TWINHYDO

MATERIAL SAFETY DATA SHEET

SECTION 1: CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT TRADE NAME : TWIN AW HYDRAULIC OIL 32, 46, 68, 100, 150, 220

PRIMARY APPLICATION: Hydraulic oil / general purpose lubricant
CAS NUMBER : Complex mixture
SYNONYMS : None
CHEMICAL FAMILY : Petroleum hydrocarbon oil plus multi-functional additives

MANUFACTURER: Twin Specialties Corp.
15 East Ridge Pike
Conshohocken, PA 19428

INFORMATION #: (610)834-7900 PREPARER : John Ballinger
EMERGENCY # : (800)255-3924 REVISION DATE: 1/1/11

SECTION 2: COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

All hazardous components of this product at a weight concentration of 1% or greater are listed below. (0.1% for carcinogens) THIS LIST IS CONFIDENTIAL AND IS NOT TO BE REPRODUCED.

COMPONENT / EXPOSURE LIMITS	CAS NUMBER	PERCENT
Distillates, solvent-refined heavy paraffinic	64741-88-4	70 - 100

OSHA: PEL = 5 mg/m3 (mist)
ACGIH: TLV = 5 mg/m3 (mist) STEL = 10 mg/m3 (mist)

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: May cause slight irritation of skin and/or eyes.

POTENTIAL HEALTH EFFECTS:

PRIMARY ROUTES OF EXPOSURE - INHALATION: No
SKIN : Yes
EYE : No
INGESTION : No

INHALATION: No acute effects expected. Vapor inhalation under ambient conditions is normally not a problem. If material is misted or if vapors are generated from heating, overexposure may cause irritation of mucous membranes and

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the upper respiratory tract.
SKIN: No acute effects expected. Prolonged or repeated contact may remove skin oils, possibly leading to irritation and dermatitis.
EYE: No acute effects expected. Prolonged contact may cause irritation.
INGESTION: Material has a low order of acute oral toxicity.

CARCINOGENICITY - IARC(No) NTP(No) OSHA(No) ACGIH(No) OTHER(No)

PRE-EXISTING MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:
Skin disorders

SECTION 4: FIRST AID MEASURES

INHALATION: None normally required. However, if overcome by vapor from hot product, immediately remove from exposure and seek medical attention. If breathing is irregular or has stopped, start resuscitation; administer oxygen, if available. If overexposed to mist, remove from further exposure until excessive mist condition subsides. If respiratory discomfort persists, seek medical attention.

SKIN: Remove any contaminated clothing and thoroughly wash skin with soap and water. Launder or dry-clean clothing before reuse. If redness or swelling develops, obtain medical assistance. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE: Flush with clear water for at least 15 minutes or until irritation subsides. If irritation persists, obtain medical assistance.

INGESTION: Induction of vomiting not required. Obtain emergency medical attention.

SECTION 5: FIRE FIGHTING MEASURES

FLASH POINT (minimum): 410 F METHOD USED: COC

FLAMMABLE LIMITS IN AIR (% VOLUME) -
LOWER EXPLOSIVE LIMIT (LEL): 0.9
UPPER EXPLOSIVE LIMIT (UEL): 7.0

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FIRE AND EXPLOSION HAZARDS: This product can be made to burn (flash point > 200 F). Toxic fumes, gases, or vapors may evolve on burning. Container may rupture on heating.

"Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, 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 promptly returned to a drum reconditioner, or properly disposed of.

EXTINGUISHING MEDIA: Foam, water spray (fog), dry chemical, carbon dioxide and vaporizing liquid type extinguishing agents may all be suitable for extinguishing fires involving this type of product, depending on size or potential size of fire and circumstances related to the situation.

SPECIAL FIRE FIGHTING INSTRUCTIONS: Use water spray, dry chemical, foam or carbon dioxide to extinguish the fire. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for men attempting to stop a leak. Water spray may be used to flush spills away from exposures. Minimize breathing of gases, vapor, fumes or decomposition products. Use supplied-air breathing equipment for enclosed or confined spaces or as otherwise needed.

HMIS CLASSIFICATION: HEALTH: 0
FLAMMABILITY: 1
REACTIVITY: 0
PERSONAL PROTECTION INDEX: C

SPECIFIC HAZARD: None listed.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Contain spill. Use personal protective equipment stated in section 8. Recover free product. Add sand, earth, or other suitable absorbent to spill area. Minimize skin contact. Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses, or extensive land areas.
Assure conformity with applicable governmental regulations.

SECTION 7: HANDLING AND STORAGE

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

IIIB storage.

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Minimize breathing of vapor, mist or fumes. Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry-clean before re-use. Remove contaminated shoes and thoroughly clean before re-use; 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.

SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION

VENTILATION: Use local exhaust to capture vapor, mists or fumes, if necessary. Provide ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air. Mechanical ventilation recommended.

PERSONAL PROTECTIVE EQUIPMENT -

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

GLOVES: Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact. The following glove materials are acceptable: polyethylene, neoprene, nitrile, polyvinyl alcohol, viton.

RESPIRATOR: Concentration-in-air determines protection needed. Use only NIOSH certified respiratory protection. Respiratory protection usually not needed unless product is heated or misted. Half-mask air purifying respirator with dust/mist filters or HEPA filter cartridges is acceptable to 10 times the exposure limit. Full-face air purifying respirator with dust/mist filters or HEPA filter cartridges is acceptable to 50 times the exposure limit. Protection by air purifying respirators is limited. Use a positive pressure-demand full-face supplied air respirator or SCBA for exposures above 50 times the exposure limit. If exposure is above IDLH (immediately dangerous to life & health) or there is the possibility of an uncontrolled release or exposure levels are unknown, then use a positive pressure-demand full-face supplied air respirator with escape bottle or SCBA.

OTHER: Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing, which could result in prolonged or repeated skin contact. The following materials are acceptable as protective clothing materials: polyvinyl alcohol (PVA), polyvinyl chloride (PVC), neoprene, nitrile, viton, polyurethane. Safety shower and eye wash availability recommended.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT (initial): 565 F

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SPECIFIC GRAVITY (60 F)	:	0.87
DENSITY	:	7.28 lb/gl
VAPOR PRESSURE (20 C)	:	< 0.1 mm Hg
VAPOR DENSITY	:	> 5 (air = 1)
SOLUBILITY IN WATER	:	Negligible
PH INFORMATION	:	n/a
% VOLATILES BY VOLUME	:	0.00%
EVAPORATION RATE	:	< 0.01 (n-butyl acetate = 1)
APPEARANCE	:	Bright, clear, yellow liquid
ODOR	:	Slight
ODOR THRESHOLD (PPM)	:	Not determined

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable
CONDITIONS TO AVOID: Sources of ignition
INCOMPATIBLE MATERIALS: Strong oxidizing agents
HAZARDOUS DECOMPOSITION PRODUCTS: Combustion will produce fumes, smoke, carbon monoxide, and other asphyxiants.
POLYMERIZATION: Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY: This product is judged to have a low order of acute oral and dermal toxicity based on available component data.

CHRONIC TOXICITY: Prolonged or repeated skin and eye contact may produce irritation. However, based on human experience and available toxicological data, this product is judged to be neither a "corrosive" nor an "irritant" by OSHA criteria.

SECTION 12: ECOLOGICAL INFORMATION

AQUATIC TOXICITY: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Follow federal, state, and local regulations. This product is not a RCRA hazardous waste if uncontaminated. If "used", RCRA criteria (ignitability, reactivity, corrosivity, toxicity characteristics) must be

determined. Do not flush product to a drain and/or a storm sewer. Contract to an authorized disposal service.
SPECIAL SHIPPING INFORMATION: None

SECTION 14: TRANSPORTATION INFORMATION

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DOT - PROPER SHIPPING NAME : Petroleum oil, noibn
HAZARD CLASS : Not regulated
IDENTIFICATION NUMBER: Not regulated
PACKING GROUP : Not applicable
LABEL REQUIRED : Not regulated

IMDG - PROPER SHIPPING NAME: No data available

IATA - PROPER SHIPPING NAME: No data available

SECTION 15: REGULATORY INFORMATION

EPA/TSCA INVENTORY: All components of this product are listed.

SARA 302 THRESHOLD PLANNING QUANTITY: Not applicable

SARA 304 / CERCLA 302.4 REPORTABLE QUANTITY: Not applicable

SARA 311 CATEGORIES - IMMEDIATE (ACUTE) HEALTH EFFECTS : No
DELAYED (CHRONIC) HEALTH EFFECTS : No
FIRE HAZARD : No
SUDDEN RELEASE OF PRESSURE HAZARD: No
REACTIVITY HAZARD : No

SARA 313 SUBSTANCES ---
No known hazardous ingredients

SECTION 16: OTHER INFORMATION

WHMIS CLASSIFICATION: Not controlled

DISCLAIMER: The information presented herein has been compiled from sources considered to be dependable and is accurate to the best of Twin Specialties' knowledge; however, Twin Specialties Corp. makes no warranty whatsoever, expressed or implied, of merchantability or fitness for the particular purpose, regarding the accuracy of such data or the results to be obtained from the use thereof. Twin Specialties Corp. assumes no responsibility for injury to recipient or to third persons or for any damage to any property and recipient assumes all such risks.