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MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: PROWAX 561
Product Description: Petroleum Hydrocarbons

Product Code: 401010104085, 761114
Intended Use: Wax

COMPANY IDENTIFICATION

Manufacturer/Supplier:
For details contact Mobil Korea Lube Oil Inc.
21st FL, STX Namsan Tower
98 Huamro, Jung-gu
Seoul , Republic of Korea

Emergency Response Number 00-308-13-2549 / +1-703-527-3887
Supplier General Contact 82-2-750-8700
FAX 82-2-3671-5000

SECTION 2 HAZARDS IDENTIFICATION

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

CLASSIFICATION: Not Applicable
LABEL: Not Applicable
Symbol: Not Applicable
Signal Word: Not Applicable
Hazard Statements: Not Applicable
Precautionary Statements: Not Applicable

Other hazard information:

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PHYSICAL / CHEMICAL HAZARDS

Thermal burn hazard – contact with hot material may cause thermal burns.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. When heated, the vapors/fumes given off may cause respiratory tract irritation.

ENVIRONMENTAL HAZARDS

No significant hazards.

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

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a complex substance.

No Hazardous Substance(s) or Complex Substance(s) required for disclosure.

Other Substances

Name	CAS #	Concentration
Trade Secret 01	Trade Secret	>90%
Total concentration of all substances		100%

ISHL – Prohibited, Subject to an Approval for Manufacturing and Controlled Hazardous Substances: None.

CCA - Toxic, Banned and Restricted Toxic Chemicals, Authorization substances, Accidental Release Prevention Substances and Priority Existing Chemicals to Registration: None.

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

SECTION 4 FIRST AID MEASURES

EYE CONTACT

Flush thoroughly with water for at least 15 minutes. Get medical assistance.

SKIN CONTACT

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Wash contact areas with soap and water. If burned by contact with hot material, molten material adhering to skin should be cooled as quickly as possible with water, and see a physician for removal of adhering material and treatment of burn. 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.

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.

INGESTION

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

ACUTE AND DELAYED SYMPTOMS/EFFECTS

See Toxicological Section

NOTE TO PHYSICIAN

None

PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE

None.

SECTION 5

FIRE FIGHTING MEASURES

FLAMMABILITY PROPERTIES

Flash Point [Method]: 232° C (450° F) [ASTM D-92]

Autoignition Temperature: N/D

Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D

CLASSIFICATION UNDER THE LAW OF SAFETY MANAGEMENT OF DANGEROUS SUBSTANCES

Category 4. Class 4 petroleum chemicals

EXTINGUISHING MEDIA

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

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.

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Unusual Fire Hazards: None

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

Inappropriate Extinguishing Media: Straight Streams of Water

SECTION 6

ACCIDENTAL RELEASE MEASURES

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.

NOTIFICATION PROCEDURES

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

ENVIRONMENTAL PRECAUTIONS

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

SPILL MANAGEMENT

Land Spill: Allow spilled material to solidify and scrape up with shovels into a suitable container for recycle or disposal.

Water Spill: Stop leak if you can do it 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.

SECTION 7

HANDLING AND STORAGE

HANDLING

When heated, the vapors/fumes given off may cause respiratory tract irritation. Prevent small spills and leakage to avoid slip hazard. In liquid state, 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 in the liquid state 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
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Control parameters/Exposure limits:

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

Substance Name	Form	Limit / Standard			Note	Source	Year
Wax fumes	Fume.	TWA	2 mg/m3			Korea OELs	2016
Wax fumes	Fume.	TWA	2 mg/m3			ACGIH	2017

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

Biological limits

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:

Adequate ventilation should be provided so that exposure limits are not exceeded.

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

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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.
Particulate

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.

Eye Protection: If contact with material may occur, safety glasses and face shield are recommended.

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:

If product is hot, thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves. Nitrile, Viton

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:

If product is hot, thermally protective, chemical resistant apron and long sleeves are 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.

SECTION 9	PHYSICAL AND CHEMICAL PROPERTIES
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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: Solid

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Color: Yellow
Odor: Mild
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

pH: N/A
Solubility in Water: Negligible
Boiling Point / Range: > 316° C (601° F) [Estimated]
Melting Point: 64° C (147° F)
Freezing Point: N/D
Explosive Properties: N/D
Decomposition Temperature: N/D
Oxidizing Properties: See Sections 2, 15, 16.
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 ° C [Estimated]
Relative Density (at 15 ° C): 0.9
Log Pow (n-Octanol/Water Partition Coefficient): > 6 [Estimated]
Vapor Density (Air = 1): N/D
Viscosity: [N/A at 40 ° C] | 9 cSt (9 mm²/sec) at 100° C
Molecular Weight: N/D
Flammability (Solid, Gas): N/A
Flash Point [Method]: 232° C (450° F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D
Evaporation Rate (n-butyl acetate = 1): N/D

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat.

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

<u>Hazard Class</u>	<u>Conclusion / Remarks</u>
Inhalation	

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Acute Toxicity: No end point data for material.	Not determined.
Irritation: No end point data for material.	Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs.
Ingestion	
Acute Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 401 420
Skin	
Acute Toxicity (Rabbit): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 402
Skin Corrosion/Irritation (Rabbit): Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404
Eye	
Serious Eye Damage/Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: Data available.	Not expected to be a skin sensitizer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 406
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: Data available.	Not expected to be a germ cell mutagen. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 473 474 476
Carcinogenicity: Data available.	Not expected to cause cancer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 453
Reproductive Toxicity: Data available.	Not expected to be a reproductive toxicant. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 414 421
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: Data available.	Not expected to cause organ damage from prolonged or repeated exposure. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 408 410 411 453

OTHER INFORMATION

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For the product itself: Petroleum wax: Not carcinogenic in lifetime animal skin painting or oral feeding studies. Did not cause mutations in vitro. High oral doses in one rat strain (F-344) resulted in microscopic inflammatory changes (microgranulomas) in liver, spleen, and lymph nodes, some increased organ weights, inflammation of the cardiac mitral valve, and accumulation of saturated mineral hydrocarbons in certain tissues. Non-sensitizing in animal tests and human subjects.

IARC Classification:

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

--REGULATORY LISTS SEARCHED--

1 = IARC 1

2 = IARC 2A

3 = IARC 2B

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

Hydrocarbon 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:

Hydrocarbon component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

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

SECTION 13

DISPOSAL CONSIDERATIONS

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DISPOSAL METHODS

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

Suitable routes of disposal are supervised incineration, preferentially with energy recovery, or appropriate recycling methods in accordance with applicable regulations and material characteristics at the time of disposal.

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**

REGULATION ON SHIP-TRANSPORTATION AND STORAGE OF DANGEROUS SUBSTANCES (SEA (IMDG)) Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

CAUTIONS FOR TRANSPORT: Not applicable

INTERNATIONAL CLASSIFICATION AND RESTRICTIONS

LAND : Not Regulated for Land Transport

AIR (IATA): Not Regulated for Air Transport

SECTION 15**REGULATORY INFORMATION**

This material is not considered hazardous according to the Korean Standards for Classification and Labeling of Chemical Substances and Material Safety Data Sheets.

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

INDUSTRIAL SAFETY AND HEALTH LAW: Not Regulated

CHEMICAL CONTROL ACT (CCA): See Composition/Ingredient Section

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LAW OF SAFETY MANAGEMENT OF DANGEROUS SUBSTANCES: See Fire Fighting Measures Section

WASTE TREATMENT LAW: See Disposal Considerations Section

OTHER REGULATIONS BASED ON FOREIGN LAWS

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

SECTION 16

OTHER INFORMATION

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.

OTHER INFORMATION

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

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

- Section 01: Company Contact Methods information was modified.
- Section 04: First Aid Skin information was modified.
- Section 07: Handling and Storage – Handling information was modified.
- Section 07: Handling and Storage – Storage Phrases information was modified.
- Section 08: Exposure Limits Table information was modified.
- Section 15: National Chemical Inventory Listing information was added.
- Section 15: National Chemical Inventory Listing information was deleted.

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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

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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.

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