

Safety Data Sheet



SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Havoline Heavy Brake Fluid 260 DOT 4

Product Use: Brake Fluid

Product Number(s): 510655

Company Identification

Astron Energy (Pty) Ltd
5 Century Boulevard, Century City
Cape Town 7441
South Africa

Health Emergency

South Africa: 0861-555-777 (Red Cross Hospital Poison Information Centre, Cape Town)

Product Information

email : ZALubricantsTechSupp@astronenergy.co.za

Product Information: 0860-300-860

SDS Requests: 0860-300-860

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION:

- Reproductive toxicant: Category 2.



Signal Word: Warning

Health Hazards:

- Suspected of damaging fertility or the unborn child (H361).

PRECAUTIONARY STATEMENTS:

Prevention:

- Obtain, read and follow all safety instructions before use (P203).
- Wear protective gloves/protective clothing/eye protection/face protection (P280).

Response:

- IF exposed or concerned, get medical advice (P318).

Storage:

- Store locked up (P405).

Disposal:

- Dispose of contents/container in accordance with applicable local/regional/national/international regulations (P501).

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Triethylene glycol monobutyl ether	143-22-6	25 - 40 %weight
Triethylene glycol monomethyl ether borate ester	30989-05-0	15 - 25 %weight
Diethylene glycol	111-46-6	5 - 10 %weight
Tetraethylene Glycol Monobutyl Ether	1559-34-8	5 - 10 %weight
Diethylene glycol monobutyl ether	112-34-5	1 - 3 %weight
Diethylene glycol monomethyl ether	111-77-3	- < 1 %weight

SECTION 4 FIRST AID MEASURES

Eye: Flush eyes with water immediately while holding the eyelids open. Remove contact lenses, if worn, after initial flushing, and continue flushing for at least 15 minutes. Get medical attention if irritation persists.

Skin: 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.

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

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.

IMMEDIATE HEALTH EFFECTS

Eye: Contact with the eyes causes irritation. Symptoms may include pain, tearing, reddening, swelling and impaired vision.

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.

Ingestion: Not expected to be harmful if swallowed.

Inhalation: Not expected to be harmful if inhaled.

DELAYED OR OTHER HEALTH EFFECTS:

Reproduction and Birth Defects: Contains material that may cause adverse reproductive effects if swallowed based on animal data. See Section 11 for additional information. Risk depends on duration and level of exposure.

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:

Boron.

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

Precautionary Measures: Do not get in eyes, on skin, or on clothing. Do not get in eyes. Do not taste or swallow. Wash thoroughly after handling. Keep out of the reach of children.

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 workplace when designing engineering controls and selecting personal protective equipment (PPE). If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, refer to PPE information below.

Factors that affect PPE include, but are not limited to: properties of the chemical, other chemicals which may contact the same PPE, physical requirements (fit & sizing, cut/puncture protection, dexterity, thermal protection, etc.), and potential allergic reactions to the PPE material. It is the responsibility of the user to read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances. Refer to appropriate CEN standards.

ENGINEERING CONTROLS:

Use general ventilation, local exhaust ventilation, or a combination of both.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: Wear protective equipment to prevent eye contact. Selection of protective equipment may include safety glasses, chemical goggles, face shields, or a combination depending on the work operations conducted.

Skin Protection: Wear chemical personal protective equipment (PPE) to prevent skin contact. Selection

of chemical protective clothing should be performed by an Occupational Hygienist or Safety Professional and be based upon applicable standards (ASTM F739 or EN 374). Using chemical PPE depends upon operations conducted and may include chemical gloves, boots, chemical apron, chemical suit, and complete facial protection. **Refer to PPE manufacturers to obtain breakthrough time information to determine how long PPE can be used before it needs to be replaced.** Unless specific glove manufacturer data indicates otherwise, the below table is based upon available industry data to assist in the glove selection process and is intended to be used as reference only.

Chemical Glove Material	Thickness (mm)	Typical Breakthrough Time (minutes)
Butyl	0.7	120
Neoprene	0.75	30
Nitrile	0.8	30
Polyvinyl Chloride (PVC)	1.1	15
Viton Butyl	0.3	120

Respiratory Protection: No respiratory protection is normally required.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Country/ Agency	Form	TWA	STEL	Ceiling	Notation
Diethylene glycol	S Africa	--	100 mg/m ³	--	--	--
Diethylene glycol monobutyl ether	ACGIH	Inhalable fraction and vapor	10 ppm	--	--	--

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.

Color: No data available

Physical State: Liquid

Odor: Faint or Mild

Odor Threshold: No data available

pH: 7 - 10.5

Vapor Pressure: 0.001 bar

Relative Vapor Density: No data available

Initial Boiling Point: 260°C (500°F)

Solubility: Soluble in water.

Freezing Point: No data available

Melting Point: <-50°C (-58°F)

Particle Characteristics: Not applicable

Density: 1.02 g/ml - 1.07 g/ml @ 20°C (68°F)

Kinematic Viscosity: 5 cSt - 10 cSt @ 20°C (68°F)

Evaporation Rate: No data available

Decomposition temperature: 300°C (572°F)

Partition coefficient n-octanol/water (logarithmic value): No data available

FLAMMABLE PROPERTIES:**Flammability (solid, gas):** Not Applicable**Flashpoint:** > 100 °C (> 212 °F)**Autoignition:** > 280 °C (> 536 °F)**Flammability (Explosive) Limits (% by volume in air):** Lower: No data available Upper: 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:** None known (None expected)**Hazardous Polymerization:** Hazardous polymerization will not occur.**SECTION 11 TOXICOLOGICAL INFORMATION****Information on toxicological effects****Serious Eye Damage/Irritation:** The material is not considered an eye irritant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.**Skin Corrosion/Irritation:** The material is not considered a skin irritant. The product has not been tested. The statement is based on evaluation of data for similar materials.**Skin Sensitization:** The material is not considered a skin sensitizer. The product has not been tested. The statement is based on evaluation of data for similar materials.**Acute Dermal Toxicity:** The material is not considered a dermal toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials.**Acute Oral Toxicity:** The material is not considered an oral toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials.**Acute Inhalation Toxicity:** The material is not considered an inhalation toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials.**Acute Toxicity Estimate:** Not Determined**Germ Cell Mutagenicity:** The material is not considered a mutagen. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.**Carcinogenicity:** The material is not considered a carcinogen. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.**Reproductive Toxicity:** This material is suspected of damaging fertility or the unborn child. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.**Specific Target Organ Toxicity - Single Exposure:** The material is not considered a target organ toxicant (single exposure). The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Specific Target Organ Toxicity - Repeated Exposure: The material is not considered a target organ toxicant (repeated exposure). The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Aspiration Hazard: The material is not considered an aspiration hazard.

ADDITIONAL TOXICOLOGY INFORMATION:

This product contains diethylene glycol (DEG). The estimated oral lethal dose is about 50 cc (1.6 oz) for an adult human. DEG has caused the following effects in laboratory animals: liver abnormalities, kidney damage and blood abnormalities. It has been suggested as a cause of the following effects in humans: liver abnormalities, kidney damage, lung damage and central nervous system damage.

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 products of a similar structure and composition.

MOBILITY

No data available.

PERSISTENCE AND DEGRADABILITY

This material is 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 products of a similar structure and composition.

POTENTIAL TO BIOACCUMULATE

Bioconcentration Factor: No data available.
Partition coefficient n-octanol/water (logarithmic value): No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by international, country, or local laws and regulations.

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

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

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: AIIIC (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (United States).

SECTION 16 OTHER INFORMATION

REVISION STATEMENT: This is a new Safety Data Sheet. SECTION 02 - Hazard Statements information was modified.

SECTION 02 - Health Classification information was modified.

SECTION 02 - Pictogram information was modified.

SECTION 02 - Precautionary Statements information was modified.

SECTION 03 - Composition information was modified.

SECTION 04 - Delayed Health Effects - Target Organ(s) information was modified.

SECTION 04 - First Aid - Eye information was modified.

SECTION 04 - Immediate Health Effects - Eye information was modified.

SECTION 05 - Fire Fighters Protection Measures information was modified.

SECTION 07 - Precautionary Measures information was modified.

SECTION 08 - Engineering Control Measures information was modified.

SECTION 08 - General Considerations information was modified.

SECTION 08 - Personal Protective Equipment List information was deleted.

SECTION 08 - Personal Protective Equipment information was added.

SECTION 08 - Skin Protection information was modified.

SECTION 09 - Physical/Chemical Properties information was modified.

SECTION 11 - Carcinogenicity information was added.

SECTION 11 - Germ Cell Mutagenicity information was added.

SECTION 11 - Reproductive Toxicity information was added.

SECTION 11 - Specific Target Organ Toxicity - Repeated Exposure information was added.

SECTION 11 - Specific Target Organ Toxicity - Single Exposure information was added.

SECTION 11 - Toxicological Information information was added.

SECTION 11 - Toxicological Information information was modified.

SECTION 15 - Chemical Inventories information was modified.

Revision Date: November 30, 2023

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
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code

API - American Petroleum Institute	SDS - Safety Data Sheet
CVX - Chevron	NTP - National Toxicology Program (USA)
DOT - Department of Transportation (USA)	
IARC - International Agency for Research on Cancer	
NCEL - New Chemical Exposure Limit	
SCBA - Self-Contained Breathing Apparatus	

Prepared according to GHS Revision 8 by Chevron Technical Center, 6001 Bollinger Canyon Road, San Ramon, CA 94583.

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.