

MATERIAL SAFETY DATA SHEET

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



Product EQUIVIS ZS
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IDENTIFICATION AND EMERGENCY INFORMATION

PRODUCT NAME: EQUIVIS ZS (ISO 15 to 100) PRODUCT #:
CHEMICAL NAME: N/A - Mixture CAS #'S: Mixture
PRODUCT APPEARANCE AND ODOR: Amber liquid, petroleum odor CHEMICAL FAMILY: Petroleum hydrocarbon
SYNONYMS: Petroleum-based AW hydraulic 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.):
Petroleum based lubricating oil 5 mg/m3 TWA (OSHA, ACGIH)
CAS# 64742-54-7, 64742-65-0, (as an oil mist)
64741-89-5, 64741-88-4*

* 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
LAND (TDG) : Not Regulated for Land Transport
SEA (IMDG) : Not Regulated for Sea Transport according to IMDG-Code
AIR (IATA) : Not Regulated for Air Transport

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:
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): 179°C (355°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. 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 may cause frothing. Use water to keep fire-exposed containers cool. Water froth may be used to flush spills away from 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): > 8
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 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.

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 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.

The Following Ingredients are Cited on the Lists Below:

Chemical Name	CAS Number	List Citations
Distillates, petroleum-dewaxed OR Hydrotreated heavy paraffinic OR Hydrotreated light paraffinic	64742-54-7, OR 64742-65-0, OR 64742-55-8	4, 13, 17, 18
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1) (ZDDP)	68649-42-3	15
XYLENES	1330-20-7	5

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

PREPARED BY: Alan Denniston

Technical Services

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