



Material Safety Data Sheet

Section 1: Chemical Product and Company Identification

Product Name: BOSS Industrial EP Gear Oil 32, 68, 100, 150, 220, 320, 460, 680

Product Use: For lubricating differentials and final drives of automotive equipment. If this product is used in combination with other products, refer to the Material Safety Data Sheet for those products.

Synonyms: Petroleum oil; Lube oil; Petroleum hydrocarbon; Lubricant; Automotive gear oil.

Manufacturer:

BOSS Lubricants

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Section 2: Hazardous Identification

EMERGENCY OVERVIEW

Appearance: Amber liquid, petroleum odor.

Signal Word: DANGER!

Health Hazards: be harmful if swallowed
May irritate eyes and skin

POTENTIAL HEALTH EFFECTS

Inhalation (Breathing): This product is not likely to present an inhalation hazard at normal temperatures and pressures. However, when aerosolizing, misting, or heating this product, high concentrations of generated vapor or mist may irritate the respiratory tract (nose, throat, or lungs).

Eyes: May cause irritation

Skin: May cause irritation. Not likely to be absorbed through the skin in harmful amounts.

Ingestion (Swallowing): May be harmful if swallowed. May cause throat irritation, nausea, vomiting, and diarrhea. Breathing product into the lungs during ingestion or vomiting may cause lung injury and possible death.

Medical Conditions Aggravated by Exposure: Individuals with pre-existing respiratory tract (nose, throat, and lungs), eye, and/or skin disorders may have increased susceptibility to the effects of exposure.

Chronic: Prolonged or repeated inhalation of oil mist may cause oil pneumonia, lung tissue inflammation, and/or fibrous tissue formation. Prolonged or repeated eye contact may cause inflammation of the membrane lining the eyelids and covering the eyeball (conjunctivitis). Prolonged or repeated skin contact may cause drying, cracking, redness, itching, and/or swelling (dermatitis).

Cancer Information: No known carcinogenicity. For more information, see **SECTION 11: MUTAGENICITY** and **CARCINOGENICITY**. Also see **SECTION 15: CALIFORNIA**.

Environmental Hazards: Not available. Also see **SECTION 12: ECOLOGICAL INFORMATION**.

Section 3: Composition / Information on Ingredients

CAS #	Component	Percent
64742-01-4	Residual oils (petroleum), solvent refined	60-100
64742-62-7	Residual oils (petroleum), solvent dewaxed	60-100
64742-58-1	Lubricating oils, petroleum, hydrotreated spent	0-60
Proprietary	Mineral Oil*	1-5
Proprietary	Phosphoric acid esters, amine salts*	1-5
Proprietary	Olefin sulfide*	3-7
64741-88-4	Petroleum distillates, solvent-refined heavy paraffinic	0.1-1.0
72623-86-0	Lubricating oils, petroleum, C15-30, hydrotreated neutral oil-based	0.1-1.0
Proprietary	Long chain Alkyl amine	0.1-1.0
10294-56-1	Phosphorous acid [P(OH)3]	0.1-1.0
Proprietary	Long chain Alkenyl amine	0.1-1.0
Proprietary	Alkyl Phosphonate	0.1-1.0
Proprietary	Alkyl Phosphate (I)	0.1-1.0
Proprietary	Alkyl Phosphate (II)	0.1-1.0
Proprietary	Alkoxyated long chain alkanol borate	0.1-1.0
64741-89-5	C5 to C8 Aliphatic hydrocarbons	0.1-1.0
64742-65-0	Distillates (petroleum) , solvent dewaxed heavy paraffinic	0.1-1.0
Proprietary	Long chain alkenyl succinimide	0.1-1.0
Proprietary	Alkyl Amine	<0.1

Component Related Regulatory Information: This product may be regulated, have exposure limits or other information identified as the following: Oil mist, mineral (8012-95-1).

Section 4: First Aid Measures

Inhalation (Breathing): Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Oxygen should only be administered by qualified personnel. Someone should stay with victim. Get medical attention if breathing difficulty persists.

Eyes: If irritation or redness from exposure to vapor develops, move away from exposure into fresh air. Upon contact, immediately flush eyes with plenty of lukewarm water, holding eyelids apart, for 15 minutes. Get medical attention.

Skin: Remove affected clothing and shoes. Wash skin thoroughly with soap and water. Get medical attention if irritation or pain develops or persists. If product is injected under pressure into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, a physician should immediately evaluate the individual as a medical emergency. Wash contaminated clothing before use.

Ingestion (Swallowing): Do NOT induce vomiting. Immediately get medical attention. Call 1-800-468-1760 for additional information. If spontaneous vomiting occurs, keep head below hips to avoid breathing the product into the lungs. Never give anything by mouth to an unconscious person.

Notes to Physicians: Treat symptomatically and supportively. Treatment may vary with condition of victim and specifics of incident.

Call 1-800-468-1760 for additional information.



Section 5: Fire Fighting Measures

Hazardous Combustion Products: Decomposition and combustion materials may be toxic. Burning may produce hydrogen sulfide, sulfides, alkyl mercaptans, methacrylate monomers, aldehydes, nitrogen oxides, sulfur oxides, phosphorus oxides, carbon monoxide, and unidentified organic compounds.

Conditions of Flammability: Sparks or flame. Product may burn, but does not ignite readily.

Extinguishing Media: Carbon dioxide, regular foam, dry chemical, water spray, or water fog. Water or foam may cause frothing.

Fire Fighting Equipment/Instructions: A positive-pressure, self-contained breathing apparatus (SCBA) and full-body protective equipment are required for fire emergencies.

NFPA Ratings: Health: 1 Fire: 1 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Fire and Explosion Hazards: Heated containers may rupture. "Empty" containers may retain residue and can be dangerous. Product is not sensitive to mechanical impact or static discharge.

Section 6: Accidental Release Measures

Remove all ignition sources. Do not touch or walk through spilled product. Stop leak if you can do it without risk. Wear protective equipment and provide engineering controls as specified in **SECTION 8: EXPOSURE**

CONTROLS/PERSONAL PROTECTION: 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. 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.

Additionally, for large spills: Dike far ahead of liquid spill for collection and later disposal.

Section 7: Handling and Storage

Handling Procedures: Keep away from sparks or 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.

Shipping and Storing: 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.

Section 8: Exposure Controls / Personal Protection * * *

Exposure Guidelines

Component Exposure Limits: None available.

Engineering Controls: Provide general ventilation needed to maintain concentration of vapor or mist below applicable exposure limits. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below applicable exposure limits.



Personal Protective Equipment

Respiratory: No respiratory protection is normally required. Use NIOSH-certified P- or R- series particulate filter and organic vapor cartridges when concentration of vapor or mist exceeds applicable exposure limits. Protection provided by air purifying respirators is limited. Do not use N-rated respirators. Selection and use of respiratory protective equipment should be in accordance in the USA with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4. Consult a qualified Industrial Hygienist or Safety Professional for respiratory selection guidance.

Eyes/Face: Where eye contact is likely, wear safety glasses; contact lens use is not recommended.

Skin: Where skin contact is likely, wear chemical impervious protective gloves; use of natural rubber or equivalent gloves is not recommended.

When product is 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.

Personal Hygiene: Use good personal hygiene. Wash thoroughly with soap and water after handling product and before eating, drinking, or using tobacco products. Clean affected clothing, shoes, and protective equipment before reuse. Discard leather articles, such as shoes, saturated with this product.

Other Personal Protective Equipment: Where spills and splashes are likely, facilities storing or using this product should be equipped with an emergency eyewash and shower, both equipped with clean water, in the immediate work area.

Section 9: Physical & Chemical Properties

Appearance/Odor :	Amber liquid Petroleum odor	pH:	Not applicable
Boiling Point:	425 °F (246°C) (minimum)	Odor Threshold:	Not available
Solubility (H2O):	Insoluble	Melting Point:	Not available
Density:	7.4 LB/US gal (890 g/l)	Specific Gravity:	0.89 (water=1)
Evaporation Rate:	Not available	Octanol/H2O Coeff.:	Not available
Auto Ignition Temperature:	Not Available	Molecular Weight:	Not applicable
Flash Point:	374°F (190°C)	LFL:	Not Available
		UFL:	Not Available
		Vapor Pressure:	<0.1 mm Hg at 68°F (20°C)

Section 10: Chemical Stability & Reactivity Information

Stability: Stable under normal temperatures and pressures.

Incompatibility: Avoid oxidizing agents.

Reactivity: Polymerization is not known to occur under normal temperature and pressures. Not reactive with water.

Hazardous Decomposition Products: None under normal temperatures and pressures. See also **SECTION 5: HAZARDOUS COMBUSTION PRODUCTS.**

Conditions To Avoid: Avoid heat, sparks or flame when not in use.



Section 11: Toxicological Information

Toxicity Data

Component Analysis - LD50/LC50

Residual oils (petroleum), solvent refined (64742-01-4)

Oral LD50 Rat >5000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg; Inhalation LC50 Rat 2.18 mg/L 4 h

Residual oils (petroleum), solvent dewaxed (64742-62-7)

Oral LD50 Rat >5000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg; Inhalation LC50 Rat 2.18 mg/L 4 h

Lubricating oils, petroleum, hydrotreated spent (64742-58-1)

Dermal LD50 Rabbit >4480 mg/kg; Oral LD50 Rat >2000 mg/kg **Mineral Oil***

(Proprietary)

Inhalation LC50 Rat 2062 ppm 4 h (related to Oil mist, mineral)

Lubricating oils, petroleum, C15-30, hydrotreated neutral oil-based (72623-86-0)

Oral LD50 Rat >5000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg; Inhalation LC50 Rat 2.18 mg/L 4 h

Petroleum distillates, solvent-refined heavy paraffinic (64741-88-4)

Oral LD50 Rat >5000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg; Inhalation LC50 Rat 2.18 mg/L 4 h

C5 to C8 Aliphatic hydrocarbons (64741-89-5)

Oral LD50 Rat >5000 mg/kg; Dermal LD50 Rabbit >5 g/kg; Inhalation LC50 Rat 2.18 mg/L 4 h

Acute Effects

May be harmful if swallowed. May irritate eyes and skin. May cause throat irritation, nausea, vomiting, and or diarrhea. Breathing product into the lungs during ingestion or vomiting may cause lung injury and possible death.

Component Carcinogenicity

Residual oils (petroleum), solvent dewaxed (64742-62-7)

ACGIH: A4 - Not Classifiable as a Human Carcinogen (highly and severely refined); A2 - Suspected Human Carcinogen (poorly and mildly refined, related to Oil mist, mineral)

Lubricating oils, petroleum, hydrotreated spent (64742-58-1)

ACGIH: A4 - Not Classifiable as a Human Carcinogen (highly and severely refined); A2 - Suspected Human Carcinogen (poorly and mildly refined, related to Oil mist, mineral)

Mineral Oil* (Proprietary)

ACGIH: A4 - Not Classifiable as a Human Carcinogen (highly and severely refined); A2 - Suspected Human Carcinogen (poorly and mildly refined, related to Oil mist, mineral)

Lubricating oils, petroleum, C15-30, hydrotreated neutral oil-based (72623-86-0)

ACGIH: A4 - Not Classifiable as a Human Carcinogen (highly and severely refined); A2 - Suspected Human Carcinogen (poorly and mildly refined, related to Oil mist, mineral)

Petroleum distillates, solvent-refined heavy paraffinic (64741-88-4)

ACGIH: A4 - Not Classifiable as a Human Carcinogen (highly and severely refined); A2 - Suspected Human Carcinogen (poorly and mildly refined, related to Oil mist, mineral)

Sensitization

No information available for the product.

Mutagenicity

Possible mutagen. **Reproductive**

Toxicity

Based on best current information, there is no known reproductive toxicity associated with this product.

Teratogenicity

Based on best current information, there is no known teratogenicity associated with this product.

Toxicologically Synergistic Products

Based on best current information, there are no known toxicologically synergistic products associated with this product.

Section 12: Ecological Information

Ecotoxicity

Harmful to aquatic life with long lasting effects.

Component Analysis - Ecotoxicity - Aquatic Toxicity

Residual oils (petroleum), solvent refined (64742-01-4)

Duration/Test/Species	Concentration/Conditions	Notes
96 Hr LC50 Oncorhynchus mykiss	>5000 mg/L	
48 Hr EC50 Daphnia magna	>1000 mg/L	

Residual oils (petroleum), solvent dewaxed (64742-62-7)

Duration/Test/Species	Concentration/Conditions	Notes
96 Hr LC50 Oncorhynchus mykiss	>5000 mg/L	
48 Hr EC50 Daphnia magna	>1000 mg/L	

Lubricating oils, petroleum, hydrotreated spent (64742-58-1)

Duration/Test/Species	Concentration/Conditions	Notes
96 Hr LC50 Brachydanio rerio	79.6 mg/L [semi-static]	
96 Hr LC50 Pimephales promelas	3.2 mg/L [semi-static]	

Lubricating oils, petroleum, C15-30, hydrotreated neutral oil-based (72623-86-0)

Duration/Test/Species	Concentration/Conditions	Notes
96 Hr LC50 Oncorhynchus mykiss	>5000 mg/L	
48 Hr EC50 Daphnia magna	>1000 mg/L	

Petroleum distillates, solvent-refined heavy paraffinic (64741-88-4)

Duration/Test/Species	Concentration/Conditions	Notes
96 Hr LC50 Oncorhynchus mykiss	>5000 mg/L	
48 Hr EC50 Daphnia magna	>1000 mg/L	

Distillates (petroleum), solvent dewaxed heavy paraffinic (64742-65-0)

Duration/Test/Species	Concentration/Conditions	Notes
96 Hr LC50 Oncorhynchus mykiss	>5000 mg/L	
48 Hr EC50 Daphnia magna	>1000 mg/L	

C5 to C8 Aliphatic hydrocarbons (64741-89-5)

Duration/Test/Species	Concentration/Conditions	Notes
96 Hr LC50 Oncorhynchus mykiss	>5000 mg/L	
48 Hr EC50 Daphnia magna	>1000 mg/L	

Persistence/Degradability No information available.

Mobility in Environmental Media No information available.

Other Adverse Effects: No additional information available.



Section 13: Disposal Considerations

Disposal Instructions: Dispose in accordance with federal, state, provincial, and local regulations. Regulations may also apply to empty containers. The responsibility for proper waste disposal lies with the owner of the waste. Contact Safety-Kleen regarding proper recycling or disposal. **US EPA Waste Number & Descriptions**
 This product, if discarded, is not expected to be a characteristic or listed hazardous waste. If recycled as used oil in the USA, this product can be managed in accordance with the used oil exemption under 40 CFR Part 279. Processing, use, or contamination by the user may change the waste code(s) applicable to the disposal of this product.

Section 14: Transportation Information

Emergency Response Guide Number: Reference *North American Emergency Response Guidebook*.

DOT Shipping Name: Not regulated as a hazardous material.

TDG Shipping Name: Not regulated as a dangerous good.

IATA Information: No Classification Assigned.

IMDG Information: No Classification Assigned.

Section 15: Regulatory Information

Volatile Organic Compounds (As regulated): Negligible, as per 40 CFR 51.100(s)

SARA Sections 311/312: These products pose the following health hazard(s) as defined in 40 CFR Part 370 and are subject to the requirements of sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA):
 Immediate (Acute) Health Hazard
 Delayed (Chronic) Health Hazard

SARA 302/304

Component Analysis: Based on the ingredient(s) listed in SECTION 3, this product does not contain any "extremely hazardous substances" listed pursuant to Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) Section 302 or Section 304 as identified in 40 CFR Part 355, Appendix A and B. **SARA Section 313**

Component Analysis: This product does not contain any "toxic" chemical subject to the requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR Part 372.

CERCLA

Component Analysis: Based on the ingredient(s) listed in SECTION 3, this product does not contain any "hazardous substance" listed under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) in 40 CFR Part 302, Table 302.4. **TSCA**

All the components of this product are listed on, or are exempted from the requirement to be listed on, the TSCA Inventory.

Component Analysis

Component	CAS #	TSCA
Residual oils (petroleum), solvent refined	64742-01-4	Yes
Residual oils (petroleum), solvent dewaxed	64742-62-7	Yes
Lubricating oils, petroleum, hydrotreated spent	64742-58-1	Yes
Lubricating oils, petroleum, C15-30, hydrotreated neutral oil-based	72623-86-0	Yes





Petroleum distillates, solvent-refined heavy paraffinic	64741-88-4	Yes
Phosphorous acid [P(OH)3]	10294-56-1	Yes
Distillates (petroleum) , solvent dewaxed heavy paraffinic	64742-65-0	Yes
C5 to C8 Aliphatic hydrocarbons	64741-89-5	Yes

State Regulations

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	MA	MN	NJ	PA	CA
Residual oils (petroleum), solvent dewaxed (¹ related to: Oil mist, mineral)	64742-62-7	Yes ¹				
Lubricating oils, petroleum, hydrotreated spent (¹ related to: Oil mist, mineral)	64742-58-1	Yes ¹				
Mineral Oil* (¹ related to: Oil mist, mineral)	Proprietary	Yes ¹				
Lubricating oils, petroleum, C15-30, hydrotreated neutral oil-based (¹ related to: Oil mist, mineral)	72623-86-0	Yes ¹				
Petroleum distillates, solvent-refined heavy paraffinic (¹ related to: Oil mist, mineral)	64741-88-4	Yes ¹				
C5 to C8 Aliphatic hydrocarbons	64741-89-5	No	Yes	No	No	No

No component(s) are listed under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).

Canadian Regulations: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all information required by the CPR.

Component Analysis

Component	CAS #	CAN
Residual oils (petroleum), solvent refined	64742-01-4	DSL
Residual oils (petroleum), solvent dewaxed	64742-62-7	DSL
Lubricating oils, petroleum, hydrotreated spent	64742-58-1	DSL
Lubricating oils, petroleum, C15-30, hydrotreated neutral oil-based	72623-86-0	DSL
Petroleum distillates, solvent-refined heavy paraffinic	64741-88-4	DSL
Phosphorous acid [P(OH)3]	10294-56-1	DSL
Distillates (petroleum) , solvent dewaxed heavy paraffinic	64742-65-0	DSL
C5 to C8 Aliphatic hydrocarbons	64741-89-5	DSL

Canadian WHMIS Information: Not regulated.

Canadian Environmental Protection Act (CEPA): All the components of this product are listed on, or are automatically included as "substance occurring in nature" on, or are exempted from the requirements to be listed on, the Canadian Domestic Substances List (DSL).



Section 16: Other Information

Label/Other Information: Not available.

Revision Information: Reformulation: 01/21/2015 Regulatory Update.

Disclaimer

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, BOSS Lubricants assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either expressed or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to the information or the product to which the information refers. The data contained on this sheet apply to the product as supplied to the user.