

MATERIAL SAFETY DATA SHEET FOR HFC REFRIGERATION OIL SERIES

TOTAL Lubricants USA Southwest
 400 Chisholm Place, Suite 418
 Plano, Texas 75075

TOTAL Lubricants USA, Inc.
 5 N. Stiles Street
 Linden NJ 07036

REVISION DATE
 N/A

DATE ISSUED
 1-July-2009

IDENTIFICATION AND EMERGENCY INFORMATION

PRODUCT NAME: HFC REFRIGERATION OIL (ISO 32 to 100) PRODUCT #: 1-46261 to 1-46263
 CHEMICAL NAME: Polyolester lubricating oil CAS #'S: Mixture
 PRODUCT APPEARANCE AND ODOR: Yellow liquid, low odor CHEMICAL FAMILY: NA
 SYNONYMS: Synthetic Refrigeration Oil EMERGENCY TELEPHONE: 1-800-442-5823 or 1-908-862-9300

COMPONENTS AND HAZARD INFORMATION

COMPONENTS	CAS NO.	%	HAZARD DATA
1) Fatty acid dimethylolpropane ester	57675-44-2	96-98	*
2) Proprietary ingredients	Proprietary	2-4	

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.

MATERIAL SAFETY DATA SHEET FOR HFC REFRIGERATION OIL SERIES

TOTAL Lubricants USA Southwest
400 Chisholm Place, Suite 418
Plano, Texas 75075

TOTAL Lubricants USA, Inc.
5 N. Stiles Street
Linden NJ 07036

REVISION DATE
N/A

DATE ISSUED
1-July-2009

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
0	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:
>200 C (392 F)

VAPOR PRESSURE:
< 0.001 @ 38°C/100°F

MATERIAL SAFETY DATA SHEET FOR HFC REFRIGERATION OIL SERIES

TOTAL Lubricants USA Southwest
400 Chisholm Place, Suite 418
Plano, Texas 75075

TOTAL Lubricants USA, Inc.
5 N. Stiles Street
Linden NJ 07036

REVISION DATE
N/A

DATE ISSUED
1-July-2009

SPECIFIC GRAVITY (25°C/25°C):
(WATER = 1)
0.91

VAPOR DENSITY (AIR = 1):
> 1

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:
<-60 F

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:

CO₂, CO, smoke, fumes, unburned hydrocarbons and trace oxides of sulfur, nitrogen and phosphorus

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.

MATERIAL SAFETY DATA SHEET FOR HFC REFRIGERATION OIL SERIES

TOTAL Lubricants USA Southwest
 400 Chisholm Place, Suite 418
 Plano, Texas 75075

TOTAL Lubricants USA, Inc.
 5 N. Stiles Street
 Linden NJ 07036

REVISION DATE
 N/A

DATE ISSUED
 1-July-2009

 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.

 REGULATORY INFORMATION

SARA SECTION 313 - TOXIC CHEMICALS:

This product does not contain toxic chemicals under SARA Section 313 and 40 CFR Part 372.

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 by 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 SECTION 302 - EXTREMELY HAZARDOUS WASTE:

This product is not known to contain any components in concentrations greater

MATERIAL SAFETY DATA SHEET FOR HFC REFRIGERATION OIL SERIES

TOTAL Lubricants USA Southwest
400 Chisholm Place, Suite 418
Plano, Texas 75075

TOTAL Lubricants USA, Inc.
5 N. Stiles Street
Linden NJ 07036

REVISION DATE
N/A

DATE ISSUED
1-July-2009

than one percent that are listed as Extremely Hazardous Substances in 40 CFR Part 355 pursuant to the requirements of Section 302(a) of SARA.

CLEAN WATER ACT (CWA):

Under the CWA, discharges of crude oil and petroleum products 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 petroleum, including crude oil or any fraction thereof, which is not otherwise specifically listed or designated as a hazardous substance.

U.S. TSCA INVENTORY

All components of this material are listed on the U.S. TSCA Inventory.

CALIFORNIA PROPOSITION 65

This product is not known to contain any components for which the State of California has found to cause cancer, birth defects or other reproductive harm.

NEW JERSEY RIGHT-TO-KNOW LABEL

Lubricating oil (polyolester)

PREPARED BY: Alan Denniston

VP PRODUCT MANAGEMENT

THE ABOVE INFORMATION IS ACCURATE TO THE BEST OF OUR KNOWLEDGE. HOWEVER, SINCE DATA, SAFETY STANDARDS, AND GOVERNMENT REGULATIONS ARE SUBJECT TO CHANGE AND THE CONDITIONS OF HANDLING AND USE, OR MISUSE BEYOND OUR CONTROL, SELLER MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. USER SHOULD SATISFY HIMSELF THAT HE HAS ALL CURRENT DATA RELEVANT TO HIS PARTICULAR USE.