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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 contact with used product. 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 container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabelled containers.

SECTION 8

EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / S	tandard		NOTE	Source
SEVERELY HYDROTREATED HEAVY	Inhalable	TWA	5 mg/m3	4	N/A	ACGIH
PARAFFINIC DISTILLATE	fraction.		52L_1500_17.500.ve		* II , , , , , , , , , , , , , , , , , ,	- 52 (1034) NONE
SEVERELY HYDROTREATED HEAVY	Mist.	TWA	5 mg/m3		N/A	ACGIH
PARAFFINIC DISTILLATE	23.		the state of the s			tara Santa Br
SOLVENT DEWAXED HEAVY	Mist.	TWA	5 mg/m3		N/A	OSHA Z1
PARAFFINIC DISTILLATE	3		-1	-		
SOLVENT DEWAXED HEAVY		TWA	2000	500 ppm	N/A	OSHA Z1
PARAFFINIC DISTILLATE			mg/m3			
SOLVENT DEWAXED HEAVY	Mist.	TWA	5 mg/m3		N/A	ACGIH
PARAFFINIC DISTILLATE					144.	este control tale of the

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

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

No biological limits allocated.

ENGINEERING CONTROLS



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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:

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.

GENERAL INFORMATION

Physical State: Liquid



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Color: Amber
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.86 Flammability (Solid, Gas): N/A

Flash Point [Method]: >200°C (392°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): N/D

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: 45.9 cSt (45.9 mm2/sec) at 40 °C | 8.1 cSt (8.1 mm2/sec) at 100°C

Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D Melting Point: N/A

Pour Point: -27°C (-17°F)

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

SECTION 10

STABILITY AND REACTIVITY

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.

SECTION 11

TOXICOLOGICAL INFORMATION

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	1.271



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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.
Sensitization	
Respiratory Sensitization: No end point data	Not expected to be a respiratory sensitizer.
for material.	and the second s
Skin Sensitization: No end point data for	Not expected to be a skin sensitizer. Based on assessment of the
material.	components.
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	Not expected to cause organ damage from a single exposure.
material.	
Repeated Exposure: No end point data for	Not expected to cause organ damage from prolonged or repeated
material.	exposure. Based on assessment of the components.

OTHER INFORMATION

For the product itself:

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies.

Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

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 sensitizing in test animals.

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

--REGULATORY LISTS SEARCHED--3 = IARC 1 5 = IARC 2B

1 = NTP CARC



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2 = NTP SUS

4 = IARC 2A

6 = OSHA CARC

SECTION 12

ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

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.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

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

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.

DISPOSAL RECOMMENDATIONS

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. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

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



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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 (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

SECTION 15

REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: DSL, KECI, PICCS, TSCA

EPCRA SECTION 302: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

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:

Chemical Name	CAS Number	List Citations
2-PENTANOL, 4-METHYL-,	2215-35-2	15
HYDROGEN		
PHOSPHORODITHIOATE, ZINC		
SALT		
ZINC ALKYL	113706-15-3	15
DITHIOPHOSPHATE		



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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

SECTION 16

OTHER INFORMATION

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

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

H303: May be harmful if swallowed: Acute Tox Oral, Cat 5

H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1

H315: Causes skin irritation; Skin Corr/Irritation, Cat 2

H318: Causes serious eye damage; Serious Eye Damage/Irr, Cat 1

H401: Toxic to aquatic life; Acute Env Tox, Cat 2

H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Updates made in accordance with implementation of GHS requirements.

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PPEC: A

DGN: 7108632XUS (1018102)

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SAFETY DATA SHEET

SECTION 1

PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: MOBIL SPECIAL X1 5W-30 Product Description: Base Oil and Additives

Product Code: 2015104015A5, 486043-00, 97BU07

Intended Use: Engine 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 http://www.exxon.com, http://www.mobil.com

SECTION 2

HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

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.

NFPA Hazard ID: Health: 0 Flammability: 1 Reactivity: 0 HMIS Hazard ID: Health: 0 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.



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SECTION 3

COMPOSITION	/ INFORMATION	ON INGREDIENTS
00		• • • • • • • • • • • • • • • • • • • •

This material is defined as a mixture.

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

Name	CAS#	Concentration*	GHS Hazard Codes
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	64742-54-7	1 - < 5%	H304
SOLVENT DEWAXED HEAVY PARAFFINIC DISTILLATE	64742-65-0	1 - < 5%	H304

^{*} 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).

FIRST AID MEASURES **SECTION 4**

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

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.

FIRE FIGHTING MEASURES SECTION 5

EXTINGUISHING MEDIA

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

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING



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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: Incomplete combustion products, Smoke, Fume, Aldehydes, Sulfur oxides, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: >200°C (392°F) [ASTM D-92]

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

Autoignition Temperature: N/D

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. 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.

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.

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,



MOBIL SPECIAL X1 5W-30 Product Name:

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sewers, basements or confined areas.

SECTION 7

HANDLING AND STORAGE

HANDLING

Avoid contact with used product. Prevent small spills and leakage to avoid slip hazard. 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 auidance. 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 container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabelled containers.

SECTION 8

EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Sta	ndard		NOTE	Source
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	Inhalable fraction.	TWA	5 mg/m3		N/A	ACGIH
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	Mist.	TWA	5 mg/m3		N/A	ACGIH
SOLVENT DEWAXED HEAVY PARAFFINIC DISTILLATE	Mist.	TWA	5 mg/m3	5) D. 1813	N/A	OSHA Z1
SOLVENT DEWAXED HEAVY PARAFFINIC DISTILLATE	e poli	TWA	2000 mg/m3	500 ppm	N/A	OSHA Z1
SOLVENT DEWAXED HEAVY PARAFFINIC DISTILLATE	Mist.	TWA	5 mg/m3		N/A	ACGIH

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m3 - ACGIH TLV (inhalable fraction), 5 mg/m3 - OSHA PEL.

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

No biological limits allocated.

ENGINEERING CONTROLS

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



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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:

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.

GENERAL INFORMATION

Physical State: Liquid

Color: Amber

Odor: Characteristic



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Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.86 Flammability (Solid, Gas): N/A

Flash Point [Method]: >200°C (392°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: 61.9 cSt (61.9 mm2/sec) at 40 °C | 10.5 cSt (10.5 mm2/sec) at 100 °C

Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D Melting Point: N/A

Pour Point: -27°C (-17°F)

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

SECTION 10

STABILITY AND REACTIVITY

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.

SECTION 11

TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	the second secon
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.	



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Skin	
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.
Eye	·
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitization	·
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.
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 for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment 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.

OTHER INFORMATION

For the product itself:

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies.

Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

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 sensitizing in test animals.

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

-- REGULATORY LISTS SEARCHED--

3 = IARC 1

5 = IARC 2B

1 = NTP CARC 2 = NTP SUS

4 = IARC 2A

6 = OSHA CARC



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SECTION 12

ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

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.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

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

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.

DISPOSAL RECOMMENDATIONS

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. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

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.



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SECTION 14 TRANSPORT INFORMATION

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

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: DSL, KECI, PICCS, TSCA

EPCRA SECTION 302: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

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:

Chemical Name	CAS Number	List Citations
DIPHENYLAMINE	122-39-4	18
ZINC ALKYLDITHIOPHOSPHATE	68649-42-3	15, 19
ZINC DITHIOPHOSPHATE	68649-42-3	15, 19

-- 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	



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Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16

OTHER INFORMATION

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

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

H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Updates made in accordance with implementation of GHS requirements.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only

MHC: 0B, 0B, 0, 0, 0, 0

PPEC: A

DGN: 7109311XUS (1018590)

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Material Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: BRIGGS 2 CYCLE ASHLESS OIL

OLYMPIC OIL, LTD. 5000 W. 41st St.

Cicero, IL 60804

Technical

Contact:

Phone: 708-876-7900 (M-F 6:00 A.M. - 4:30 P.M.)

MSDS Number: MSOL702

Emergency Overview

Physical State: Liquid Color: Blue-green Odor: Mild May cause temporary, slight eye irritation Prolonged or repeated exposure may cause skin irritation.

Spills may create a slipping hazard.

Hazard Ranking			
	HMIS	5	
NFPA Health	0	0	
Fire	1	1	
Reactivity	0	0	

Key: 4=Severe, 3=Serious, 2=Moderate, 1=Slight, 0=Minimal

2. COMPOSITION, INFORMATION ON INGREDIENTS

This material has no reportable hazards under applicable laws.

3. HAZARDS INFORMATION

- May cause slight, temporary eye irritation.
- Prolonged or repeated exposure may cause mild skin irritation.

4. FIRST AID MEASURES

EYES: Flush eyes with clean, low-pressure water for at least 15 minutes, occasionally lifting the eyelids. Get medical attention if irritation develops or persists.

SKIN: Wash skin thoroughly with plenty of soap and water. Immediately remove contaminated clothing. Launder contaminated clothing before reuse. Discard saturated leather gloves and shoes. If irritation persists, get medical attention.

INGESTION: DO NOT INDUCE VOMITING. If more than a half-cup full of this material is swallowed, give quantities of water and obtain medical attention. Do not give anything by mouth to an unconscious person.

INHALATION: Vaporization is not expected at ambient temperatures. This material is not expected to be an inhalation problem under the anticipated conditions of use. In case of overexposure, move person to fresh air.

NOTE TO PHYSICIAN: Treat symptomatically.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

FLASH POINT: 237°F(114°C) METHOD: COC D92

EXTINGUISHING MEDIA: Carbon dioxide, dry chemical, foam or water spray. Water may be ineffective, but can be used to cool exposed containers. Water may cause frothing and splattering.

HAZARDOUS COMBUSTION PRODUCTS: Toxic fumes, gases or vapors may evolve on burning.

FIRE FIGHTING INSTRUCTIONS: For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment. This may include self-contained breathing apparatus to protect against the hazardous effects of combustion products and oxygen deficiencies. Material will float on water.

6. ACCIDENTAL RELEASE MEASURES

Ensure your own health and safety before attempting spill control or clean up. Take the proper precautions see Section 1 for Emergency Overview, Section 8 for Personal Protection and Section 13 for Disposal Considerations.

SMALL SPILL: Personal protective equipment must be worn (see Person Protection section for recommendations). Absorb spill with an inert material (e.g., dry sand or earth), then place in a chemical waste container. Use caution, material may present a slipping hazard.

LARGE SPILL: Contain spill and prevent it from entering all water bodies, if possible. Safely stop flow of spill. Evacuate non-essential personnel from immediate spill area. Ventilate area if spilled in a confined space or other poorly ventilated areas. Seek the advice of ecologists for clean up in natural environments. This material will float on water. Absorbent materials and pads can be used. Maximize product recovery for reuse or recycling. Transfer liquids and solid diking material to separate, suitable containers for recovery or disposal. Comply with all applicable laws. Spills may need to be reported to the National Response Center (800-424-8802).

7. HANDLING AND STORAGE

HANDLING: Keep away from heat, sparks and flame. Keep containers closed when not in use. Hands should be washed thoroughly after handling. When transferring material, use proper bonding and/or grounding procedures. Empty containers contain residue, which may exhibit the hazards of the product. Do not attempt to refill or clean containers since residue is difficult to remove. Do not pressurize, cut, heat or weld containers.

STORAGE: KEEP OUT OF REACH OF CHILDREN! To avoid product degradation, water contamination should be avoided. Periods of exposure to high temperatures should be minimized

STORAGE TEMPERATURE: Ambient STORAGE PRESSURE: Atmospheric

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

1 EXPOSURE GUIDELINES:

COMPONENT	OSHA		ACGIH	
	TWA	STEL	TWA	STEL
Refined Petroleum Oil (Oil Mist)	5 mg/m ³	N/E	5 mg/m ³	10 mg/m^3

- 2 **ENGINEERING CONTROLS:** Use adequate ventilation to keep oil mists of this material below applicable guideline(s)/standard(s).
- 3 **RESPIRATORY PROTECTION:** Under normal conditions, a respirator is not required. If exposure exceeds the occupational exposure limits, follow OSHA standards or equivalent and wear proper NIOSH/MSHA-approved respiratory equipment.
- 4 **SKIN PROTECTION:** Use chemical resistant gloves to avoid prolonged or repeated skin contact. Always seek advise from glove suppliers. Gloves should be replaced if signs of degradation or chemical breakthrough occur. Long sleeve shirt is recommended. When leaving work area, wash hands/exposed skin with soap and water.
- 5 **EYE PROTECTION:** Use splash goggles or face shield. Eye wash water should be available. Hard contact lenses should not be worn.

9. PHYSICAL AND CHEMICAL PROPERTIES (TYPICAL)

APPEARANCE:

Blue-green

FLASH POINT:

237 Deg. F (114 Deg. C) by COC D92

ODOR:

Mild Petroleum

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SPECIFIC GRAVITY:

0.86 - 0.88 at 60 Deg. F

SOLUBILITY IN WATER:

<u>Negligible</u>

PHYSICAL STATE:

Liquid

VAPOR PRESSURE:

Not Determined

VAPOR DENSITY:

Not Determined

PERCENT VOLATILE:

Not Determined

BOILING POINT:

Not Determined

VISCOSITY @ 40°C

40 - 50 centistokes

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Material is considered stable at room temperature and pressure. Avoid heat, sparks and open flame.

INCOMPATIBILITY: Strong oxidizing agents

HAZARDOUS COMBUSTION PRODUCTS: Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion including the oxides of nitrogen and sulfur.

11. TOXICOLOGICAL INFORMATION

EYE IRRITATION: May cause slight, temporary irritation based on component data.

SKIN IRRITATION: May cause mild irritation with prolonged or repeated exposure resulting in redness, edema, drying or cracking of skin. Based on component data. Personnel with pre-existing skin disorders should avoid contact with this product.

RESPIRATORY IRRITATION: No significant adverse health effects are expected to occur under normal conditions of use. However, exposure to petroleum mist at high levels may be irritating to the nose, throat and lungs.

ORAL TOXICITY: No significant adverse health effects are expected to occur upon short-term exposure based on data from components.

DERMAL SENSITIZATION: Contains a component that is known to cause sensitization in laboratory animals. Prolonged or repeated exposure may cause an allergic skin reaction based on component data.

CHRONIC TOXICITY: No data

CARCINOGENICITY: This product is formulated with mineral oils, which are considered to be severely refined and not considered to be carcinogenic under

IARC. The IP346 test has not been used to evaluate these oils.

MUTAGENICITY: No Data

TERATOGENICITY (BIRTH DEFECT): No Data

REPRODUCTIVE TOXICITY: No Data

12. ECOLOGICAL INFORMATION

The spilled material and any soil or water that it has contaminated may be hazardous to animal/aquatic life.

CHEMCIAL FATE INFORMATION: Not determined.

13. DISPOSAL CONSIDERATIONS

To determine the proper method of disposal, refer to RCRA (40 CFR 261) as well as federal EPA and state and local regulations. Conditions of use may cause this material to become a "Hazardous Waste", as defined by state or federal laws. Use approved treatment, transporters and disposal sites in compliance with all applicable laws.

14. TRANSPORT INFORMATION

DOT Hazard Class: Not Regulated Not Regulated Not Regulated Not Regulated IATA: Not Regulated Not Regulated

15. REGULATORY INFORMATION

GLOBAL REGULATORY INFORMATION

INVENTORY	<u>STATUS</u>
United States (TSCA)	All ingredients are on the inventory.
Canada (DSL)	Contains a component that may not be on inventory.
European Union (EINECS)	Contains a component that may not be on inventory.
Japan (METI)	Contains components that may not be on inventory
	and may require notification.
Philippines	Contains components that may not be on inventory
	and may require notification.
South Korea (KECL)	Contains components that may not be on inventory.
Australia (AICS)	Contains components that may not be on inventory
	and may require notification.

INVENTORY

STATUS

China

Contains components that may not be on inventory.

U. S. REGULATORY INFORMATION

SUPERFUND AMMENDMENTS AND REAUTHORIZATION ACT OF

1986 (SARA), TITLE III: This product does not contain greater than 1.0% (greater than 0.1% for carcinogenic substances) of any chemical substance listed under SARA Section 313.

SARA EXTREMELY HAZARDOUS LIST: This product does not contain greater than 1.0% of any chemical on the SARA Extremely Hazardous List.

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT (CERCLA): This product does not contain greater than 1.0% (greater than 0.1% for carcinogenic substances) of any chemical substance listed under SARA Section 313.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT

ACT OF 1986 - PROPOSITION 65: Based on information currently available, this product is known to contain the following chemicals known to the state of California to cause cancer or reproductive toxicity: cadmium, chromium, lead and mercury present in immeasurable trace quantities of less than 0.1%. If this product is reformulated or further processed, further evaluation should be done based upon such reformulation or processing, as well as upon its final composition and use.

16. OTHER INFORMATION

DISCLAIMER OF LIABILITY

The information in this MSDS was obtained from sources, which we believe are reliable. *HOWEVER*, *THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY*, *EXPRESS OR IMPLIED*, *REGARDING ITS CORRECTNESS*.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

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Date: 29 August 2006 Revision Date: 22 April 2004

Changes: Section 2: Composition, Information on Ingredients