreezing Point: No data available

Initial Boiling Point / and Boiling Range: > 316°C (600°F) [Estimated]
Flash Point [Method]: >204°C (400°F) [EST. FOR OIL, ASTM D-92 (COC)]

Evaporation Rate (n-butyl acetate = 1): No data available

Flammability (Solid, Gas): Not technically feasible

Upper/Lower Flammable Limits (Approximate volume % in air): UEL: No data available LEL: No

data available

Vapour Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C [Estimated]

Vapour Density (Air = 1): No data available

Relative Density (at 15 °C): 1 [test method unavailable]

Solubility(ies): water Negligible

Partition coefficient (n-Octanol/Water Partition Coefficient): > 3.5 [Estimated]

Autoignition Temperature: No data available **Decomposition Temperature:** No data available



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Viscosity: 112.5 cSt (112.5 mm2/sec) at 40°C [test method unavailable]

Explosive Properties: None
Oxidizing Properties: None

9.2. OTHER INFORMATION

DMSO Extract (mineral oil only), IP-346: < 3 %wt

NOTE: Most physical properties above are for the oil component in the material.

SECTION 10 STABILITY AND REACTIVITY

10.1. REACTIVITY: See sub-sections below.

10.2. CHEMICAL STABILITY: Material is stable under normal conditions.

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

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

10.5. INCOMPATIBLE MATERIALS: Strong oxidisers

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

SECTION 11 TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for	Minimally Toxic. Based on assessment of the components.
material.	
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for	Minimally Toxic. Based on assessment of the components.
material.	
Skin	
Acute Toxicity: No end point data for	Minimally Toxic. Based on assessment of the components.
material.	
Skin Corrosion/Irritation: No end point data	Negligible irritation to skin at ambient temperatures. Based on
for material.	assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point	May cause mild, short-lasting discomfort to eyes. Based on
data for material.	assessment of the components.
Sensitisation	
Respiratory Sensitization: No end point data	Not expected to be a respiratory sensitizer.
for material.	
Skin Sensitization: No end point data for	Not expected to be a skin sensitizer. Based on assessment of the
material.	components.



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Aspiration: Data available. Not expected to be an aspiration hazard. Based on physico-

Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico- chemical properties of the material.
Germ Cell Mutagenicity: No end point data	Not expected to be a germ cell mutagen. Based on assessment of
for material.	the components.
Carcinogenicity: No end point data for	Not expected to cause cancer. Based on assessment of the
material.	components.
Reproductive Toxicity: No end point data	Not expected to be a reproductive toxicant. Based on assessment
for material.	of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
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.
materiai.	resposure, based on assessment of the components.

OTHER INFORMATION

Contains:

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitising in test animals.

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.

12.1. TOXICITY

Material -- Expected to be harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

12.2. PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

12.3. BIOACCUMULATIVE POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

12.4. MOBILITY IN SOIL

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

12.5. PERSISTENCE, BIOACCUMULATION AND TOXICITY FOR SUBSTANCE(S)

Material does not meet the Reach Annex XIII criteria for PBT or vPvB.

12.6. OTHER ADVERSE EFFECTS

No adverse effects are expected.



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SECTION 13

DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

13.1. WASTE TREATMENT METHODS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

European Waste Code: 12 01 12*

NOTE: These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s).

This material is considered as hazardous waste pursuant to The Hazardous Waste Regulations (HWR), and subject to the provisions of those Regulations.

Empty Container Warning 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

LAND (ADR/RID): 14.1-14.6 Not Regulated for Land Transport

INLAND WATERWAYS (ADN): 14.1-14.6 Not Regulated for Inland Waterways Transport

SEA (IMDG): 14.1-14.6 Not Regulated for Sea Transport according to IMDG-Code

SEA (MARPOL 73/78 Convention - Annex II):

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

Not classified according to Annex II

AIR (IATA): 14.1-14.6 Not Regulated for Air Transport

SECTION 15

REGULATORY INFORMATION

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS



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Listed or exempt from listing/notification on the following chemical inventories (May contain substance(s) subject to notification to the EPA Active TSCA inventory prior to import to USA):

DSL, IECSC, TCSI, TSCA

Special Cases:

Inventory	Status
KECI	Restrictions Apply

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Applicable UK legislation:

REACH [... Registration, Evaluation, Authorisation and Restriction of Chemicals ... and amendments thereto]

CLP [Classification, labelling and packaging of substances and mixtures.. and amendments

thereto]

REACH Restrictions on the manufacturing, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII):

The following entries of Annex XVII may be considered for this product: None

15.2. CHEMICAL SAFETY ASSESSMENT

REACH Information: A Chemical Safety Assessment has been carried out for one or more substances present in the material.

OFOTION 40	OTHER INCORMATION	
SECTION 16	OTHER INFORMATION	
SECTION 10	OTTIEN IN CINIMATION	

REFERENCES: Sources of information used in preparing this SDS included one or more of the following: results from in house or supplier toxicology studies, CONCAWE Product Dossiers, publications from other trade associations, such as the EU Hydrocarbon Solvents REACH Consortium, U.S. HPV Program Robust Summaries, the EU IUCLID Data Base, U.S. NTP publications, and other sources, as appropriate.

List of abbreviations and acronyms that could be (but not necessarily are) used in this safety data sheet:

Acronym Full text
N/A Not applicable
N/D Not determined
NE Not established

VOC Volatile Organic Compound

AllC Australian Inventory of Industrial Chemicals

AlHA WEEL American Industrial Hygiene Association Workplace Environmental Exposure Limits

ASTM ASTM International, originally known as the American Society for Testing and Materials (ASTM)

DSL Domestic Substance List (Canada)

EINECS European Inventory of Existing Commercial Substances

ELINCS European List of Notified Chemical Substances

ENCS Existing and new Chemical Substances (Japanese inventory)



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IECSC Inventory of Existing Chemical Substances in China

KECI Korean Existing Chemicals Inventory
NDSL Non-Domestic Substances List (Canada)
NZIOC New Zealand Inventory of Chemicals

PICCS Philippine Inventory of Chemicals and Chemical Substances

TLV Threshold Limit Value (American Conference of Governmental Industrial Hygienists)

TSCA Toxic Substances Control Act (U.S. inventory)

UVCB Substances of Unknown or Variable composition, Complex reaction products or Biological materials

LC Lethal Concentration

LD Lethal Dose
LL Lethal Loading
EC Effective Concentration
EL Effective Loading

NOEC No Observable Effect Concentration
NOELR No Observable Effect Loading Rate

Classification according to CLP

Classification according to CLP	Classification procedure
Aquatic Chronic 3; H412	Calculation

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

Acute Tox. 4 H302: Harmful if swallowed; Acute Tox Oral, Cat 4

Acute Tox. 4 H312: Harmful in contact with skin; Acute Tox Dermal, Cat 4

Skin Corr. 1C H314: Causes severe skin burns and eye damage; Skin Corr/Irritation, Cat 1C

Aguatic Acute 1 H400: Very toxic to aquatic life; Acute Env Tox, Cat 1

Aquatic Chronic 1 H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1

EUH071: Corrosive to the respiratory tract.

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

CLP Classification information was added.

GHS Environmental Classification information was deleted.

GHS Environmental Hazards information was added.

GHS Environmental Hazards information was deleted.

GHS Precautionary Statements - Disposal information was added.

GHS Precautionary Statements - Disposal information was deleted.

GHS Precautionary Statements - Prevention information was added.

GHS Precautionary Statements - Prevention information was deleted.

GHS Signal Word information was added.

GHS Signal Word information was deleted.

GHS Symbol information was added.

GHS Target Organ Phrase information was deleted.

Hazard Identification: Section 3 Footnotes for CLP tables information was modified.

Section 13: European Waste Code Hazardous Note information was modified.

Section 15: EU Directives and Regulations information was modified.

Section 15: National Chemical Inventory Listing information was modified.

Section 15: REACH Annex XVII data information was added.

Section 16: HCode Key information was modified.

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MHC: 0B, 0B, 0, 0, 0, 0 PPEC: A

DGN: 7010780QGB (1008417)

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ANNEX

Annex not required for this material.