Material Safety Data Sheet

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PT Maxnitron Dura SAE 40

Product Use:	Heavy Duty Engine Oil
Company Identification:	**PTG Energy Public Company Limited** 90 CW TOWER A (33rd Floor), Ratchadaphisek Rd., HuayKwang, HuayKwang, Bangkok, Thailand 10310
Emergency Call:	0-2168-3377, 0-2168-3388
Website:	https://www.ptgenergy.co.th/ ; http://www.ptgenergy.co.th/ptmaxnitron/

SECTION 2: HAZARDS IDENTIFICATION

CLASSIFICATION:
Not classified as hazardous according to the Hazard Classification and Communication System of Hazardous Substances B.E. 2555 (2012)

SECTION 3: COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	EC Number	Percent Weight
Highly Refined Mineral Oil (C15 - C50)	Mixture	-	70-99 %Weight

SECTION 4: FIRST AID MEASURES

Skin Exposure: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Eyes Exposure: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs. If exposure to hydrogen sulfide (H2S) gas is possible during an emergency, wear an approved, positive pressure air-supplying respirator. Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

Note to Physicians: Administration of 100% oxygen and supportive care is the preferred treatment for poisoning by hydrogen sulfide gas.

SECTION 5: FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:

Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of: Nitrogen, Phosphorus, Sulfur, Zinc.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.

Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing

	precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting:	Report spills to local authorities as appropriate or required.

SECTION 7: HANDLING AND STORAGE

General Handling Information:	Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Precautionary Measures:	Do not breathe gas. Wash thoroughly after handling. Keep out of the reach of children.
Unusual Handling Hazards:	Toxic quantities of hydrogen sulfide (H2S) may be present in storage tanks and bulk transport vessels which contain or have contained this material. Persons opening or entering these compartments should first determine if H2S is present. See Exposure Controls/Personal Protection -Section 8. Do not attempt rescue of a person over exposed to H2S without wearing approved supplied-air or self-contained breathing equipment. If there is a potential for exceeding one-half the occupational exposure standard, monitoring of hydrogen sulfide levels is required. Since the sense of smell cannot be relied upon to detect the presence of H2S, the concentration should be measured by the use of fixed or portable devices.
Static Hazard:	Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings:	Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, 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. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use in a well-ventilated area.

Personal Protective Equipment

Eye/Face Protection:	No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection:	No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection:	No respiratory protection is normally required. If material is heated and emits hydrogen sulfide, determine if airborne concentrations are below the occupational exposure limit for hydrogen sulfide. If not, wear an approved positive pressure air-supplying respirator. If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.
Occupational Exposure Limits:	No applicable occupational exposure limits exist for this material or its components. Consult local authorities for appropriate values.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Colour:	Varies Depending On Specification
Physical Description:	Liquid
Odor:	Petroleum Odor
Odor Threshold:	No Data Available
pH:	No Data Available
Vapor Pressure:	No Data Available
Vapor Density (Air = 1):	No Data Available
Boiling Point:	No Data Available
Solubility:	Soluble in Hydrocarbons; Insoluble in Water
Freezing Point:	No Data Available
Melting Point:	No Data Available
Density:	0.871 - 0.901 kg/l @ 15°C (59°F) (Typical)
Viscosity:	14.00 mm2/s @ 100°C (212°F) (Minimum)
Coefficient of Therm. Expansion / °F :	No Data Available
Evaporation Rate:	No Data Available
Octanol / Water Partition Coefficient:	No Data Available

FLAMMABLE PROPERTIES:

Flash Point:	(Cleveland Open Cup) 200 °C (392 °F) (Minimum)
Auto-Ignition Temperature:	No Data Available
Flammability (Explosive) Limits (% by volume in air):	
Upper/Lower Flammability or Explosive Limit:	No Data Available

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability:	This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials:	Not Applicable
Hazardous Decomposition Products:	Alkyl Mercaptans (Elevated temperatures), Hydrogen Sulfide (Elevated temperatures)
Hazardous Polymerization:	Hazardous polymerization will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation.

Eye Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Skin Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Ingestion: Not expected to be harmful if swallowed.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing. Hydrogen sulfide has a strong rotten-egg odor. However, with continued exposure and at high levels, H2S may deaden a person's sense of smell. If the rotten egg odor is no longer noticeable, it may not necessarily mean that exposure has stopped. At low levels, hydrogen sulfide causes irritation of the eyes, nose, and throat. Moderate levels can cause headache, dizziness, nausea, and vomiting, as well as coughing and difficulty breathing. Higher levels can cause shock, convulsions, coma, and death. After a serious exposure, symptoms usually begin immediately.

The U.S. National Institute for Occupational Safety and Health (NIOSH) considers air concentrations of hydrogen sulfide gas greater than 100 ppm to be Immediately Dangerous to Life and Health (IDLH).

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.

Acute Toxicity Estimate: Not Determined

ADDITIONAL TOXICOLOGY INFORMATION:

During use in engines, contamination of oil with low levels of cancer-causing combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil is thoroughly removed by washing with soap and water.

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).

These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY
This material is not expected to be harmful to aquatic organisms.
The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY
No Data Available.

PERSISTENCE AND DEGRADABILITY
This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material. The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE

Bioconcentration Factor:	No Data Available
Octanol/Water Partition Coefficient:	No Data Available

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal Methods:
Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14: TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

UN Shipping Description:
NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE UNITED NATIONS MODEL REGULATIONS/RECOMMENDATIONS.
NOTE: POTENTIAL HYDROGEN SULPHIDE INHALATION HAZARD

IMO/IMDG Shipping Description:
NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE.
NOTE: POTENTIAL HYDROGEN SULPHIDE INHALATION HAZARD

ICAO/IATA Shipping Description:
NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO.
NOTE: POTENTIAL HYDROGEN SULPHIDE INHALATION HAZARD

SECTION 15: REGULATORY INFORMATION

REGULATORY LISTS SEARCHED:
01-1=IARC Group 1
01-2A=IARC Group 2A
01-2B=IARC Group 2B
No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), ENCS (Japan), IECSC (China), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (United States).

One or more components is listed on ELINCS (European Union). All other components are listed or exempted from listing on EINECS.

SECTION 16: OTHER INFORMATION

REVISION STATEMENT:

SECTION 04:	First Aid - Inhalation information was modified.
SECTION 08:	Eye/Face Protection information was modified.
SECTION 08:	Protection information was modified.

SECTION 09:	Physical/Chemical Properties information was modified.
SECTION 11:	Immediate Health Effects - Eye information was modified.
SECTION 11:	Immediate Health Effects - Inhalation information was modified.
SECTION 11:	Immediate Health Effects - Skin information was modified.
SECTION 15:	Chemical Inventories information was modified.

Revision Date: November 15, 2019

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
ACGIH - American Conference of Governmental Industrial Hygienists	CAS - Chemical Abstract Service Number
API - American Petroleum Institute	IMO/IMDG - International Maritime Dangerous Goods Code
CVX - PTG's Supplier	MSDS - Material Safety Data Sheet
IARC - International Agency for Research on Cancer	NFPA - National Fire Protection Association (USA)
	NTP - National Toxicology Program (USA)

Prepared according to the Hazard Classification and Communication System of Hazardous Substances B.E. 2555 by the PTG Energy Public Company Limited.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.