



Aceite para maquina tipo RandO

APLICACIONES

Aceite de tipo RandO para partes móviles

- ◆ **CIRKAN RO** son aceites minerales, contienen aditivos y viscosidades apropiadas para la lubricación de partes móviles operando bajo condiciones severas de temperatura.
 - Grados de fluidos: sistemas operando en alta velocidad; maquinaria textil, maquinas y herramientas y circuitos hidráulicos que requieran un aceite de categoría HL.
 - Grados de viscosidad: lubricación de rodamientos y engranes que no requieran propiedades de extrema presión.

PROPIEDADES

Especificaciones internacionales

- ◆ ISO 6743/4 categoría HL
- ◆ ISO 6743/6 categoría CKB
- ◆ ISO 11158 categoría HL
- ◆ ISO 12925-1 categoría CKB

Fabricantes

VENTAJAS

- ◆ Alto índice de viscosidad natural
- ◆ Buena compatibilidad con sello
- ◆ Buenas propiedades demulsificantes
- ◆ Excelente anti espumante, anti corrosión y propiedades anti oxidantes.

CIRKAN RO



Lubricación



TOTAL

CARACTERISTICAS

CARACTERISTICAS	METODO	CIRKAN RO							
		32	46	68	100	150	220	320	320
Densidad a 15°C, kg/m3	ISO 3675	876	881	887	891	895	897	899	903
Viscosidad a 40°C, cSt	ISO 3104	32.30	46.30	67.70	100.00	150.00	212.70	310.90	429.50
Viscosidad a 100 °C, cSt	ISO 3104	5.44	6.81	8.75	11.6	14.44	18.36	23.3	28.93
Indice de viscosidad	ISO 2909	102	101	101	94	94	95	94	94
Punto de inflamación (COC), °C	ISO 2592	228	234	250	266	288	276	290	312
Punto de escurrimiento, °C	ISO 3016	-30	-27	-21	-21	-21	-21	-21	-15

Los valores típicos mostrados representan un promedio de resultados

CIRKAN RO_V28112014

Total México S.A de C.V

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MATERIAL SAFETY DATA SHEET

TOTAL Specialties USA, Inc.. 5 N. Stiles Street, Linden NJ 07036
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Product CIRKAN RO SERIES
ORIGINAL ISSUE May 10-2010
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IDENTIFICATION AND EMERGENCY INFORMATION

PRODUCT NAME:	PRODUCT #:
CIRKAN RO SERIES (ISO 5 to 460)	
CHEMICAL NAME:	CAS #'S:
Petroleum-based lubricating oil	Mixture
PRODUCT APPEARANCE AND ODOR:	CHEMICAL FAMILY:
Amber liquid, petroleum odor	Petroleum hydrocarbon
SYNONYMS:	EMERGENCY TELEPHONE:
Petroleum-based R&O hydraulic oil	1-800-442-5823 or 1-908-862-9300

COMPONENTS AND HAZARD INFORMATION

COMPONENTS:	W/W	HAZARD DATA (TLV, LD50, LC50, ETC.):
Petroleum based lubricating oil CAS# 64742-54-7, 64742-65-0, 64741-89-5, 64741-88-4*		5 mg/m ³ TWA (OSHA, ACGIH) (as an oil mist)

*** Paraffinic base oil used are not limited to but include these CAS numbers.**

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS):

Health	Flammability	Reactivity
1	1	0

TRANSPORTATION INFORMATION

TRANSPORTATION/SHIPPING INFORMATION:

Department of Transportation (DOT): Not regulated

EMERGENCY FIRST AID

EYE CONTACT:

If splashed into the eyes, flush with clear water for 15 minutes or until irritation subsides. If irritation persists, call a physician.

SKIN CONTACT:

As with all petroleum products, if this product contacts skin, wash affected area thoroughly with soap and water to prevent irritations from occurring. Oil soaked clothing should be removed and laundered frequently to minimize skin contact with product. Prolonged contact with skin may cause irritation.

INHALATION:

Vapor pressure is very low. Vapor inhalation under ambient conditions is normally not a problem. If overcome by vapor from hot product, immediately remove from exposure and call a physician. If breathing is irregular or has stopped, start resuscitation; administer oxygen if available. If overexposure to oil mist, remove from further exposure until excessive oil mist condition subsides.

INGESTION:

If ingested, do not induce vomiting. Call a physician immediately.

FIRE AND EXPLOSION HAZARD INFORMATION

FLASH POINT (MINIMUM):
365°F Test method: COC

AUTOIGNITION TEMPERATURE:
N/E

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) - HAZARD IDENTIFICATION:

Health	Flammability	Reactivity
1	1	0

FLAMMABLE OR EXPLOSIVE LIMITS (approximate percent by volume in air):
Estimated values: lower: N/E upper: N/E

EXTINGUISHING MEDIA AND FIRE FIGHTING PROCEDURES:

Foam, water spray (fog), dry chemical, carbon dioxide and vaporizing liquid type extinguishing agents may all be suitable for extinguishing fires involving this type product, depending on size or potential size of fire and circumstances related to the situation. Water froth may be used to flush spills away from exposure. Minimize breathing gases, vapor, fumes, smoke, or decomposition products. Use supplied-air breathing equipment for enclosed or confined spaces or as otherwise needed.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

n/a

"EMPTY" CONTAINER WARNING:

Empty containers retain residue (liquid or vapor) and can be dangerous. DO NOT PRESSURIZE, WELD, CUT 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. Do not attempt to clean since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged, and returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with government regulations.

HEALTH AND HAZARD INFORMATION

EXPOSURE LIMIT FOR TOTAL PRODUCT: Monitor data listed in the Components and Hazard Information section.

VARIABILITY AMONG INDIVIDUALS:

Health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which vary from person to person. As a precaution, exposure to liquids, vapors, mists, or fumes should be minimized.

EFFECTS OF OVEREXPOSURE (Signs and symptoms of exposure):

Prolonged or repeated skin contact with this product tends to remove skin oils possibly leading to irritation and dermatitis.

Product contacting the eye may cause irritation.

Product has a low order of oral and dermal toxicity.

Possible aspiration hazard.

Induced vomiting may cause aspiration of product into the lungs.
(See Emergency First Aid Section).

PHYSICAL DATA

The following data are approximate or typical values and should not be used for precise design purposes.

BOILING RANGE:
Wide range

VAPOR PRESSURE:
< 0.1 @ 38°C/100°F

SPECIFIC GRAVITY (25°C/25°C):
(WATER = 1)

VAPOR DENSITY (AIR = 1):
> 8

< 1.0

MOLECULAR WEIGHT:
Wide range

PERCENT VOLATILE BY VOLUME:
Negligible

EVAPORATION RATE @ 1 ATM. AND 25°C
(77°F) (n-BUTYL ACETATE = 1):
< 1.0

SOLUBILITY IN WATER @ 1 ATM. and 25°C
(77°F):
Negligible

POUR, CONGEALING OR MELTING POINT:
n/e

FREEZING POINT:
n/e

REACTIVITY

This product is stable and will NOT react violently with water. Hazardous polymerization will not occur. Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite or calcium hypochlorite.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS:

Fumes, smoke, carbon monoxide and other decomposition products, in case of incomplete combustion.

CONDITIONS TO AVOID:

Open flames.

TOXICITY

ORAL (Acute)	N/E
DERMAL (Acute)	N/E
EYE	N/E
INHALATION (Acute)	N/E

CHRONIC, SUBCHRONIC, ETC. N/E

Medical Conditions Aggravated by Exposure: Unknown

This product does NOT contain any ingredients identified as carcinogenic by IARC, NTP, or OSHA.

SARA Section 313 Status: This material is not known to contain any chemicals on the SARA Section 313 list at a concentration greater than 1.0 percent or carcinogenic chemical on that list at a concentration greater than 0.1 percent.

SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Keep product out of sewers and watercourses by diking or impounding. Absorb with sand or inert material. Sweep or scoop up and remove. Prevent spread of spill. Advise authorities if product has entered or may enter sewers, watercourses or extensive land areas. Assure conformity with local regulations.

WASTE DISPOSAL METHOD: (Consult federal, state, or local authorities for proper disposal procedures.) Assure conformity with applicable disposal regulations. Dispose of absorbed material at an approved waste site or facility.

PROTECTION AND PRECAUTIONS

VENTILATION: (Always maintain below permissible exposure limits.) Use local exhaust to capture vapor, mist or fumes, if necessary. Provide ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air. No smoking, or use of flame or other ignition source

RESPIRATORY PROTECTION: (Use only NIOSH approved equipment.)

Normally not needed at ambient temperatures. Use supplied air respiratory protection in confined or enclosed spaces, if needed. Use filter, dust, fume, or mist respirator type under misting conditions. Use can or cartridge; gas or vapor respirator type under conditions exceeding TWA standard.

PROTECTIVE GLOVES:

Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.

EYE PROTECTION:

Use splash goggles or face shield when eye contact may occur.

OTHER PROTECTIVE EQUIPMENT:

Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing which could result in prolonged or repeated skin contact.

WORK PRACTICES/ENGINEERING CONTROLS:

Keep containers closed when not in use. Do not handle near heat, sparks, flame, or strong oxidants.

PERSONAL HYGIENE:

Minimize breathing vapor, mist, or fumes. Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry-clean before reuse. Remove contaminated shoes and thoroughly clean before reuse; discard if oil-soaked. Cleanse skin thoroughly after contact, before breaks and meals, and at end of work period. Product is readily removed from skin by waterless hand cleaners followed by washing thoroughly with soap and water.

OTHER REGULATORY INFORMATION

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

TSCA Inventory: All of the components of this material are listed on the Toxic Chemical Substances Inventory. This product is in compliance with the Toxic Substances control Act (TSCA).

SARA SECTION 311 - HAZARD CATEGORIES:

This product may meet one or more of the criteria for the hazard categories defined in 40 CFR Part 370 as established be Sections 311 and 312 of SARA as indicated below:

NO	IMMEDIATE (ACUTE) HEALTH HAZARD	NO	SUDDEN RELEASE OF PRESSURE HAZARD
NO	DELAYED (CHRONIC) HEALTH HAZARD	NO	REACTIVE HAZARD
NO	FIRE HAZARD		

SARA 302/304: There are no components in this product on the SARA 302/304 list.

SARA SECTION 313 - TOXIC COMPONENTS: This product does not contain >1.0% (greater than 0.1% for carcinogenic substance) of any chemical substances listed under SARA Section 313.

CLEAN WATER ACT (CWA):

Under the CWA, discharges of fluids to surface water without proper Federal and State permits must be reported immediately to the National Response Center at (800) 424-8802.

CERCLA HAZARDOUS SUBSTANCES:

As defined by CERCLA, the term "hazardous substance" does not include any ingredients or fraction thereof, which is not otherwise specifically listed or designated as a hazardous substance.

CALIFORNIA PROPOSITION 65

This product contains no ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute.

NEW JERSEY RIGHT-TO-KNOW LABEL

Mineral oil

WHMIS CLASSIFICATION

This product is not a WHMIS controlled substance.

PREPARED BY: Alan Denniston

Technical Services

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