



MATERIAL SAFETY DATA SHEET

Dakota R&O 100; 0009
MSDS PREPARATION DATE: 12/16/12

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Information

Product Name: Choice R&O 100
Product Description: Premium R&O Turbine Oil
Intended Use: Turbine Oil
Product Code: 0009

Company Identification

Supplier: Dakota Lubricants
Energy Park Dr,
St. Paul, MN 55108

Supplier General Contact Number: 1-800-437-1802
Emergency Number: Chemtrec 1-800-424-9300

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Component Name:	CAS#:	% Volume:	ACGIH TLV	ACGIH STEL	OSHA PEL
Additives	Mixture	<2.0	Not available	Not available	Not available
Lubricant Base oil (Petroleum)	Mixture	>98	See Oil Mist, if Generated	See Oil Mist, if Generated	See Oil Mist, if Generated
Oil Mist, If Generated	None	N/A	5 mg/m3, 8 hr. TWA	10 mg/m3, 8 hr. TWA	5 mg/m3, 8 hr. TWA

The base oil for this product can be a mixture of any of the following highly refined petroleum streams:
64741-88-4,64742-01-4,64742-54-7,64742-65-0,64742-47-8,8042-47-5,64742-46-7,64742-52-5,64742-54-7,72623-84-8,72623-85-9,72623-86-0,72623-87-1,178603-63-9,178603-64-0,178603-65-1,178603-66-2,68037-01-4, 151006-63-2

Note: State, local, or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information. All components are listed on the TSCA inventory.

SECTION 3: HAZARDS IDENTIFICATION

Emergency Overview: Oily Liquid with Hydrocarbon Odor. Can cause eye irritation. Can burn in fire, releasing toxic vapors, gases and fumes. Extremely slippery when spilled.

Eye: Contact may cause mild eye irritation including stinging, watering, and redness.

Skin: Contact may cause mild skin irritation including redness, and a burning sensation. Prolonged or repeated contact can worsen irritation by causing drying and cracking of the skin leading to dermatitis(inflammation). No harmful effects from skin absorption are expected.

Ingestion: No harmful effects expected from ingestion.

Inhalation: No information available. Studies by other exposure routes suggest a low degree of toxicity by inhalation.

Chronic Effects: Effects of overexposure may include irritation of the nose and throat, irritation of the digestive tract, nausea and diarrhea.



Potential Environmental Effects: See Ecological Information, See Section 12.

NFPA RATINGS	Health	1	Flammability	1	Reactivity	0
HMS RATINGS	Health	1	Flammability	1	Reactivity	0

SECTION 4: FIRST AID MEASURES

- Eye:** If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. If symptoms persist, seek medical attention.
- Skin:** Wipe material from skin and remove contaminated shoes and clothing. Cleanse affected area(s) thoroughly by washing with mild soap and water and, if necessary, a waterless skin cleanser. If irritation or redness develops and persists, seek medical attention.
- Inhalation:** If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.
- Ingestion:** First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.
- Note to Physicians:** High pressure hydrocarbon injection injuries may produce a substantial necrosis of underlying tissue despite an innocuous appearing external wound. Often these injuries require extensive emergency surgical debridement and all injuries should be evaluated by a specialist in order to assess the extent of the injury. Acute aspirations of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term effects. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

SECTION 5: FIRE FIGHTING MEASURES

- Flash Point:** >220C-D92 **LEL/UEL %** No Data **Auto Igniton Temperature:** No Data
- OSHA Flammability Class:** Not applicable
- Extinguishing Media:** Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212F. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.
- Fire Fighting Instructions:** For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant(see Section 8). Isolate immediate hazard area, keep unauthorized personnel out. Stop spill release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment



exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

Fire and Explosion Hazards: This material may burn, but will not ignite readily. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release. Stay upwind and away from spill/release. Notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant(see Section 8). Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Dike far ahead of spill for later recovery or disposal. Spilled material may be absorbed into an appropriate absorbent material. Notify fire authorities and appropriate federal, state and local agencies. Immediate cleanup of any spill is recommended. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center(phone number 800-424-8802).

SECTION 7: HANDLING AND STORAGE

Handling: Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits(See Section 2 and 8).

Do not wear contaminated clothing or shoes. Use good personal hygiene practices.

High pressure injection of hydrocarbon fuels, hydraulic oils or greases under the skin may have serious consequences even though no symptoms or injury may be apparent. This can happen accidentally when using high pressure equipment such as high pressure grease guns, fuel injection apparatus or from pinhole leaks in tubing of high pressure hydraulic oil equipment.

Empty containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. Empty drums should be completely drained, properly bunged, and promptly shipped to the supplier or drum reconitioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1 and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

Storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat and all sources of ignition. Storage temperatures above 113F may lead to thermal decomposition, resulting in the generation



of hydrogen sulfide and other sulfur containing gases. Store only in approved containers. Keep away from any incompatible material(see Section 10). Protect container(s) against physical damage. NFPA Class IIIB storage. Flash Point is greater than 200 deegrees F.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering Controls:** If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits(see Section 2), additional ventilation of exhaust system may be required.
- Other Protective Equipment:** A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.
- Eye/Face:** Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.
- Skin:** No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile rubber, Silver Shield, Viton.
- Respiratory:** A NIOSH certified air purifying respirator with a Type 95(R or P) particulate filter may be used under conditions where airborne concentrations are expected to exceed exposure limits(see Section 2).
- General Hygiene Considerations:** There are no known hazards associated with this material when used as recommended. The following general hygiene considerations are recognized as common good industrial hygiene practices: avoid breathing vapor or mist, avoid contact with eyes and skin, wash thoroughly after handling and before eating or drinking.
- Exposure Guidelines:** See Section 2, Composition/Information on Ingredients.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

NOTE: Unless otherwise stated, values are determined at 20C(68F) and 760mm Hg(1 atm)

- Appearance:** Yellow
- Solubility in Water:** Not soluble
- Odor:** Characteristic Petroleum
- Flash Point:** >220C-D92
- Physical State:** Liquid
- Flammable/Explosive Limits(%):** Not determined
- pH:** Not applicable
- Vapor Pressure(mm Hg):** Not determined



Vapor Density(air=1):	Not determined
Boiling Point/Range:	Not determined
Freezing/Melting Point:	Not applicable

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Conditions to Avoid: Extended exposure to high temperatures can cause decomposition.

Materials to Avoid(Incompatible Materials): Avoid contact with strong oxidizing agents.

Hazardous Decomposition Products: Combustion can yield aldehydes, carbon and nitrogen compounds.

Hazardous Polymerization: Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

Carcinogenicity: The petroleum base oils contained in this product have been highly refined by a variety of processes including solvent extraction, hydrotreating, and dewaxing to remove aromatics and improve performance characteristic. None of the oils used are listed as a carcinogen by NTP, IARC, or OSHA.

SECTION 12: ECOLOGICAL INFORMATION

Ecological Information: Not Evaluated at this Time

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal Consideration: This material under most intended uses would become used oil due to contamination by physical or chemical impurities. RECYCLE ALL USED OIL. While being recycled, used oil is regulated by 40 CFR 279. Use resulting in chemical or physical change or contamination may also subject it to regulation as hazardous waste. Under federal regulations, used oil is a solid waste managed under 40 CFR 279. However, in California, used oil is managed as hazardous waste until tested to show it is not hazardous. Consult state and local regulations regarding the proper handling of used oil. In the case of used oil, the intent to discard it may cause the used oil to be regulated as hazardous waste.

SECTION 14: TRANSPORT INFORMATION

Note: Not classified as hazardous

SECTION 15: REGULATORY INFORMATION

OSHA Hazard Determination: This material is not known to be hazardous as defined by OSHA's Hazard Communication Standard, 29 CFR 1910.1200.



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- TSCA Inventory:** All of the components of this material are listed on the Toxic Chemical Substances Inventor. This product is in compliance with Toxic Substances Control Act(TSCA).
- CERCLA(RQ) :** This product is not subject to CERCLA reporting requirements.
- SARA 311/312:**
Acute Health: No
Chronic Health: No
Fire Hazard: No
Pressure Hazard: No
Reactive Hazard: No
- SARA 302/304:** There are no components in this product on the SARA 302/304 list.
- SARA 313, Toxic Component(s):** This product does not contain >1.0 %(greater than 0.1% for Carcinogenic substance) of any chemical substances listed under SARA Section 313.
- California Prop 65:** **Warning:** This material contains the following chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm, and are subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5): -- None Known -- Used engine oils, while not a component of this material, is on the Proposition 65 list of chemicals known to the State of California to cause cancer.

SECTION 16: OTHER INFORMATION

Disclaimer:

The information and recommendations contained within this document are believed by Dakota Lubricants to be accurate and reliable as of the date prepared. The information and recommendations are offered for the user's consideration and analysis and in no way guarantee the chemical specifications for the specified product. It is solely the responsibility of the user to determine safe conditions for use of this product and to assume liability for any loss, damage or expense arising out of the product's improper use. The user should consider the information in this document in the context of how the selected product will be handled and used in conjunction with other products. It is the user's responsibility to determine that the product is suitable for the intended use.

Appropriate warnings and safe-handling procedures should be provided to all handlers and users. Dakota Lubricants assumes no responsibility for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices within this document.