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## **Product Stewardship Summary COMBUSTIBLE LIQUIDS GROUP**

This product stewardship summary is intended to give general information about the chemical or categories of chemicals addressed in this summary. It is not intended to provide an in-depth discussion of all health and safety information. Additional information is available through the applicable Safety Data Sheet (SDS) which should be consulted before use of any chemical. This product stewardship summary does not supplant or replace required regulatory and/or legal communication documents.

### **Chemical Identity**

The Combustible Liquids Group is comprised of (17) products that includes emulsions and suspensions.

- Liquid Drispac® Polymer
- HEC Liquid Polymer
- HEC Liquid Polymer XPT
- HEC Liquid Polymer AP
- Liquid Flowzan® Biopolymer XPT
- Liquid Flowzan® Biopolymer AP
- Liquid Flowzan® Biopolymer
- Liquid HE® 150 Polymer
- Diacel® MS-1 Mutual Solvent
- Formula F Concentrate
- Formula F Concentrate AP
- Diacel® ASA 100 Liquid
- HyperGEL™ A Polymer
- Hypergel™ U
- PURE-OIL 215 Base Fluid
- E-500A
- E-500B

### **Category Justification**

The Combustible Liquid products have similar physical and chemical characteristics. In general, these products exhibit similar health and environmental hazards, with small differences in the severity of their effects.

### **Product Uses**

These products are commercially available to oil or gas service industry customers, and are generally used as drilling mud additives, completion fluids, cementing additives, acid gelling agents, friction reducers, fluid thickeners, oil well cement spacer fluids, and fluid additives in oil field operations.

## **Physical/Chemical Properties**

These products are combustible liquids. Combustible liquids have the potential to cause fires if they are exposed to an ignition source. In the event of a fire, the formation of decomposition byproducts, such as sulfur and carbon oxides, is possible. These products must be kept in tightly closed containers stored in a cool and well-ventilated environment away from ignitable sources.

## **Health Information**

Overall, the products in the Combustible Liquids Group exhibit low acute toxicity effects via the oral, inhalation and dermal routes, except Diacel® MS-1 Mutual Solvent, which may be harmful via the oral, inhalation and dermal routes. Some of these products may cause mild to severe eye and skin irritation. E-500A may cause skin sensitization (an allergic reaction) and photosensitization. Some products may also defat the skin following repeated dermal contact, resulting in drying and cracking of the skin. Prolonged exposure to high vapor concentrations for products containing solvents may cause respiratory irritation and central nervous system (CNS) effects, including drowsiness, dizziness, headache, nausea and loss of coordination. Repeated exposure to solvents is also expected to have a low order of toxicity. If accidentally ingested, these products are not anticipated to cause an aspiration hazard.

There is low concern that these products can cause reproductive or developmental effects even for the components in E-500A at concentrations below their occupational exposure limits, and are not considered to have mutagenic or carcinogenic properties with exception of E-500A. Repeated skin exposure to E-500A may cause cancer to the skin based on findings in mice. Although inhalation and oral exposure to some of the components have caused cancer in rats and mice, there is not sufficient information available to determine whether E-500A is carcinogenic to animals and humans.

Repeated exposure of rats and mice to 2-butoxyethanol, Diacel® MS-1 Mutual Solvent, was associated with hemolysis and effects on the liver. The hemolysis reported in both species suggests they are more susceptible than humans.

Although there is limited data for E-500A and individual components, repeated exposure may cause damage to red blood cells (especially in susceptible populations) at concentrations above the occupational exposure limits (OEL). Oral exposure may cause cataracts and prolonged or repeated breathing of aerosols at levels above the OEL for the components may cause respiratory tract irritation and adverse effects to several organs (i.e. nervous system, liver, kidneys, lung, and nasal tract).

## **Environmental Information**

The environmental hazard potential of the Combustible Liquid Products is expected to be low (i.e., they are not expected to cause significant harm to aquatic life) with the exception of E-500A. This product is expected to be toxic to aquatic organisms. Based on individual components in these products, the environmental fate ranges from readily biodegradable to may persist in the environment. These products also demonstrate a low-to-medium potential to bioaccumulate in aquatic life. Due to the potential to cause significant harm to the aquatic environment, care should be taken to avoid releases of them to sewage, drainage systems and water bodies. Spillage should be quickly collected and properly disposed of to minimize harm to the environment.

## **Exposure Potential**

The most likely routes of exposure to the Combustible Liquid Products are skin and eye contact, and inhalation exposures. The best way to prevent exposure is to work in well-ventilated areas, wear appropriate personal protective equipment (PPE), and follow good personal hygiene practices.

### *Workplace Use:*

Potentially exposed populations include: (1) workers who manufacture these products; (2) quality assurance workers who sample and analyze the products to ensure that they meet specifications; (3) workers involved in distribution and storage of these products; and (4) commercial consumers, in occupational settings, that use these products in intended applications. The probability of exposure to workers is expected to be low because these products are manufactured in enclosed, controlled environments, and are transported in tightly sealed containers. These products are sold to industrial customers that are familiar with their intended applications, safe handling, storage, and disposal requirements. Manufacturing, quality assurance and transportation workers will likely adhere to safe handling practices and wear appropriate personal protective equipment (PPE), and have access to exposure prevention measures (e.g., engineering controls). Customers are also likely to use appropriate PPE during handling, and to have risk mitigation measures in place to address potential physical hazards or accidental releases.

### *Consumer Use:*

Potential exposure or impact to the general public is not anticipated for these products, as they are sold by Chevron Phillips Chemical to sophisticated industry users and not to the general population. In the event of a fire, inhalation of hazardous combustion byproducts could be a potential concern for nearby residents.

### *Potential Environmental Release:*

There may be some potential for significant exposure to the environment from accidental releases during transportation of drums, totes, truck trailers, rail cars, or container ships; however, the frequency of distribution incidents involving accidental release of these products has been low, and reported volumes spilled have been minimal. Furthermore, pallet containers are stretch-wrapped or shrink-wrapped to minimize the potential for product loss. Small quantities are shipped for laboratory quality and performance testing, typically one (1) pound or less. Those performing the tests should understand the hazards and adhere to the safe handling practices as explained above. The current and anticipated use of these products in designated off-shore/on-shore rig applications is not expected to result in significant loss to the environment because containers are handled one-at-a time. Chevron Phillips Chemical is committed to operating in an environmentally responsible manner and participates in the American Chemistry Council's Responsible Care® program.

## **Risk Management**

Chevron Phillips Chemical is committed to Product Stewardship and doing business responsibly. We endeavor to provide sufficient information for the safe use and handling of all our products. We make product information available to all of our customers, distributors, carriers, and users of these products which contain detail about the properties of each product. To that end, a Safety Data Sheet and a certificate of analysis accompany each shipment from our manufacturing plant.

Before using these products, the user is advised and cautioned to make its own determination and assessment of the safety and suitability of the product for the specific use in question. It is the ultimate

responsibility of the user to ensure suitability for use and determine if this information is applicable to the user's specific application. Chevron Phillips Chemical does not make, and expressly disclaims, all warranties, including warranties of merchantability or fitness for a particular purpose, regardless of whether oral or written, express or implied, or allegedly arising from any usage of any trade or from any course of dealing in connection with the use of the information contained herein or any product itself. The user expressly assumes all risk and liability, whether based in contract, tort or otherwise, in connection with the use of the information contained herein or any product itself.

### **Regulatory Information**

Regulations exist that govern the manufacture, sale, transportation, use, and disposal of these products. These regulations may vary by city, state, country or geographic region. Additional relevant information may be found by consulting the applicable SDS.

### **Sources of Additional Information**

Safety Data Sheets (MSDS) at <http://www.cpchem.com>.

European Chemical Agency (ECHA) Dissemination portal with information on chemical substances registered under REACH

- <http://echa.europa.eu/information-on-chemicals>

Organization for Economic Cooperation and Development (OECD): eChemPortal web-based search tool

- <https://www.echemportal.org/echemportal/>

United States Environmental Protection Agency (USEPA). 2012. Integrated Risk Information System (IRIS). Ethylene Glycol Butyl Ether (EGBE). Available online at: <http://www.epa.gov/iris/subst/0500.htm>

### **Conclusion:**

The Combustible Liquid Products are classified as hazardous chemicals. Efforts should be taken to minimize eye, dermal and inhalation exposures to these products by adhering to safe handling procedures, designated applications and uses, appropriate personal protective equipment practices, and labeling, storage, and transportation procedures and requirements. The relevant product Safety Data Sheets and applicable regulatory guidelines and requirements, including but not limited to Occupational Health and Safety Administration (OSHA) guidelines, should be consulted prior to the use or handling of these products.

### **Contact Information:**

[www.cpchem.com/](http://www.cpchem.com/)