

Kosta Oil Field Technologies (KostaTech)

Material Safety Data Sheet

INSOL™ PD

Note: Read and understand Material Safety Data Sheet before handling or disposing of product

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATERIAL IDENTITY

Product Code and Trade Name: **InSol™ PD**
Description: Mixture
Product Use: *Organic Solid Deposits Dispersant*

Manufacturer's Name and Address:
Kosta Oil Field Technologies, Inc.
12976 Sugar Ridge Boulevard
Stafford, Texas 77477

Telephone Numbers:
TRANSPORTATION EMERGENCY in United States: CHEMTREC 800-424-9300
TRANSPORTATION EMERGENCY International: CHEMTREC 703-527-3887 (May call collect)
HEALTH EMERGENCY: (877) 732-0194 or (713) 906-1948
GENERAL MSDS ASSISTANCE: 281/568-8415
TECHNICAL INFORMATION: 281/568-8415

2. COMPOSITION INFORMATION ON INGREDIENTS

Composition:

Chemical/Common Name	CAS No.	Exposure Limit	Range in Vol. %
1st Main Ingredient: Confidential	Trade Secret	None Established	10-20
2nd Main Ingredient: Alkyl Esters	67784-80-9	None Established	5-10
3rd Ingredient: Heavy Aromatic Naphtha	64742-94-5	TWA/100ppm	10-40
4th Ingredient (Di-pentene):	138-86-3	None	10-50

3. HAZZARD IDENTIFICATION

This material is considered to be hazardous according to regulatory guidelines (see Section 15).

POTENTIAL PHYSICAL / CHEMICAL EFFECTS

Material can accumulate static charges which may cause an ignition.

POTENTIAL HEALTH EFFECTS

Repeated exposure may cause skin dryness or cracking. Possible human cancer hazard. If swallowed, may be aspirated and cause lung damage. May be irritating to the eyes, nose, throat, and lungs.

ENVIRONMENTAL HAZARDS

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

N.D. Not Determined N.A. Not Applicable N.T. Not Tested

NFPA Hazard ID:	Health: 2	Flammability: 3	Reactivity: 0
HMIS Hazard ID:	Health: 2	Flammability: 3	Reactivity: 0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

4. FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

Seek immediate medical attention. Do not induce vomiting.

NOTE TO PHYSICIAN

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Smoke, Fume, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: 43.3C (110F) [ASTM D-93]

Flammable Limits (Approximate volume % in air): LEL: 0.7 UEL: 5.6

Auto-ignition Temperature: 465°C (869°F)

N.D. Not Determined

N.A. Not Applicable

N.T. Not Tested

SECTION 6**ACCIDENTAL RELEASE MEASURES****NOTIFICATION PROCEDURES**

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Do not touch or walk through spilled material. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7**HANDLING AND STORAGE****HANDLING**

Avoid breathing mists or vapors. Avoid contact with skin. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Loading/Unloading Temperature: [Ambient]

Transport Temperature: [Ambient]

Transport Pressure: [Ambient]

Static Accumulator: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a

semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

STORAGE

The container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabelled containers. Storage containers should be grounded and bonded.

Storage Temperature: [Ambient]

Storage Pressure: [Ambient]

Suitable Containers/Packing: Tank Cars; Tankers; Tank Trucks; Barges; Drums

Suitable Materials and Coatings (Chemical Compatibility): Carbon Steel; Stainless Steel; Copper Bronze; Inorganic Zinc Coatings; Epoxy Phenolic; Polyamide Epoxy; Amine Epoxy; Viton; Polyester

Unsuitable Materials and Coatings: Vinyl Coatings; Butyl Rubber; Natural Rubber; Polyethylene; Polypropylene; PVC

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Source	Form	Limit / Standard			NOTE	Source
1-METHYLNAPHTHALENE		TWA	0.5 ppm		Skin	ACGIH
2-METHYLNAPHTHALENE		TWA	0.5 ppm		Skin	ACGIH
NAPHTHALENE		TWA	50 mg/m3	10 ppm	N/A	OSHA Z1
NAPHTHALENE		STEL	15 ppm		Skin	ACGIH
NAPHTHALENE		TWA	10 ppm		Skin	ACGIH
SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC	Vapor.	RCP - TWA	8 ppm	50 mg/m3	Total Hydrocarbons	KostaTech

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Adequate ventilation should be provided so that exposure limits are not exceeded.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Half-face filter respirator

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Chemical resistant gloves are recommended.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

Chemical/oil resistant clothing is recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

See Sections 6, 7, 12, 13.

9. PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

Physical State: Liquid

Form: Clear

Color: Pale Yellow

Odor: Aromatic

Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15.6 C): 0.992

Density (at 15.6 °C): 9320 kg/m³ (7.80 lbs/gal, 0.932 kg/dm³)

Flash Point [Method]: 95C (203F) [ASTM D-93]

Flammable Limits (Approximate volume % in air): LEL: 0.7 UEL: 5.6

Autoignition Temperature: 465°C (869°F)

Boiling Point / Range: 220C (428F) - 293C (559F)

Vapor Density (Air = 1): 5.2 at 101 kPa

Vapor Pressure: 0.007 kPa (0.05 mm Hg) at 20 C

Evaporation Rate (n-butyl acetate = 1): < 0.01

pH: N/A

Log Pow (n-Octanol/Water Partition Coefficient): N/D

Solubility in Water: Negligible

Viscosity: 2.19 cSt (2.19 mm²/sec) at 40 C | 2.95 cSt (2.95 mm²/sec) at 25C

Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: -13°C (9°F)

Melting Point: N/A

Molecular Weight: 151

Hygroscopic: No

Coefficient of Thermal Expansion: 0.0008 V/VDEGC

N.D. Not Determined

N.A. Not Applicable

N.T. Not Tested

10. STABILITY AND REACTIVITY

This Material Reacts Violently With: (If others is checked below, see comments for details)Air Water Heat Strong Oxidizers Others None of These
Y

Comments: Material is stable at elevated temperatures and pressures

Products Evolved When Subjected to Heat or Combustion:

toxic levels of carbon monoxide, carbon dioxide, irritating aldehydes, and ketones.

OCCUR DO NOT OCCUR

Hazardous Polymerization: Y

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION (ANIMAL TOXICITY DATA)

Median Lethal Dose (LD50 LC50) (Species)

Oral: Similar product 5 g/kg (rat); Causes headache, weakness, and dizziness.

Inhalation: N.D.

Dermal: Similar product 3 g/kg (rabbit); practically non-toxic

Irritation Index, Estimation of Irritation (Species)

Skin: Similar product 3.5/8.0 (rabbit); moderately irritating

Eyes: Similar product 7.7/110 (rabbit); slightly irritating

Sensitization: N.D.

REMARKS:

Toxicological studies with fish and invertebrates are currently in progress.

12. DISPOSAL CONSIDERATIONS

ACUTE TOXICITY

<u>Route of Exposure</u>	<u>Conclusion / Remarks</u>
Inhalation	
Toxicity: Data available.	Minimally Toxic. Based on test data for the material.
Irritation: Data available.	May be irritating to the respiratory tract. The effects are reversible. Based on test data for the material.
Ingestion	
Toxicity: LD50 > 7000 mg/kg	Minimally Toxic. Based on test data for the material.
Skin	
Toxicity: LD50 > 3160 mg/kg	Minimally Toxic. Based on test data for the material.
Irritation: Data available.	Mildly irritating to skin with prolonged exposure. Based on test data for the material.
Eye	
Irritation: Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for the material.

CHRONIC/OTHER EFFECTS**For the product itself:**

Vapor/aerosol concentrations above recommended exposure levels are irritating to the eyes and respiratory tract, may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness and other central nervous system effects including death.

Prolonged and/or repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis.

Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

N.D. Not Determined

N.A. Not Applicable

N.T. Not Tested

Contains:

NAPHTHALENE: Exposure to high concentrations of naphthalene may cause destruction of red blood cells, anemia, and cataracts. Naphthalene caused cancer in laboratory animal studies, but the relevance of these findings to humans is uncertain.

Additional information is available by request.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
NAPHTHALENE	91-20-3	2, 5

--REGULATORY LISTS SEARCHED--

1 = NTP CARC

3 = IARC 1

5 = IARC 2B

2 = NTP SUS

4 = IARC 2A

6 = OSHA CARC

SECTION 12**ECOLOGICAL INFORMATION**

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY

Material -- Expected to partition to water. Not expected to partition to sediment and wastewater solids. Moderately volatile.

Material -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY**Biodegradation:**

Material -- Expected to be readily biodegradable.

Hydrolysis:

Material -- Transformation due to hydrolysis not expected to be significant.

Photolysis:

Material -- Transformation due to photolysis not expected to be significant.

Atmospheric Oxidation:

Material -- Expected to degrade rapidly in air

OTHER ECOLOGICAL INFORMATION

VOC (EPA Method 24): 8.278 lbs/gal

13. DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

N.D. Not Determined

N.A. Not Applicable

N.T. Not Tested

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, 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.

14. TRANSPORT INFORMATION

LAND (DOT)**TRANSPORTATION**

Proper Shipping Description: Flammable liquids, n.o.s.

UN1993; (Contains Dipentene);

PGIII Hazard Class & Division: 3

Packing Group: III

Marine Pollutant: Yes

LAND (TDG): Not Regulated for Land Transport

15. REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purpose, this material is classified as hazardous in accordance with OSHA 29CFR 1910.1200.

Complies with the following national/regional chemical inventory requirements:: AICS, IECSC, DSL, ENCS, KECI, PICCS, TSCA

EPCRA: This material contains no extremely hazardous substances.

CERCLA: This material is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). CERCLA petroleum exclusion applies for this product. Contact local authorities to determine if other reporting requirements apply.

CWA / OPA: This product is classified as an oil under Section 311 of the Clean Water Act (40 CFR 110) and the Oil Pollution Act of 1990. Discharge or spills which produce a visible sheen on either surface water, or in waterways/sewers which lead to surface water, must be reported to the National Response Center at 800-424-8802.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: Delayed Health.

SARA (313) TOXIC RELEASE INVENTORY:

Chemical Name	CAS Number	Typical Value
NAPHTHALENE	91-20-3	< 14%

The following ingredients are cited on the lists below:

N.D. Not Determined

N.A. Not Applicable

N.T. Not Tested

Chemical Name	CAS Number	List Citations
1-METHYLNAPHTHALENE	90-12-0	1, 18
2-METHYLNAPHTHALENE	91-57-6	1, 13, 17, 18
NAPHTHALENE	91-20-3	1, 4, 5, 9, 10, 13, 16, 17, 18, 19
SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC	64742-94-5	18

--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

16. OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Revision Changes:

Section 06: Protective Measures was modified.

Section 15: National Chemical Inventory Listing - Header was modified.

Section 15: National Chemical Inventory Listing was modified.

Section 08: Exposure Limits Table was modified.

PRECAUTIONARY LABEL TEXT:**Contains:** NAPHTHALENE, SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC
WARNING!**HEALTH HAZARDS**

Repeated exposure may cause skin dryness or cracking. Possible human cancer hazard. If swallowed, may be aspirated and cause lung damage.

PHYSICAL HAZARDS Material can accumulate static charges which may cause an ignition.**PRECAUTIONS**

Avoid breathing mists or vapors. Avoid contact with skin.

FIRST AID**Inhalation:** Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.**Eye:** Flush thoroughly with water. If irritation occurs, get medical assistance.**Oral:** Seek immediate medical attention. Do not induce vomiting.**Skin:** Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

N.D. Not Determined

N.A. Not Applicable

N.T. Not Tested

FIRE FIGHTING MEDIA

Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

SPILL/LEAK

Land Spill: Stop leak if you can do it without risk. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Recover by pumping or with suitable absorbent. Do not touch or walk through spilled material.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Report spills as required to appropriate authorities. Seek the advice of a specialist before using dispersants.

Emergency Contact: Chemtrec 800-424-9300

Hazard Ratings

HMIS: Health = 2 Flammability = 3 Reactivity = 0 Personal Protection = C

NFPA: Health = 1 Flammability = 3 Reactivity = 0

(0 = minimal, 1 = slight, 2 = moderate, 3 = serious, 4 = severe)

KostaTech recommends that all exposures to this product be minimized by strictly adhering to recommended occupational controls and procedures to avoid any potential adverse health effects.

THE INFORMATION CONTAINED HEREIN IS BELIEVED TO BE ACCURATE. IT IS PROVIDED INDEPENDENTLY OF ANY SALE OF THE PRODUCT FOR PURPOSE OF HAZARD COMMUNICATION AS PART OF KOSTATECH'S PRODUCT SAFETY PROGRAM. IT IS NOT INTENDED TO CONSTITUTE PERFORMANCE INFORMATION CONCERNING THE PRODUCT. NO EXPRESS WARRANTY, OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE WITH RESPECT TO THE PRODUCT OR THE INFORMATION CONTAINED HEREIN. DATA SHEETS ARE AVAILABLE FOR ALL KOSTATECH PRODUCTS. YOU ARE URGED TO OBTAIN DATA SHEETS FOR ALL KOSTATECH PRODUCTS YOU BUY, PROCESS, USE, OR DISTRIBUTE AND YOU ARE ENCOURAGED AND REQUESTED TO ADVISE THOSE WHO MAY COME IN CONTACT WITH SUCH PRODUCTS OF THE INFORMATION CONTAINED HEREIN. TO DETERMINE APPLICABILITY OR EFFECT OF ANY LAW OR REGULATION WITH RESPECT TO THE PRODUCT, USER SHOULD CONSULT HIS LEGAL ADVISOR OR THE APPROPRIATE GOVERNMENT AGENCY. KOSTATECH DOES NOT UNDERTAKE TO FURNISH ADVICE ON SUCH MATTERS.