

Safety Data Sheet (SDS)

Royal Crown Moly / Graphite EP Grease



SECTION 1: IDENTIFICATION OF THE SUBSTANCE /MIXTURE AND OF THE COMPANY /UNDERTAKING

1.1 GHS Product Identifier

Product Name: Royal Crown Moly/Graphite EP Grease

1.2 Other Means of Identification :

Product Code: 70000-10401

Synonyms: Lithium Complex Moly EP Grease

1.3 Relevant identified uses of the substance or mixture and uses advised against

Product Use: Lubrication

Uses advised against: No information available

1.3 Details of supplier of safety data sheet

Manufacturers/Supplier: Royal Mfg Co LP
516 S, 25th West Ave , Tulsa, OK 74127

Telephone Number: (918) 584 - 2671

Emergency Telephone Number: (918) 584 - 2671

Email Address: Info@royalmfg.com

SECTION 2: HAZARD IDENTIFICATION

2.1 Classification of the substance of mixture

OSHA Hazard Communication Standard: This material is considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200

2.1 GHS Label Element, Including Precautionary Statements

Emergency Overview



Signal Word : Warning

Hazardous Statements

- Causes serious eye irritation



Appearance : Black

Physical State : Semi-Solid

Odor : Slight Petroleum

2.3 Precautionary Statements:

Prevention:

- Wash face , hands and any exposed skin thoroughly after handling
- Wear eye / face protection

General advice: None

Eyes

- If in eyes: Rinse cautiously with water for several times . Remove contact lenses , if present and possible to do so .
- If eye irritation persists , get medical attention

Storage: None

Disposal: None

Hazard not otherwise classified (HNOC): Not Applicable

Other Information:

May be harmful to aquatic life .

25.49 % of the mixture consists of ingredient(s) with unknown toxicity

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Synonyms:

High Viscosity Lithium Complex EP Grease

Chemical Name	CAS #	Weight %	Trade Secret
Petroleum distillate , hydrotreated heavy naphthenic	64742-52-5	40-70	*
Petroleum distillate , hydrotreated heavy paraffinic	64742-54-7	20-40	
Antimony, tris(diphenylcarbamodithioato-S,S')-(OC-6-11)	15890-25-2	1-3	*
Molybdenum (IV) Sulfide	1317-33-5	1-5	*
Graphite	7782-42-5	1-5	*
Boron lithium oxide (B4Li2O7)	12007-60-2	≤ 5	*
Zinc Dialkyldithiophosphate	-	< 2	*

**The exact percentage of ingredients are withheld as trade secret*

Additional information:

As per 29 CFR 1910.1200 paragraph (i), formulation is considered as trade secret and therefore specific chemical names and their percentages of components used have not been disclosed. The details about their specific chemical names and their percentages may be provided on request to health professionals,



authorized representatives of regulatory authority, employees concerned in accordance with applicable provisions of this paragraph.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General information: Not expected to be health hazard if used under normal conditions

Inhalation: Under normal conditions of intended use, this material is not expected to be inhalation hazard. If some symptom exists, remove to fresh air. If not breathing, give artificial respiration. Get medical attention

Skin Contact: Remove contaminated clothes. Flush exposed area with plenty of water followed by washing by soap, if available. If persistent irritation occurs, obtain medical attention. If product is injected into or under the skin due to any reason, the victim, regardless of size or appearance of wound, victim should be brought immediately to medical attention for emergency surgical needs. Though the initial symptoms due to high pressure injection may be minimal / absent, early surgical treatment may significantly reduce the extent of injury.

Eye Contact: Immediately flush with large quantities of cool water for at least 15 minutes including under eyelids. Keep eye wide open while rinsing. If symptoms persist get medical attention.

Ingestion: Drink plenty of water. In general no treatment is necessary unless large quantities are swallowed; however, it's advisable to take medical attention. Do not induce vomiting unless directed by medical personnel. Do not give anything by mouth by an unconscious person.

Most Important Symptoms /Effects Acute and Delayed:

Most important symptoms / effects: No information available

Indication of Immediate Medical Attention and Special Treatment Needed , If Necessary :

Note to Physician: Treat symptomatically

Self-protection for first aider: When administering the first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.

SECTION 5: FIRE FIGHTING MEASURES

5.1 Extinguishing Media:

Suitable extinguishing media: Water Spray (fog), dry chemical, foam, or carbon dioxide, sand to extinguish flames.

Unsuitable extinguishing media: Water stream may splash burning liquid and spread fire.

5.2 Special hazard arising from the substances or mixture: Hazardous combustion product may include a complex mixture of airborne solid and liquid particulates and gases (smoke) , carbon monoxide , unidentified inorganic and organic compounds.

Explosion Data:

Sensitivity to Mechanical Impact: None

Sensitivity to Static Discharge: None



5.3 Advice to firefighters: Proper protective equipment include chemical resistant gloves to be worn, chemical resistant suit is recommended when large contact with spill product is expected. Self-contained breathing apparatus (SCBA) must be worn when approaching a fire in confined area. Select the fire fighters clothing approved by relevant standard e.g., MSHA/NIOSH approved or equivalent and full protective gear .

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch and walk through spill area. Do not touch damaged container or spilled material unless wearing appropriate protective clothing/equipment. Ventilate the closed area.

6.2 Emergency procedures

Isolate the spill / leak area in all directions for about 50 meters (150 ft) for liquids and about 25 meters (75 ft.) for solids and semi-solids. Eliminate all ignition sources (no smoking, flares, sparks / flames in close vicinity). Keep unauthorize person away and ventilate closed space before entering.

6.3 Environmental procedures:

Use appropriate measures for containment of spilled material to the environment. Prevent from entering/spreading to drain, water, river, ditches by using sand, earth, floor dryers or other appropriate barriers.

6.4 Methods and materials for containment and cleaning up

Shovel into suitable properly marked container for disposal or reclamation in accordance with local regulations.

6.5 Reference to other sections

Refer to section 8 – exposure control / personal protection and section 13- disposal considerations

SECTION 7: HANDLING AND STORAGE

7.1 General Precautions

Store in well-ventilated area, if risk on vapor inhalation is there. Use the information in this data sheet as input for risk management arising due to local conditions which help to manage safe handling of this product.

7.2 Precautions for safe handling

Avoid prolonged and repeated contact with skin. Avoid inhaling the vapors/mist. When handling the drums, kegs, pails etc., proper safety shoes, and other protective clothes, safety glasses etc. should be worn. Dispose appropriately any contaminated rags/material as per prevailing local allowable practices. Keep containers in closely tight and, cool and well ventilated areas.

7.3 Conditions for safe storage, including any incompatibilities

Keep containers tightly close, well-ventilated areas but covered, avoiding contact with rain or other water ingress possibilities. Keep the storage place cool preferably <120 °F / <50 °C. Higher temperature



may create pressure buildup inside container and chances of container busting or leakage may occur under aggravated conditions. Keep away from other oxidizing and incompatible materials.

Incompatible Products: Strong oxidizing agents . Strong reducing agents

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Petroleum distillate , hydrotreated heavy paraffinic	TWA: 5 mg/m3 as oil mist, mineral	TWA: 5 mg/m3 as oil mist, mineral	-
Antimony, tris(diphenylcarbamodithioato-S,S')-, (OC-6-11)-	TWA: 0.5 mg/m3 as Sb	TWA: 0.5 mg/m3 as Sb (vacated) TWA : 0.5 mg/m3 Sb	IDLH : 50 mg/m3 Sb TWA: 0.5 mg/m3 Sb
Graphite (7782-42-5)	-	TWA : 15 mg/m3 total dust ; TWA (vacated) : 2.5 mg/m3 respirable dust	IDLH : 1250 mg/m3 TWA : 2.5 mg/m3 respirable dust
Molybdenum (IV) Sulfide 1317-33-5	TWA : 10 mg/m3 Mo inhalable ; TWA : 3.0 mg/m3 respirable fraction	TWA : 15 mg/m3 total dust ; TWA (vacated) : 10 mg/m3 Mo	IDLH : 5000 mg/m3 Mo
Boron lithium oxide (B4Li2O7) 12007-60-2	STEL : 6 mg/m3 inhalable fraction TWA : 2 mg/m3 inhalable fraction	-	-

Immediate dangerous to life or health. ACGIH TLV : American Conference of Government Industrial Hygienists – Threshold Limit Values . OSHA PEL: Occupational Safety and Health Administration – Permissible Limits .

Other Exposure Guidelines: Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F. 2d 962. (11th Cir., 1992).

8.2 Appropriate engineering controls

Engineering Measures: Showers
Eyewash stations
Ventilation systems

8.3 Individual protection measures, such as personal protective equipment:

Eye/Face Protection: Safety glasses with side-shields. Risk of contact, wear: Chemical splash goggles.

Skin and Body Protection : Impervious clothing. Protective gloves.

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

Hygiene Measures When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing. Keep away from food, drink and animal feeding stuffs. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

8.4 Personal protective equipment pictograms





8.5 Environmental Exposure controls

Minimize release to the environment. Follow best practices for site management and disposal of waste as per local regulations

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on physical and chemical properties

Material description

Appearance	Semi-solid
Color	Black
Odor	Slight hydrocarbon
Odor threshold	Data not available

General properties

Boiling point	No data available
pH	Not applicable
Specific gravity (15 °C)	0.87, 7.506 (lbs/gal)
Flash point, COC, °F/°C	257 / 495
Upper/lower flammability limits	No data available
Auto-ignition temperature	No data available
Flammability	No data available
VOC, % wt., ASTM D-972	No data available
Vapor pressure @ ambient temp.	< 0.13 kPa (< 1 mm Hg)
Vapor density (air =1)	< 1
Explosive properties	No data available
Oxidizing properties	No data available

Other Information

Electrical conductivity	Though no data available, this material is not expected to be a static accumulator
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SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity :	No reactivity is expected under normal conditions of intended use. However, under high temperature or adverse operating conditions thermal / chemical decomposition of the product may be possible
10.2 Chemical Stability :	No hazardous reaction is expected under normal conditions of temperature and pressure
10.3 Possibility of hazardous reactions	None under normal processing
10.4 Hazardous Polymerization	Not likely to occur
10.5 Conditions to avoid	Extreme temperature and direct sunlight / heat /flame



10.6 Incompatible materials

Strong oxidizing agents or strong reducing agents

10.7 hazardous decomposition products

Carbon dioxides , Nitrogen oxides (NOX) , Sulfur oxides

SECTION 11: TOXICOLOGICAL INFORMATION**11.1 Information on Likely Routes of Exposure****Inhalation:** There is no data available for this product.**Eye Contact:** Causes serious eye irritation.**Skin Contact:** Causes mild skin irritation**Ingestion:** There is no data available for this product**Symptoms related to the physical, chemical and toxicological characteristics****Symptoms** No information available.**Delayed and immediate effects and also chronic effects from short and long term exposure :****Sensitization** No information available.**Mutagenic Effects** No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen. The classification listed below for the petroleum distillates in this product pertains to those that contain more than 3% DMSO extract as measured by IP 346. The petroleum distillates in this product do not meet that criteria to be classified as carcinogens.

Chemical Name	ACGIH	IARC	NTP	OSHA
Petroleum distillate , hydrotreated heavy naphthenic	A2	Group 1	-	X
Petroleum distillate , hydrotreated heavy paraffinic	A2	Group 1	-	X

ACGIH: (American Conference of Governmental Industrial Hygienists)

A2 – suspected human carcinogen

IARC: (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

OSHA: (Occupational Safety & Health Administration)

x- Present

Reproductive Toxicity: No information available.**STOT - single exposure:** No information available.**STOT - repeated exposure:** No information available.**Aspiration Hazard:** No information available**Numerical measures of toxicity – Product:****Acute Toxicity:** 25.49 % of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of GHS document



SECTION 12: ECOLOGICAL INFORMATION

Eco-toxicity :

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Micro-organisms	Daphnia Magna (Water Flea)
Petroleum distillate , hydrotreated heavy naphthenic 64742-52-5		LC50 : >5000 mg/l, 96 hrs (oncorhynchus mykiss)		EC 50 : >1000 mg/l, 48 hrs (Daphnia magna)
Petroleum distillate , hydrotreated heavy naphthenic 64742-54-7		LC50 : >5000 mg/l, 96 hrs (oncorhynchus mykiss)		EC 50 : >1000 mg/l, 48 hrs (Daphnia magna)

Persistence and Degradability: No information available.

Bioaccumulation: No information available.

Other Adverse Effects: No information available

SECTION 13: DISPOSAL INFORMATION

13.1 Waste treatment methods

Product disposal

Try to minimize the product waste by using best applicable practices. It is the responsibility of the waste generator to evaluate the waste classification and appropriate disposal methodology in accordance with the applicable regulation. Do not dispose in to environment, in drain or in river / ponds / water reservoirs.

Container disposal

To be disposed in accordance with local prevailing and allowable regulations.

SECTION 14: TRANSPORT INFORMATION

	Bulk shipping	Non-bulk shipping	Identification #	Hazardous class
US DOT	Not required	Not required	Not required	Not required
Canadian TDG	Not required	Not required	Not required	Not required
European	Not required	Not required	Not required	Not required
ADR, IMDG, IATA-DGR	Not classified as hazardous product for land, sea and air transport			

SECTION 15: REGULATORY INFORMATION

Legend



TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/ NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

OSHA Hazard Communication Standard: This material is not considered hazardous in accordance with OSHA HAzCom 2012, 29 CFR 1910.1200.

U.S. Federal Regulations

Section 313 of Title III ,of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard: Yes
Chronic Health Hazard: Yes
Fire Hazard: No
Sudden Release of Pressure Hazard: No
Reactive Hazard; No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42

Chemical Name	CWA-Reportable quantities	CWA – Toxic pollutants	CWA- Priority Pollutants	CWA – Hazardous Substances
Antimony, tris(diphenylcarbamodithioato-S,S')-, (OC-6-11)-		x		

CERCLA :

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). However , there may possibly be specific reporting requirements at the county , regional, or state level related to releases of this material.

U.S. State Regulations:

California Proposition 65

This product does not contain the following Proposition 65 chemicals:

U.S. State Right-to-Know Regulations

"X" designates that the ingredients are listed on the state right to know list

Chemical Name	New Jersey	Pennsylvania	Massachusetts	Illinois	Rhode Island
Petroleum distillate , hydrotreated heavy naphthenic 64742-52-5				x	
Petroleum distillate , hydrotreated heavy naphthenic 64742-54-7				x	



Molybdenum (IV) Sulfide			x		
Graphite	X	X	X		x

U.S. EPA Label Information:

EPA Pesticide Registration Number : Not applicable

International Inventories:

WHMIS: This product is not a controlled product.

Canadian NPRI: none of the components are listed

CEPA toxic substance: none of the components are listed

Europe (EINECS/ELINCS/NLP) : All components are listed or exempted from EU listing requirements

.Australia Inventory (AICS) : All components are listed or exempted

China Inventory (IECSC) : All components are listed or exempted

Japan Inventory: All components are listed or exempted

Korea Inventory: All components are listed or exempted

Malaysia Inventory (EHS Register) : Not determined

New Zealand inventory of Chemicals (NZIoC) : All components are listed or exempted

Philippines Inventory (PICCS) : All components are listed or exempted

SECTION 16: OTHER INFORMATION

	NFPA	HMIS	KEY
Health	2	2	0 = Minimal
Flammability	0	0	1 = slight
Instability	0	0	2 = Moderate
Physical & Hazard	-	0	3 = Serious

This safety data sheet contains the following revisions:

Revision Date: November 24, 2015

Supersedes: NIL

Prepared by: Riverside Laboratories

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