Safety Data Sheet

Issuing Date 28-Feb-2022 **Revision date** 22-Jan-2023 **Revision Number** 2

1. PRODUCT AND COMPANY IDENTIFICATION

Material Name	BOSS SYNTHETIC AUTOMOTIVE ENGINE OIL ZR-1
Includes Grades	0W-20, 5w20, 5w30, 10w30**,** 0W-40 (BOSS Hemi-Syn)
Other means of identification	
Product Code(s)	GHSRBS-102
Product use	For lubricating passenger car motors. If these products are used in combination with other products, refer to the Material Safety Data Sheet for those products.
Synonyms	Synthetic petroleum oil; lube oil; petroleum hydrocarbon; lubricant.
Restrictions on use	No information available
Details of the supplier of the safety data sheet	
Initial supplier identifier	**Manufacturer Address**
BOSS Lubricants	6303 30 ST SE Calgary, AB T2C 1R4
Emergency telephone number	
Initial supplier phone number	(800) 844-9457
Emergency Telephone	Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification	Not a hazardous substance or mixture according to the Globally Harmonized System (GHS). Not a hazardous substance or mixture according to Canada's Hazardous Product Regulations.
Signal Word	None
Hazard Statements	None needed according to classification criteria.
Precautionary Statements	
Prevention	None known
Response	None known
Storage	None known
Disposal	Dispose of contents/containers in accordance with local, regional, national, and international regulations as applicable.
Hazards not otherwise classified	Repeated exposure may cause skin dryness or cracking.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Distillates (petroleum), hydrotreated light naphthenic	64742-53-8	0-100	-	
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	0-100	-	
Distillates (petroleum), hydrotreated light paraffinic	64742-55-8	0-100	-	
Distillates (petroleum), solvent-dewaxed light paraffinic	64742-56-9	0-100	-	
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	0-100	-	
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	72623-86-0	0-100	-	
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	72623-87-1	0-5	-	
Mineral oil	8042-47-5	0-15	-	
Distillates (Fischer-Tropsch), heavy, C18-50-branched, cyclic and linear	848301-69- 9	20-30	-	
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	68649-42-3	0-2	-	

4. FIRST AID MEASURES

Description of first aid measures

Inhalation Remove victim to fresh air. If not breathing, give artificial respiration. If exposed or concerned, get medical advice/attention.

Eye contact If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Skin Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if symptoms occur.

Ingestion Immediately call a poison center or doctor/physician. Do not induce vomiting. Seek medical attention if symptoms develop.

Most important symptoms and effects

Acute No information on significant adverse effects.

Delayed No information on significant adverse effects.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	Treat symptomatically and supportively. Treatment may vary with condition of victim and specifics of incident. Call 1-800-844-9457 for additional information.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media	Carbon dioxide, regular foam, dry chemical, water spray, or water fog. Water or foam may cause frothing.
Unsuitable extinguishing media	None known
Specific hazards arising from the substance or mixture	Negligible fire hazard. “Empty” containers may retain residue and can be dangerous. Product is not sensitive to mechanical impact or static discharge.
Hazardous Combustion products	Decomposition and combustion materials may be toxic. Burning may produce aldehydes, hydrogen sulfide, alkyl mercaptans, sulfides, carbon monoxide, and oxides of sulfur, calcium and zinc and other unidentified organic compounds.
Conditions of flammability	Sparks, or flame. Product may burn but does not ignite readily.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
Fire-fighting instructions	Keep storage containers cool with water spray.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures

Personal precautions	Wear personal protective clothing and equipment, see Section 8.
Methods and material for containment and cleaning up	Remove all ignition sources. Do not touch or walk-through spilled product. Stop leak if you can do it without risk. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Ventilate area and avoid breathing vapor or mist. Contain spill away from surface water and sewers. Additionally, for large spills: Dike far ahead of liquid spill for collection and later disposal. Contain spill as a liquid for possible recovery, or sorb with compatible sorbent material and shovel with a clean, spark proof tool into a sealable container for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling	Keep away from sparks and flame. Where flammable mixtures may be present, equipment safe for such locations should be used. Use clean tools and explosion-proof equipment. When transferring large volumes of product, metal containers, including trucks and tank cars, should be grounded and bonded. This product has a low vapor pressure and is not expected to present an inhalation hazard under normal temperatures and pressures. However, when aerosolizing, misting, or heating this product, do not breathe vapor or mist. Use in a well-ventilated area. Avoid contact with eyes, skin, clothing, and shoes.

Conditions for safe storage, including any incompatibilities

Conditions for safe storage	Keep container tightly closed when not in use and during transport. Store containers in a cool, dry place. Do not pressurize, cut, weld, braze, solder, drill, or grind containers. Keep containers away

from flame, sparks, static electricity, or other sources of ignition. Empty product containers may retain product residue and can be dangerous.

Materials to avoid/chemical incompatibility Strong oxidizing agents.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure limits Canada, OSHA, NIOSH, and ACGIH have not developed exposure limits for any of this product's components.

Appropriate engineering controls Provide general ventilation. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls.

Individual Protection Measures, such as Personal Protective Equipment

Respiratory protection A respiratory protection program which meets USA's OSHA General Industry Standard 29 CFR 1910.134 or Canada's CSA Standard Z94.4-M1982 requirements must be followed whenever workplace conditions warrant a respirator's use. Consult a qualified industrial hygienist or safety professional for respirator selection guidance.

Eye/Face protection Wear safety glasses with side shields (or goggles). If splashes are likely to occur, wear safety glasses with side-shields. Avoid contact with eyes. Eye wash fountain and emergency showers are recommended. Contact lens use is not recommended.

Glove recommendations Where skin contact is likely, wear chemical impervious protective gloves; use of natural rubber or equivalent gloves is not recommended. When products are heated and skin contact is likely, wear heat-resistant gloves, boots, and other protective clothing. To avoid prolonged or repeated contact where spills and splashes are likely, wear appropriate chemical-resistant face shield, boots, apron, coveralls, long sleeve shirts, or other protective clothing.

Protective Materials Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to regulatory requirements. The following PPE should be considered the minimum required: safety glasses, gloves, and lab coat or apron.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Amber
Color	Amber
Odor	Petroleum distillates
Odor threshold	No information available

Property	**Values**	**Remarks**
pH	No data available	None known
Melting point/freezing point	No data available	None known
Boiling point/boiling range	246°C/475°F (min)	ASTM D7213
Freezing point	No data available	None known
Evaporation Rate	No data available	None known
Flash point	230°C – 235°C	ASTM D92
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		

Upper flammability or explosive Limits	No data available	None known
Lower flammability or explosive Limits	No data available	None known
Vapor Pressure	No data available	None known
Vapor Density	No data available	None known
Relative gravity	No data available	None known
Density	No data available	None known
Volatility	No data available	None known
Relative Density (@ 15°C)	0.85 – 0.87	ASTM D1298
Specific Gravity(water=1)	No data available	None known
Water Solubility	Insoluble in water	None known
n-Octanol/ Water Partition coefficient	No data available	None known
Pour point	-49 °C - -40 °C	ASTM D97
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic Viscosity	44.8-63.6 cST @ 40°C	ASTM D445
Dynamic Viscosity	No data available	None known

Other information

Explosive Properties	No information available
Oxidizing Properties	No information available
Softening Point	No information available
Molecular Weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk Density	No information available

10. STABILITY AND REACTIVITY

Reactivity	Stable.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. TOXICOLOGICAL INFORMATION

Basis for assessment	Information given is based on data on the components and the toxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).
Information on likely routes of exposure	Skin and eye contact are the primary routes of exposure although exposure may occur following accidental ingestion.

Acute toxicity

Acute oral toxicity	LD50 (rat): > 5,000 mg/kg Expected to be of low toxicity
Acute inhalation toxicity	Not considered to be an inhalation hazard under normal conditions of use.
Acute dermal toxicity	LD50 (Rabbit): > 5,000 mg/kg Expected to be of low toxicity:
Skin corrosion/irritation	Expected to be slightly irritating. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.
Serious eye damage/eye irritation	Expected to be slightly irritating.
Respiratory or skin sensitisation	Not expected to be a skin sensitizer.
Germ cell mutagenicity	
Genotoxicity in vivo	Not considered a mutagenic hazard.
Carcinogenicity	Not expected to be carcinogenic. Product contains mineral oils of types shown to be non-carcinogenic in animal skinpainting studies. Highly refined mineral oils are not classified as carcinogenic by the International Agency for Research on Cancer (IARC).
Reproductive toxicity	Not expected to impair fertility. Not expected to be a developmental toxicant.
STOT - single exposure	Not expected to be a hazard.
STOT - repeated exposure	Not expected to be a hazard.
Aspiration toxicity	Not considered an aspiration hazard.
Further information	Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal. ALL used oil should be handled with caution and skin contact avoided as far as possible. Continuous contact with used engine oils has caused skin cancer in animal tests. Slightly irritating to respiratory system

12. ECOLOGICAL INFORMATION

Basis for assessment	Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s). (LL/EL/IL50 expressed as the nominal amount of product required to prepare aqueous test extract).
Ecotoxicity	
Toxicity to fish (Acute toxicity)	Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l
Toxicity to crustacean (Acute toxicity)	Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l
Toxicity to algae/aquatic plants (Acute toxicity)	Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l
Toxicity to fish (Chronic toxicity)	Data not available
Toxicity to crustacean (Chronic toxicity)	Data not available

Toxicity to microorganisms (Acute toxicity)	Data not available

Persistence and degradability

Biodegradability	Expected to be not readily biodegradable. Major constituents are expected to be inherently biodegradable but contains components that may persist in the environment.

Bioaccumulative potential

Bioaccumulation	Contains components with the potential to bioaccumulate.
Partition coefficient: noctanol/water	Pow: > 6 (based on information on similar products**)**

Mobility in soil

Mobility	Liquid under most environmental conditions. If it enters soil, it will adsorb to soil particles and will not be mobile. Floats on water.

Other adverse effects

Additional ecological information	Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential. Poorly soluble mixture. May cause physical fouling of aquatic organisms. Mineral oil is not expected to cause any chronic effects to aquatic organisms at concentrations less than 1 mg/l.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.

14. TRANSPORT INFORMATION

Transport Canada	Not regulated
TDG	Not regulated
DOT	Not regulated

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer	Not applicable
The Stockholm Convention on Persistent Organic Pollutants	Not applicable
The Rotterdam Convention	Not applicable

Internal Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECL	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AICS	Contact supplier for inventory compliance status

Legend:
TSCA - Unites States Toxic Substances Control Act Section 8(b) inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

16. OTHER INFORMATION

NFPA	**Health hazards**	0	**Flammability**	1	**Instability**	0	**Physical and chemical properties**	-
HMIS	**Health hazards**	0	**Flammability**	1	**Physical hazards**	0	**Personal protection**	X

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Data for Regulatory Rules

Region	Template name	Revision Note
Canada	HGHS	2.0

GHS Product Information

Physical state	Liquid
Flash point °C	227
Boiling point	280 (minimum)

Component Information

Canada

GHS Classification

Hazard Statement	None needed according to classification criteria.
Signal word	None
Precautionary Statements - Disposal	Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable