SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Zippo Blend C DATE: February 17, 2010

TRADE NAME: Zippo Blend C Lighter Fluid GENERAL USE:

CHEMICAL FAMILY: Hydrotreated Petroleum Distillates

PRODUCT DESCRIPTION:

Clear Water White, Light Hydrocarbon Liquid With a Solvent

Petroleum Naphtha Odor.

MANUFACTURED FOR: DATE PREPARED: February 17, 2010 SUPERSEDES: February 19, 2009

Zippo Manufacturing Company ADDRESS (NUMBER, STREET, P.O. BOX) TELEPHONE NUMBER FOR INFORMATION / Customer Service

33 Barbour Street 814-368-2700

(CITY, STATE AND ZIP CODE) COUNTRY Bradford, PA 16701 USA

CHEMTEL 24-HOUR EMERGENCY TELEPHONE NUMBER 1-800-255-3924

01-813-248-0585 North America Toll Free International

| SECTION 2 - HAZARDOUS INGREDIENTS | | | | | | |
|-----------------------------------|------------------|------------|-----------|------------------|--|--|
| Hazardous Components | % (by Weight) | CAS# | EINECS # | Hazard Symbol | RISK PHRASES (Full Text Section 15) | |
| Light Hydrotreated Distillate | 70 | 68410-97-9 | 270-093-2 | (+F)(+Xn) | R11,R65 | |
| Hydrotreated Light Naphtha | 30 | 64742-49-0 | 265-151-9 | (+F)(+Xn) | R11,R65 | |

Notes: This product does not require a cancer hazard warning in accordance with the OSHA Hazard Communication Standard. Benzene content is not detectable, below 0. 1% by weight.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

- WARNING: Flammable Liquid and Vapor. The Flash Point is <100 degrees F.
- When burned the product produces carbon monoxide and other asphyxiants during combustion.
- Harmful if inhaled and may cause delayed lung injury.
- Aspiration hazard if swallowed can enter lungs and cause damage.
- Keep away from heat, sparks, and flame.
- Avoid breathing vapor. Use ventilation to keep vapor below exposure limits.
- Unprotected exposure to this product will cause skin dryness.
- Remove product soaked clothing and wash with mild soap.
- This product is not listed on the NTP, IARC, OSHA, or ACGIH lists of suspected/confirmed carcinogens.
- This product's components are listed as having category 2 carcinogenic potential by ESIS, the European Chemicals Hazards Database.
- This product may be toxic to fish, birds and wildlife.
- This product is readily biodegradable in the presence of air and sunlight.
- Spilled material is slippery and may cause falls.

POTENTIAL HEALTH EFFECTS

INHALATION:

Tests on similar material indicate the possibility of the following symptoms: headache, nasal and respiratory irritation, nausea, drowsiness, breathlessness, fatigue, central nervous system depression, convulsions, and loss of consciousness.

SKIN:

Tests on similar materials indicate acute irritation is expected to occur upon short-term exposure, chronic dermatitis on prolonged contact.

EYES:

Tests on similar materials suggest acute irritation be expected.

INGESTION:

ACUTE ASPIRATION HAZARD. Tests on similar materials indicate possibility of the following symptoms: headache, nausea, drowsiness, fatique, pneumonitis, pulmonary edema, central nervous system depression, convulsions, and loss of consciousness.

CARCINOGENICITY:

NTP? NO IARC MONOGRAPHS? NO OSHA REGULATED? NO E.U. (ESIS)? YES Category 2 Carcinogens CAS#68410-97-9 & CAS#64742-49-0. CALIFORNIA, Prop.65? NO

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SECTION 4 - FIRST AID MEASURES

INHALATION:

Remove patient to fresh air and consult a physician. If breathing is difficult give oxygen. If not breathing give artificial respiration.

FYFS:

Flush eyes immediately with water for at least 15 minutes or until irritation subsides, occasionally lifting lower and upper lids. Get medical attention promptly.

SKIN:

Wash thoroughly with soap and water. Immediately remove contaminated clothing and wash before reuse. If irritation or rash develops, obtain medical assistance. Immediately remove soaked clothing.

INGESTION:

CALL PHYSICIAN IMMEDIATELY. Do not induce vomiting except at the instruction of a physician. Never give anything by mouth to an unconscious person.

SECTION 5 - FIRE FIGHTING MEASURES

GENERAL HAZARDS:

FLASH POINT: <73°F(<23°C) Tag Closed Cup. FLAMMABILITY CLASS: IB,LOWER EXPLOSIVE LIMIT (%): 0.85, UPPER EXPLOSIVE LIMIT (%): 7.8

EXTINGUISHING MEDIA:

Dry Chemical, carbon dioxide, and foam. NOTE: Water, fog and foam may cause frothing and spattering. Water stream may spread fire.

FIRE FIGHTING PROCEDURES:

Use water to cool containers exposed to flames. Do not enter enclosed or a confined work space without proper protective equipment. Fire fighting personnel should wear respiratory protection(positive pressure if available). If leak or spill has not ignited, use water spray to disperse the vapors.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Can form flammable mixtures with air and flash at room temperature or upon slight heat application. Vapors are heavier than air and may travel considerable distance. Explosion hazard in confined spaces if exposed to ignition source. Mists or sprays may be flammable below oil's normal flash point. Keep away from heat or open flame.

HAZARDOUS COMBUSTION PRODUCTS:

Fumes, smoke and carbon monoxide.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Evacuate area and shut off ignition source. Contain spill and keep from entering waterways or sewers. Use personal protective equipment. Advise EPA; state agency if required. Trained personnel should absorb with inert material. Use safe, non-sparking equipment to remove waste and prepare for disposal.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

<u>HANDLING:</u> Keep product away from high energy ignition sources, heat, sparks, pilot lights, static electricity and open flames. Avoid contact with skin. Avoid inhalation of vapors or mists. Use in well ventilated area away from all ignition sources. See Section 8 for additional personal protection advice when handling this product.

STORAGE: Store in a cool area. Store as OSHA Class 1B flammable liquid.

SPECIAL PRECAUTIONS: To prevent and minimize fire or explosion risk from static accumulation and discharge, effectively bond and/or ground product transfer system. Electrical equipment and fittings must comply with local fire prevention regulations for this class of product. Use the correct grounding procedures. Refer to national or local regulations covering safety of petroleum handling and storage areas for this product.

EMPTY CONTAINER WARNING: 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 refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

WORK/HYGIENIC PRACTICES: Wash hands with soap and water before eating, drinking, smoking or use of toilet facilities. Do not use harsh abrasive skin cleaners for washing exposed skin areas. Take a shower after work if general contact occurs. Remove oil-soaked clothing and launder before reuse. Launder or discard contaminated shoes and leather gloves.

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| SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION | | | | | | | | |
|---|---------|-----------|----------|------------|-------------|-----------|----------|------------|
| | NIOSH | | | | ACGIH | | OSHA | |
| HAZARDOUS COMPONENTS | TWA ppm | TWA mg/m3 | STEL ppm | STEL mg/m3 | TLV/TWA ppm | TWA mg/m3 | STEL ppm | STEL mg/m3 |
| Light Hydrotreated Distillate | NE | | | | NE | | NE | |
| Hydrotreated Light Naphtha | NE | | | | NE | | NE | |

This product contains:

Pentane, CAS# 109-66-0, NIOSH TWA 120ppm, ACGIH TWA 600ppm. Heptane, CAS# 142-82-5, OSHA TWA: 500ppm, ACGIH TWA 400ppm. Octane, CAS# 111-65-9, OSHA TWA: 500ppm, ACGIH TWA 375ppm. Nonane, CAS# 111-84-2, ACGIH-200ppm

PERSONAL PROTECTION

RESPIRATORY PROTECTION:

Up to 1000 ppm, half mask organic vapor respirator approved by NIOSH or European Standard EN-149. Up to 5000 ppm, full face organic vapor respirator or full face supplied air respirator. Greater than 5000 ppm, fire fighting, or unknown concentration, self contained breathing apparatus with positive pressure should be used. Respirator protection programs must additionally be in compliance with published standards in 29 CFR 1910.134.

PROTECTIVE GLOVES:

Avoid prolonged and/or repeated skin contact. If prolonged contact cannot be avoided, wear protective impervious gloves and clothing. Acceptable materials for gloves are neoprene, nitrile, or viton.

EYE PROTECTION

Will not occur.

Safety glasses, splash goggles, or face shield as appropriate. Have suitable eye wash water available.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

If there is a likelihood of splashing, oil resistant clothing should be worn. Never wear oil soaked clothing. Launder or dry clean before wearing. Discard oil soaked shoes. Affix warning labels on containers in accordance with 29 CFR 1910.1200 (Hazard Communication Standard). Maintain local or dilution ventilation to keep air concentration below 100ppm. Loading,

unloading, tank gauging, etc., remain upwind. Request assistance of safety and industrial hygiene personnel to determine air concentrations.

WORK / HYGIENIC PRACTICES:

Wash hands with soap and water before eating, drinking, smoking or use of toilet facilities. Do not use harsh abrasive skin cleaners for washing exposed skin areas. Take a shower after work if general contact occurs. Remove oil-soaked clothing and launder before reuse. Launder or discard contaminated shoes and leather gloves.

| , and the second | | | |
|--|--|--|--|
| SECTION 9 - PHYSICAL | AND CHEMICAL PROPERTIES | | |
| APPEARANCE AND ODOR | VAPOR PRESSURE | | |
| Clear Water White, Light Hydrocarbon Liquid With a Solvent Petroleum Naphtha Odor. | 6.9 psi | | |
| рН | SPECIFIC GRAVITY (WATER = 1@ 60°F {15°C}). | | |
| NA | 0.706 | | |
| BOILING POINT / BOILING RANGE | SOLUBILITY IN WATER | | |
| IBP>90°F IBP>32°C | Negligible in water. | | |
| FLASH POINT | VISCOSITY | | |
| <73°F (<23°C) Tag Closed Cup | Negligible in water. | | |
| FLAMMABLE LIMITS | VAPOR DENSITY (AIR = 1) | | |
| LEL: 0.85% UEL: 7.80% | NE | | |
| AUTOIGNITION TEMPERATURE | EVAPORATION RATE (WATER = 1) | | |
| NE | >1 | | |
| SECTION 10 - STA | ABILITY AND REACTIVITY | | |

| AUTOIGNITION TEMPERATO | NE . | | EVAPORATION RATE (WATER = 1) |
|------------------------------|-----------------|----------|----------------------------------|
| NE | | | >1 |
| | SECTION | 10 - STA | ABILITY AND REACTIVITY |
| STABILITY | STABLE | Х | CONDITIONS TO AVOID: |
| | | | Sources of ignition , Oxidizers. |
| INCOMPATIBILITY (MATERIA | LS TO AVOID): | | |
| Strong oxidizers. | | | |
| HAZARDOUS DECOMPOSITION | ON OR BYPRODUC | CTS: | |
| Smoke, hydrocarbons fumes, c | arbon monoxide. | | |
| HAZARDOUS POLYMERIZAT | ION: | | CONDITIONS TO AVOID: |

None related to polymerization.

PRODUCT NAME: Zippo Blend C February 17, 2010 DATF:

| DATE: 1 Oblidary 17, 2010 | | | | | | |
|--|-------------------------|---|---|--|--|--|
| SECTION 11 - TOXICOLOGICAL INFORMATION | | | | | | |
| Hazardous Components | CAS # EINECS # | LD50 of Ingredient (Specify Species and Route) | LC50 of Ingredient (Specify Species) | | | |
| Light Hydrotreated Distillate | 68410-97-9 270-093-2 | NE | NE | | | |
| Hydrotreated Light Naphtha | 64742-49-0 265-151-9 | Oral, rat: LD50 = 25 gm/kg | Inhalation, rat: LC50 = 48000 ppm/4H; | | | |

SECTION 12 - ECOLOGICAL INFORMATION

If applied to leaves, this product may kill grasses and small plants by interfering with transpiration and respiration. This product is not toxic to fish but may coat gill structures resulting in suffocation if spilled in shallow, running water. Product may be moderately toxic to amphibians by preventing dermal respiration. This product may cause gastrointestinal distress to birds and mammals through ingestion during pelage grooming.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD:

Product as supplied does not meet the characteristics of a hazardous waste as defined in 40CFR 261.21-24. If mixed with other products, waste mixture must be characterized. DO NOT dispose of this product in drains or storm sewers. DO NOT dispose of this product in a landfill without prior solidification. Waste product should be recycled. Consider waste brokering.

SECTION 14 - TRANSPORT INFORMATION

PROPER SHIPPING NAME: Petroleum Distillates, n.o.s., Class 3, UN 1268, PG II

DOT HAZARD CLASS / Pack Class 3./PG II

Group: REFERENCE: IATA HAZARD CLASS / Pack Group: Petroleum Distillates, n.o.s., Class

3,Flammable Liquid UN 1268, PGII

49CFR IMDG HAZARD CLASS: Petroleum Distillates, n.o.s., Class 3, UN

1268. PG II

UN / NA IDENTIFICATION NUMBER: UN 1268

LABEL: Flammable Liquid

HAZARD SYMBOLS:



RID/ADR Dangerous Goods Code: NA-Blend. UN TDG Class / Pack Group: UN1268,3, PG II Hazard Identification Number (HIN):

Note: Transportation information provided is for reference only. Client is urged to consult CFR 49 parts 100 - 177, IMDG, IATA, EU, United Nations TDG, and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

SECTION 15 - REGULATORY INFORMATION

TSCA (USA - Toxic Substance Control Act): Ingredients are listed. SARA TITLE III (USA - Superfund Amendments and Reauthorization Act):

> Acute Health: Chronic Health: No Yes

Fire: Yes Sudden Release of Pressure: No

Reactive: No

313 REPORTABLE INGREDIENTS: None reportable

CERCLA (USA - Comprehensive Response Compensation and Liability Act): No RQ's applicable.

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986: None Listed

CPR (Canadian Controlled Products Regulations): Listed

IDL (Canadian Ingredient Disclosure List): Listed

DSL / NDSL (Canadian Domestic Substances List / Non-Domestic Substances List): Listed on DSL

EINECS (European Inventory of Existing Commercial Chemical Substances): Ingredients Referenced

WGK Water Quality Index:

| The strates added to the strate strat | | |
|--|-------------------------------------|---|
| RISK PHRASES: | SYMBOL(S) REQUIRED FOR EU/GHS LABEL | SAFETY PHRASES: |
| (+R11): Highly flammable. (+R65): Harmful: May cause lung damage if swallowed. | (+Xn): Harmful (F):Flammable | S2: Keep out of the reach of children. S16: Keep away from sources of ignition. S23: Do not breath gas or vapors. S24: Avoid contact with skin. S51: Use only in well ventilated area. S62: If swallowed, do not induce vomiting. Seek medical treatment immediately. |
| | (1 /11 14111114516 | |

SECTION 16 - OTHER INFORMATION

| PRODUCT NAME: DATE: | Zippo Blend C February 17, 2010 | | | | |
|---|--|---|-----------------------------------|--|--|
| | plicable, NE= Not establis | hed | | | |
| | | | | | |
| HMIS HAZARD RATIN | NGS | HEALTH: | | 1 | 0 = INSIGNIFICANT |
| | | FLAMMABILITY: | | 3 | 1 = SLIGHT |
| | | PHYSICAL HAZARD: | | 0 | 2 = MODERATE |
| | | PERSONAL PROTECTIVE | | | 3 = HIGH |
| | | EQUIPMENT: | | С | 4 = EXTREME |
| REVISION SUMMARY | Υ <u>:</u> | | | | |
| Revised to E.U./GHS | protocols 2/17/2010 supers | edes previous issue 2/06/2009 |)-EJH | | |
| MSDS Prepared by: | | | | | |
| Zippo Manufacturing Con | npany | | | | |
| 33 Barbour Street | . , | | | | |
| Bradford, PA USA 1670 | <i>i</i> 1 | | | | |
| 1-814-368-2700 | | | | | |
| Website: www.zippo.com | | | | | |
| the manufacturer of the procurrent, applicable and suit | product and manufacturers of the ited to the circumstances of us | urate but is not warranted to be so ne components of the product. Use se. Vendor assumes no responsibilit to as stipulated in the data sheet | ers are advised ity for injury to | to confirm in advance of revendee or third persons pro | need that information is oximately caused by the |

abnormal use of this material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.