Material Safety Data Sheet

Rock Drill Oils 10R/30R

1. Product and company identification

Product name : Rock Drill Oils 10R/30R

Material uses : Petroleum lubricating oil

Supplier/Manufacturer : LUBRIPLATE® Lubricants Co.
129 Lockwood St.
Newark, NJ 07105
Telephone no.: 1-973-589-9150

Validation date : 7/31/2013.

Prepared by : IHS

In case of emergency : CHEM-TEL 1-800-255-3924 (24 hour)

2. Hazards identification

Physical state : Liquid. [oil (Transparent)]

Color : Amber.

Odor : Mineral oil.

Emergency overview

Signal word : CAUTION!

Hazard statements : MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. HARMFUL OR FATAL IF SWALLOWED. CAN ENTER LUNGS AND CAUSE DAMAGE. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. CANCER HAZARD - CAN CAUSE CANCER.

Precautions : Avoid exposure - obtain special instructions before use. Do not breathe vapor or mist. Do not ingest. Do not get on skin or clothing. Avoid contact with eyes. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation : Slightly irritating to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : Aspiration hazard if swallowed. Can enter lungs and cause damage.

Skin : Slightly irritating to the skin.

Eyes : Slightly irritating to the eyes.

Potential chronic health effects

Chronic effects : Contains material that may cause target organ damage, based on animal data. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity : Can cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

2. Hazards identification

Fertility effects : No known significant effects or critical hazards.

Target organs : Contains material which may cause damage to the following organs: lungs, upper respiratory tract, skin, eyes.

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Skin : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Eyes : Adverse symptoms may include the following:
irritation
watering
redness

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

3. Composition/information on ingredients

United States

Name	CAS number	%
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	60-100
Distillates (petroleum), hydrotreated light paraffinic	64742-55-8	60-100
Residual oils (petroleum), solvent-dewaxed	64742-62-7	10-30
Paraffin waxes and Hydrocarbon waxes, chloro	63449-39-8	1-5

Canada

Name	CAS number	%
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	60-100
Distillates (petroleum), hydrotreated light paraffinic	64742-55-8	60-100
Residual oils (petroleum), solvent-dewaxed	64742-62-7	10-30
Paraffin waxes and Hydrocarbon waxes, chloro	63449-39-8	1-5

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds
carbonyl halides
sulfur oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

6. Accidental release measures

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not get in eyes or on skin or clothing. Do not swallow. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

United States

Ingredient	Exposure limits
Distillates (petroleum), hydrotreated heavy paraffinic	**ACGIH TLV (United States, 3/2012).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 1/2013).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist **ACGIH TLV (United States, 1/2012).** TWA: 5 mg/m³ 8 hours. Form: Mist **OSHA PEL (United States, 6/2010).** TWA: 5 mg/m³ 8 hours.
Distillates (petroleum), hydrotreated light paraffinic	**ACGIH TLV (United States, 3/2012).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 1/2013).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist **OSHA PEL (United States, 6/2010).** TWA: 5 mg/m³ 8 hours.
Residual oils (petroleum), solvent-dewaxed	**ACGIH TLV (United States, 3/2012).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 1/2013).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist **OSHA PEL (United States, 6/2010).** TWA: 5 mg/m³ 8 hours.

Canada

8. Exposure controls/personal protection

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	**List name**	**ppm**	**mg/m³**	**Other**	**ppm**	**mg/m³**	**Other**	**ppm**	**mg/m³**	**Other**	**Notations**
Distillates (petroleum), hydrotreated heavy paraffinic	US ACGIH 3/2012	-	5	-	-	-	-	-	-	-	[a]
	US ACGIH 1/2012	-	5	-	-	-	-	-	-	-	[b]
	AB 4/2009	-	5	-	-	10	-	-	-	-	[b]
	ON 1/2013	-	5	-	-	10	-	-	-	-	[c]
	QC 12/2012	-	5	-	-	10	-	-	-	-	[c]
Distillates (petroleum), hydrotreated light paraffinic	US ACGIH 3/2012	-	5	-	-	-	-	-	-	-	[a]
	AB 4/2009	-	5	-	-	10	-	-	-	-	[b]
	ON 1/2013	-	5	-	-	10	-	-	-	-	[c]
	QC 12/2012	-	5	-	-	10	-	-	-	-	[c]
Residual oils (petroleum), solvent-dewaxed	US ACGIH 3/2012	-	5	-	-	-	-	-	-	-	[a]
	AB 4/2009	-	5	-	-	10	-	-	-	-	[b]
	ON 1/2013	-	5	-	-	10	-	-	-	-	[c]
	QC 12/2012	-	5	-	-	10	-	-	-	-	[c]

Form: [a]Inhalable fraction [b]Mist [c]mist

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Engineering measures : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

8. Exposure controls/personal protection

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

Physical state : Liquid. [oil (Transparent)]

Flash point : Open cup: 216 to 221°C (420.8 to 429.8°F) [Cleveland.]

Auto-ignition temperature : 230 to 249°C (446 to 480.2°F)

Flammable limits : Lower: 0.9%
Upper: 7%

Color : Amber.

Odor : Mineral oil.

pH : Not available.

Boiling/condensation point : >288°C (>550.4°F)

Melting/freezing point : -34 to -21°C (-29.2 to -5.8°F)

Relative density : 0.87 to 0.89

Density : Not available.

Vapor pressure : <0.0013 kPa (<0.01 mm Hg)

Vapor density : >5 [Air = 1]

Odor threshold : Not available.

Evaporation rate : <0.01 (butyl acetate = 1)

Viscosity : Kinematic (40°C (104°F)): 0.36 to 1.04 cm^2/s (36 to 104 cSt)

Solubility : Insoluble in the following materials: cold water and hot water.

$LogK_{ow}$: Not available.

Physical/chemical properties comments : Kinematic viscosity (100°C (212°F)): 0.06 to 0.12 cm^2/s (6 to12 cSt)

10. Stability and reactivity

Chemical stability : The product is stable.

Conditions to avoid : Keep away from heat, sparks and flame. Keep away from all sources of ignition.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials.
Chlorine

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Paraffin waxes and Hydrocarbon waxes, chloro	LD50 Oral	Rat	26100 mg/kg	-
Distillates (petroleum), hydrotreated light paraffinic	LC50 Inhalation Dusts and mists	Rat - Male, Female	>5.53 mg/l (IP 346 <3%)	4 hours

Chronic toxicity

Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Paraffin waxes and Hydrocarbon waxes, chloro	Eyes - Mild irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rat	-	24 hours 100 milligrams	-

Sensitizer

Not available.

Carcinogenicity

Conclusion/Summary : The mineral oils in the product contain < 3% DMSO extract (IP 346).

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Distillates (petroleum), hydrotreated heavy paraffinic	A4	-	-	-	-	-
Distillates (petroleum), hydrotreated light paraffinic	A4	-	-	-	-	-
Residual oils (petroleum), solvent-dewaxed	A4	-	-	-	-	-
Paraffin waxes and Hydrocarbon waxes, chloro	-	2B	-	-	-	-

Mutagenicity

Not available.

Teratogenicity

Not available.

Reproductive toxicity

Not available.

12. Ecological information

Ecotoxicity : This material is very toxic to aquatic life with long lasting effects.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Paraffin waxes and Hydrocarbon waxes, chloro	Acute LC50 0.06 mg/l Fresh water	Fish - Oncorhynchus mykiss - Yolk-sac fry	96 hours

Persistence/degradability

12. Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
Residual oils (petroleum), solvent-dewaxed	OECD 301B Ready Biodegradability - CO_2 Evolution Test	6 % - 28 days	-	-

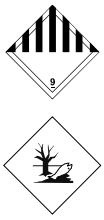
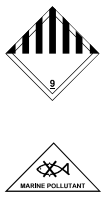
13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

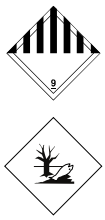
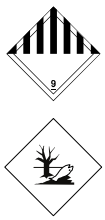
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN3082	Environmentally hazardous substance, liquid, n.o.s. (Paraffin waxes and Hydrocarbon waxes, chloro). Marine pollutant (Paraffin waxes and Hydrocarbon waxes, chloro)	9	III		**Limited quantity** Yes. **Special provisions** 8, 146, 173, 335, IB3, T4, TP1, TP29
TDG Classification	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Paraffin waxes and Hydrocarbon waxes, chloro). Marine pollutant (Paraffin waxes and Hydrocarbon waxes, chloro)	9	III		**Explosive Limit and Limited Quantity Index** 5 **Special provisions** 16

14. Transport information

IMDG Class	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Paraffin waxes and Hydrocarbon waxes, chloro). Marine pollutant (Paraffin waxes and Hydrocarbon waxes, chloro)	9	III		**Emergency schedules (EmS)** F-A, S-F
IATA-DGR Class	UN3082	Environmentally hazardous substance, liquid, n.o.s. (Paraffin waxes and Hydrocarbon waxes, chloro)	9	III		**Passenger and Cargo Aircraft**Quantity limitation: 450 L Packaging instructions: 964 **Cargo Aircraft Only** Quantity limitation: 450 L Packaging instructions: 964 **Limited Quantities - Passenger Aircraft**Quantity limitation: 30 kg Packaging instructions: Y964

PG* : Packing group

15. Regulatory information

United States

HCS Classification : Irritating material
Carcinogen
Target organ effects

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined
United States inventory (TSCA 8b): All components are listed or exempted.

SARA 302/304: No products were found.
SARA 311/312 Hazards identification: Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Air Act (CAA) 112 accidental release prevention: No products were found.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 313

15. Regulatory information

Form R - Reporting requirements Not applicable.

Supplier notification Not applicable.

State regulations

Massachusetts : The following components are listed: MINERAL OIL, PETROLEUM DISTILLATES, HYDROTREATED LIGHT PARAFFINIC

New York : None of the components are listed.

New Jersey : The following components are listed: MINERAL OIL (HIGHLY REFINED); OIL MIST, MINERAL; MINERAL OIL (HIGHLY REFINED); OIL MIST, MINERAL; MINERAL OIL (HIGHLY REFINED); OIL MIST, MINERAL

Pennsylvania : None of the components are listed.

California Prop. 65

None of the components are listed.

Canada

WHMIS (Canada) : Class D-2A: Material causing other toxic effects (Very toxic).

Canadian lists

Canadian NPRI : The following components are listed: Alkanes, C10-13, chloro; Alkanes, C6-18, chloro

CEPA Toxic substances : None of the components are listed.

Canada inventory : All components are listed or exempted.

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

International regulations

International lists : **Australia inventory (AICS)**: All components are listed or exempted.
China inventory (IECSC): Not determined.
Japan inventory: Not determined.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): Not determined.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan inventory (CSNN): Not determined.

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

16. Other information

Label requirements : MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. HARMFUL OR FATAL IF SWALLOWED. CAN ENTER LUNGS AND CAUSE DAMAGE. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. CANCER HAZARD - CAN CAUSE CANCER.

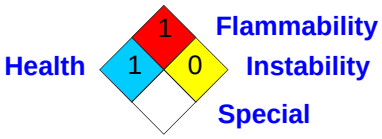
Hazardous Material Information System (U.S.A.) :

Health	*	1
Flammability		1
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :



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Date of issue : 7/31/2013.

Date of previous issue : No previous validation.

Version : 1

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.