SYNOLAN 1000

Lubricación

Aceite premium multipropósito sintético (PAO) libre de cenizas

APLICACIONES

Aceite sintético antidesgaste para todo tipo de partes móviles

Compresores, baleros, engranes y sistemas de circulación.

- **SYNOLAN 1000 OILS** Son aceites multipropositos sintéticos (PAO) libres de cenizas de circulación. Los cuales sobresalen en un rango amplio de aplicaciones incluyendo compresores de aire (grados de viscosidades especiales desde ISO 32 hasta ISO 150) baleros, cajas de engranes (grados de viscosidades especiales arriba de ISO 150) aceite para sistema de circulación, sistema de transferencia de calor y otros equipos trabajando en condiciones severas.

VENTAJAS

Larga vida del fluido

Alta fiabilidad de funcionamiento

- Excepcional estabilidad térmica y oxidación
- Excelente fluidez a baja temperatura para arranques fáciles en frio.
- Excelente separación de agua en alta o baja temperatura.
- Muy buena protección antidesgaste.
- Alto índice de viscosidad.
- Formula libre de cenizas, previene depósitos y mantiene líneas limpias.
- Excelente filtrabilidad.
- Rango de temperatura de operación -20°F a 450°F.
- Compatible con aceites minerales y muchos aceites sintéticos (diester, PAO, POE, etc.)

Total México S.A de C.V
Av. 8 de Julio 2462, Zona Industrial, CP 44940. Guadalajara, Jalisco, México
Conmutador. (0133) 3812-2300, Fax. (0133) 3810-6264
México (0155) 5311-3161 - Monterrey (0181) 8334-6381
www.total.com.mx

SYNOLAN 1000

Lubricación

CARACTERISTICA	METODO ASTM	SYNILA 1000 32	46	68	100	150
Grado ISO VG		32	46	68	100	150
Grado AGMA		-	1	2	3	4
Gravedad API	D-1298	35	36	33	32	30.8
Viscosidad a 40°C, cSt	D-445	30	42.3	69.5	106	150
Viscosidad a 100 °C, cSt	D-445	6	7.3	12.4	18	17.5
Indice de viscosidad	D-2270	148	136	180	189	128
Densidad a 60°F, lbs/gal	D-1298	7.08	7.04	7.15	7.19	7.26
Peso especifico a 60/60°F	D-1298	0.848	0.845	0.86	0.863	0.872
Punto de escurrimiento °F(°C)	D-97	-70(-57)	-70(-57)	-55(-48)	-45(-43)	-40(-40)
Punto de inflamación, °F(°C)	D-92	500(260)	530(277)	500(260)	500(260)	475(246)
Tiempo de separación del agua, min.	D-1401	15	15	45	45	-
Corrosión al cobre	D-130	1B	1B	1B	1B	1B
Desgaste 4 bolas diametro de marca mm.	D-2266	0.4	0.4	0.4	0.4	0.4

CARACTERISTICA	METODO ASTM	SYNOLAN 100 220	320	460	680	1000
Grado ISO VG		220	320	460	680	1000
Grado AGMA		5	6	7	8	8A
Gravedad API	D-1298	30.2	29.6	29.2	28.4	27.5
Viscosidad a 40°C, cSt	D-445	234.0	320.0	480.0	654.0	937.0
Viscosidad a 100 °C, cSt	D-445	23.7	29.1	38.4	55.3	68.0
Indice de viscosidad	D-2270	127	124	124	146	144
Densidad a 60°F, lbs/gal	D-1298	7.29	7.31	7.34	7.37	7.41
Peso especifico a 60/60°F	D-1298	0.875	0.878	0.875	0.885	0.890
Punto de escurrimiento, °F(°C)	D-97	-35(-37)	-30(-34)	-20(-29)	-30(-34)	-20(-29)
Punto de inflamación COC, °F(°C)	D-92	475(246)	470(243)	465(241)	520(271)	520(271)
Tiempo de separación del agua, min.	D-1401	30	30	30	30	-
Corrosión al cobre	D-130	1B	1B	1B	1B	1B
Desgaste 4 bolas diametro de marca mm.	D-2266	0.40	0.40	0.40	0.40	0.40

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Los valores típicos mostrados representan un promedio de resultados

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MATERIAL SAFETY DATA SHEET

TOTAL Specialties USA, Inc.. 5 N. Stiles Street, Linden NJ 07036
Phone 1-908-862-9300

Product SYNOLAN 1000 SERIES
ORIGINAL ISSUE May 10-2010
REVISION DATE Nov 4, 2013

IDENTIFICATION AND EMERGENCY INFORMATION

PRODUCT NAME:
SYNOLAN 1000 SERIES (all grades)
(ISO 32 to 1000)

PRODUCT #:

CHEMICAL NAME:
N/A - Mixture

CAS #'S:
Mixture

PRODUCT APPEARANCE AND ODOR:
Amber liquid, petroleum odor

CHEMICAL FAMILY:
Polyalpha olefin

SYNONYMS:
Synthetic R&O/Gear/Compressor oil

EMERGENCY TELEPHONE:
1-800-442-5823 or 1-908-862-9300

COMPONENTS AND HAZARD INFORMATION

COMPONENTS:	W/W HAZARD DATA (TLV, LD50, LC50, ETC.):
Proprietary synthetic fluid (primarily poly alpha olefin)	5 mg/m3 TWA (OSHA, ACGIH) (as an oil mist)
Proprietary additives	

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 l5 minutes or until irritation subsides. If irritation persists, call a physician.

SKIN CONTACT:
In case of skin contact, remove contaminated clothing and wash skin thoroughly with soap and water.

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): AUTOIGNITION TEMPERATURE:
202°C (395°F) Test method: COC 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. Plan fire protection and response strategy through consultation with local fire protection authorities or appropriate specialists.

The following procedures for this type of product are based on the recommendations in the National Fire Protection Association's "Fire Protection Guide on Hazardous Materials", Eighth Edition (1984):

Use water spray, dry chemical, foam, or carbon dioxide. Water or foam my cause frothing. Use water to keep fire-exposed containers cool. Water froth may be used to flush spills away form exposure. Minimize breathing gases, vapor, fumes, 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. For work on tanks refer to Occupational Safety and Health Administration regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

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)
< 1.0

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):
0.91

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 olymerization will not occur. Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite or calcium hypochlorite, etc., as this represents a serious explosion hazard.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS:
Fumes, smoke, carbon monoxide, oxides of sulfur, 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.

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
Synthetic chain oil

WHMIS CLASSIFICATION
This product is not a WHMIS controlled substance.

PREPARED BY: Alan Denniston	Technical Services

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.