SAFETY DATA SHEET

1. Identification

Product identifier **VP Lubricant Base Oils**

Other means of identification

SDS number PB361337-00

Synonyms Blended Oils - VP 150 - 610; Straight Cut Oils - VP 165, 500, 700, 850M, 150 BS; Industrial Oils - VP 230i - 600i

Recommended use Base material for the production of various lubricating oils

A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finish oil with a viscosity of at least 100 SUS at 100°F (19cSt at 40°C).

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Paulsboro Refining Company
800 Billingsport Road
Paulsboro, NJ 08066

E-mail PBR.SDS@pbfenergy.com

Telephone number 856-224-6605

Emergency telephone number Chemtrec 800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The product does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
Paraffin oils (petroleum), catalytic dewaxed heavy		64742-70-7	100

Composition comments IP346 method DMSO extract for base oil substances: <3.0%.

4. First-aid measures

Inhalation Move to fresh air. If breathing is difficult, give oxygen. Get medical attention, if needed.

Skin contact	Remove contaminated clothing and shoes. Wash off immediately with soap and plenty of water. Get medical attention if irritation develops or persists. Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes. If high pressure injection under the skin occurs, always seek medical attention.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.
Ingestion	Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Get medical attention immediately.
Most important symptoms/effects, acute and delayed	Prolonged or repeated skin contact may cause drying, cracking, or irritation.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Symptoms may be delayed.
General information	Get medical attention if symptoms occur. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Water spray. Water fog. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet.
Specific hazards arising from the chemical	The product is not flammable. Will burn if involved in a fire.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do it without risk. In the event of fire, cool tanks with water spray. Cool containers exposed to flames with water until well after the fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Water runoff can cause environmental damage. Use compatible foam to minimize vapor generation as needed.
General fire hazards	This product is not flammable. Will burn if involved in a fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. In case of spills, beware of slippery floors and surfaces. See Section 8 of the SDS for Personal Protective Equipment.
Methods and materials for containment and cleaning up	Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Clean surface thoroughly to remove residual contamination. Large Spills: Prevent entry into waterways, sewers, basements or confined areas. If necessary dike the product with dry earth, sand or similar non-combustible materials. Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using pumps. Clean surface thoroughly to remove residual contamination.
Environmental precautions	Contain spillages with sand, earth or any suitable adsorbent material. Prevent spillage entering a watercourse or sewer, contaminating soil or vegetation. If this is not possible notify police and appropriate authorities immediately.

7. Handling and storage

Precautions for safe handling	Keep away from heat, spark, open flames and other sources of ignition. Avoid prolonged or repeated contact with skin. Be aware of potential for surfaces to become slippery.
Conditions for safe storage, including any incompatibilities	Store in a dry place. Keep away from incompatible materials, open flames and high temperatures.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Oil Mist, mineral (CAS -)	PEL	5 mg/m3	Mist.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Oil Mist, mineral (CAS -)	TWA	5 mg/m3	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Oil Mist, mineral (CAS -)	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses. If splash potential exists, wear full face shield or chemical goggles.

Skin protection

Hand protection Chemical/oil resistant gloves are recommended. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

Other Normal work clothing (long sleeved shirts and long pants) is recommended.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Clear liquid.

Color Amber.

Odor Mild.

Odor threshold Not available.

pH Not applicable.

Melting point/freezing point Not applicable.

Initial boiling point and boiling range > 600.8 °F (> 316 °C)

Flash point > 300.2 °F (> 149.0 °C) ASTM D-92

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) > 0.6

Flammability limit - upper (%) < 7

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure < 0.1 mm Hg (20°C)

Vapor density > 2

Relative density Not available.

Solubility(ies)

Solubility (water) Insoluble

Partition coefficient (n-octanol/water) No data available.

Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	> 20 mm²/s (40°C)

Other information

Explosive properties	Not explosive.
Molecular formula	UVCB
Oxidizing properties	Not oxidizing.
Pour point	24.8 °F (-4 °C)

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable under normal temperature conditions and recommended use.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. Do not pressurize, cut, weld, braze, solder, drill, grind or expose empty containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides. Sulfur oxides. Hydrocarbons.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Inhalation of oil mist or vapors formed during heating of the product will irritate the respiratory system and provoke coughing.
Skin contact	Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	No harmful effects expected in amounts likely to be ingested by accident. Ingestion of large amounts may produce gastrointestinal disturbances including irritation, nausea, and diarrhea.
Symptoms related to the physical, chemical and toxicological characteristics	Symptoms may include redness, drying and cracking of the skin.

Information on toxicological effects

Acute toxicity	Data from animal tests indicates a low level of acute toxicity by oral, dermal or inhalation routes of exposure.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization	Not classified.
Skin sensitization	Not classified.
Germ cell mutagenicity	Not classified.

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Mineral Oil, highly refined (CAS -)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	Not classified.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not classified.
Further information	Symptoms may be delayed. Pre-existing skin conditions including dermatitis might be aggravated by exposure to this product.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability The product is expected to be slowly biodegradable.

Bioaccumulative potential The product is not expected to bioaccumulate.

Mobility in soil No data available.

Mobility in general The product is insoluble in water.

Other adverse effects Oil spills are generally hazardous to the environment.

13. Disposal considerations

Disposal instructions Recover and recycle, if practical. Dispose in accordance with all applicable regulations.

Hazardous waste code Waste codes should be assigned by the user based on the application for which the product was used.

Waste from residues / unused products Dispose in accordance with applicable federal, state, and local regulations.

Contaminated packaging Dispose of empty containers according to applicable federal, state/provincial and/or local regulations.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable. However, this product is a liquid and if transported in bulk covered under MARPOL 73/78, Annex I.

15. Regulatory information

US federal regulations This product is not hazardous according to OSHA 29CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Mineral Oil, highly refined (CAS -)
Oil Mist, mineral (CAS -)

US. New Jersey Worker and Community Right-to-Know Act

Mineral Oil, highly refined (CAS -)
Oil Mist, mineral (CAS -)

US. Pennsylvania Worker and Community Right-to-Know Law

Oil Mist, mineral (CAS -)
Paraffin oils (petroleum), catalytic dewaxed heavy (CAS 64742-70-7)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 29-July-2013

Revision date 29-January-2015

Version # 02

Further information Japan: MITI ENCS Number (9)-1692

NFPA ratings

List of abbreviations

IARC: International Agency for Research on Cancer.

References

IARC Monographs. Overall Evaluation of Carcinogenicity (Volumes 1-106)
CONCAWE Hazard classification and labelling of petroleum substances in the European Economic Area - 2010

Disclaimer

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