MATERIAL SAFETY DATA SHEET

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1.PRODUCT IDENTIFICATION AND COMPANY

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 Product Name PETRO HYDRO ZF 100

 Product Type Hydraulic Oil Zinc Free

 Company PT PETROMITRA PACIFIC INTERNUSA

 JL. RAYA SERPONG NO.26A-B

 TANGERANG 15143

 Tlp : (021) 53125041,53124043 Fax : (021) 53125042

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 2. COMPOSITION

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 Mineral Oil Content 97.4%

 Additives Content 2.6%

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 3. HAZARDS IDENTIFICATION

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 Human Health Product is not hazardous

 Eye Contact Slightly irritant

 Skin Contact Prolonged or repeated contact may irritate skin

 Inhalation Repeated and repeated contact may irritate skin

 Ingestion Minimal toxicity

 Safety Hazards Not classified as flammable but will burn

 Environmental Not readily biodegradable

 Hazards

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4. FIRST AID

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Eye Contact Flush eyes with large amount of water until irritation subsides.

If irritation persists, get medical attention.

 Skin Contact Flush with large amount of water, use soap if available. Remove contaminated clothing. If irritation persists, get medical attention.

Inhalation Remove to fresh air. If rapid recovery does not occur, get medical attention.

 Ingestion Do not induce vomiting. If rapid recovery does not occur, get medical attention

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5. FIRE SAFETY

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 Flash Point >170ºC

 Flammable Limits LEL 1.0

 UEL 6.0

 Autoignition Temp >220ºC

Specific Hazards Not classified as flammable but will burn. Hazardous combustion product may include carbon monoxide, oxides of sulphur, and unidentified organic and inorganic compounds.

 Fire Fighting Use dry chemical, foam or carbon dioxide to extinguish fire. Water may cause splattering or frothing. Use water to cool and protect fire-exposed material. Wear protective equipment during fire fighting.

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6. ACCIDENTAL RELEASE MEASURES

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Clean-up Procedures Stop the source of leak or realease and contain spill if possible. Cover spill with generous amount of inert absorbent material such as sand of earth. Sweep up and remove to suitable,clearly marked containers for disposal in accordance with local regulations. Scrub contaminated area with detergent and water. Pick up liquid with additional absorbent material and dispose as above. Wear proper protective equipment during clean-up.

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7. HANDLING AND STORAGE

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 Handling Handling temperatures should not exceed 70ºC. Wear proper safety protective equipment. Wash hands thoroughly after handling. Water contamination and spillage should be avoided.

Storage Storage temperatures should be maintained between 0 to 50ºC. Odorous and toxic fumes may be evolved from decomposition of product if stored above the safe temperature.

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8. EXPOSURE CONTROL/PERSONAL PROTECTION

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Exposure Limits Threshold Limit Values for oil mist is recommended to be controlled at 5 mg/m³ or lower for exposure of 8 hours daily.

 Ventilation Use exhaust ventilation to keep below exposure limits

 Eye Protection Wear safety glasses or face shields if splashing is likely to occur

Skin Protection Avoid repeated and prolonged contact with product. Use oil resistant gloves

 Respiratory Not normally required unless in confined

 Protection

 Body Protection Use proper protection equipment to avoid contact. Wear PVC apron if splashes are likely to occur

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9. PHYSICAL AND CHEMICAL PROPERTIES

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 Physical State Liquid

 Colour Clear & Bright

 Odour Characteristic mineral oil

 Vapour Pressure <0.5 Pa at 20ºC

 Density 0.890 g/cm³ at 15ºC

 Kinematic Viscosity @ 40ºC 15 cSt

 Kinematic Viscosity @ 100ºC 11.14 cSt

 Pour Point -30 ºC

 Flash Point 240 ºC

 pH of undiluted product Not available

 Auto-ignition temperature > 200ºC

 Solubility in water Negligible

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10. STABILITY AND REACTIVITY

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 Stability Product is stable under normal use conditions

 Thermal Carbon monoxide, carbon dioxide, oxides of sulphur and nitrogen and Decomposition organic and inorganic compound may evolve when subject to heat or combustion

 Hazardous Will not occur undeer normal conditions

 Polymerisation

 Incompatible Strong oxidizing agents. Strong acids

 Materials

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11. TOXICOLOGICAL INFORMATION

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Basis No toxicological data is available for this product. Information is provided based on the addtives, other components and base stock used

 Acute Exposure LD 50 expected to be above 2000 mg/kg.

 - Oral

 Acute Exposure LD 50 expected to be above 2000 mg/kg.

 - Skin

 Inhaltion Repeated or prolonged exposure to oil mists may cause irritation

 Eye Irritation Slight irritant

 Skin Irritation Not a skin irritant unless repeated or prolonged contact

 Respiratory Slight irritant

 Irritation

 Carcinogenicity No data to suggest that product is carcinogenic

 Mutagenicity No data to suggest that product is mutagenic

Other Information Brief contact with used oil is not expected to have serious effect in humans if the oil is removed thoroughly by washing with soap and water

Used engine oils may contain harmful impurities that have accumulate during use. The concentration of such impurities will depend on use and they present risks to health and the environment on disposal. All used oils should be handled with caution and skin contact should be avoided

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12. ECOLOGICAL INFORMATION

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Basis No ecological data is available for this product. Information is provided base on the additives, other components and base stock used.

Mobility Liquid under most environmental conditions. Floats on water. It is absorbeb by soil and will not be mobile

Persistance/ Not readily biodegradable. Major constituents are expected to be inherently Degradability be inherently biodegradable, but the product contains components that may persist in the environment

 Bioaccumulation Has the potential to bioaccumulate

 Ecotoxicity Poor soluble mixture. Practically non-toxic to aquatic organisms. May caused physical fouling of aquatic organisms

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13. DISPOSAL CONSIDERATION

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Product Disposal Used or waste oil should be recycled or disposed off in conformity to local disposal regulations. Contact local authorities for approved disposal contractor

Container Disposal Empty drums should be completely drained and sent to a drum reconditioner or properly disposed of. Non-reusable small containers should be recycled ordisposed of. Ensure conformity to local disposal regulations.

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14. TRANSPORT INFORMATION

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General Information Not dangerous for conveyance under UN, IMO, ADR/RID and IATA.ICAO codes

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15. REGULATORY INFORMATION

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 Not Applicable.

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16. OTHER INFORMATION

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The above information is based on data of which we are aware and is believed to be correct as of the date hereof. Since the information contained herein may be unfamiliar and since data made available susequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the result of its use. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose. Therefore, no warranty either expressed or implied of merchantability or fitness for particular purpose is made with pespect to the product or the information contained herein.