



## Product Stewardship Summary

### Water-Soluble Synthetic Polymers Group

This product stewardship summary is intended to give general information about the chemical or categories of chemicals identified below. 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 water-soluble synthetic polymers group is comprised of dry granular or powdery solids, and currently includes the following seven products:

- Dristemp<sup>®</sup> polymer
- Driscal<sup>®</sup> D polymer
- HE<sup>®</sup> 100 polymer
- HE<sup>®</sup> 150 polymer
- HE<sup>®</sup> 300 polymer
- HE<sup>®</sup> polymer 400
- Diacel<sup>®</sup> FL polymer

#### Category Justification:

Products in the water-soluble synthetic polymers group are based on a select set of monomers that are polymerized having similar physical and chemical characteristics. In general, these products exhibit similar health and environmental hazards, with 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 fluid additives including, mud, cement, and completion fluids. They provide friction reduction, viscosity, and fluid loss control in downhole oil field applications.

#### Physical/Chemical Properties:

Water soluble-synthetic polymers are solids that are combustible upon heating. Some products in this category are granular solids and care should be taken to avoid dust generation as they may form combustible dust concentrations in air. In the event of a fire, the formation of decomposition byproducts, such as sulfur and carbon oxides, is possible. These products should be kept in tightly closed containers, and stored in a cool and well ventilated environment away from ignition sources.

#### Health Information:

Overall, the water-soluble synthetic polymer products exhibit low acute and chronic toxicity effects via the oral, inhalation and dermal routes. These products are not expected to be skin or eye irritants. However, direct contact with dust or powder in the eye may cause irritation by mechanical abrasion. If accidentally ingested, these products are not anticipated to cause an aspiration hazard. Currently there are no available data on these products regarding carcinogenic, reproductive, teratogenic or developmental toxicity health effects.

#### Environmental Information:

The environmental hazard potential of the water-soluble synthetic polymer products is expected to be low (i.e., they are not expected to cause significant harm to aquatic life). These products have a low potential to biodegrade if released to the environment, but are not expected to bioaccumulate in

aquatic life. Care should be taken to avoid releases to sewage, drainage systems and water bodies. Spillage should be quickly collected and properly disposed.

### **Exposure Potential:**

The most likely routes of exposure to the water-soluble synthetic polymer products are skin and eye contact, and inhalation exposures.

#### Workplace Use:

The potentially exposed populations include: (1) workers who manufacture these products; (2) quality assurance workers who sample and analyze the products to ensure they meet specifications; (3) workers involved in distribution and storage of these products; and (4) industrial consumers in occupational settings that use these products in intended applications. The probability of exposure to these workers is expected to be low because these products are manufactured and tested in controlled environments and are stored and transported in tightly sealed containers. Additionally, workers in the manufacturing and/or quality lab settings are properly trained to handle these products and wear appropriate personal protective equipment. 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 should adhere to safe handling practices and wear appropriate personal protective equipment (PPE), and have access to exposure prevention measures (e.g., engineering controls). Customers should also use appropriate PPE during handling and have risk mitigation measures in place to address potential physical hazards or accidental releases. Contaminated surfaces will be extremely slippery. Avoid spillage on floor as the product can become very slippery when wet. Sweep up to prevent slipping hazard.

#### Consumer Use:

Potential exposure to the general public is not anticipated for these products as they are sold by Chevron Phillips Chemical Company LP 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 individuals and/or residents.

#### Potential Environmental Release:

The potential for accidental releases of these products to the environment is possible during transportation via truck trailers, railcars or container ships; however, available data indicate that the frequency of distribution incidents involving significant releases of these products has been minimal. Furthermore, pallet containers are stretched wrapped to minimize the potential for product loss. Small quantities are shipped for laboratory quality and performance testing, typically in quantities of one pound or less. Those performing the tests should understand the hazards and adhere to the safe handling practices as explained above and in the Safety Data Sheet. The current and anticipated use of these products in designated offshore/onshore rig applications is not expected to result in significant damage to the environment because containers are typically handled one-at-a time. Chevron Phillips Chemical Company LP is committed to operating in an environmentally responsible manner and has adopted the American Chemical Council's Responsible Care<sup>®</sup> initiative.

### **Risk Management:**

Chevron Phillips Chemical Company LP 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, and carriers of these products which contain detail about the properties of each product. To that end, a Safety Data Sheet accompanies each shipment from our manufacturing plants and distribution centers.

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 Company LP 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 product Safety Data Sheets.

### **Sources of Additional Information:**

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

Chevron Phillips Chemical Company LP. 2012 OSPAR Commission Harmonised Offshore Chemical Notification Format (HOCNF): Recommendation 2010/3 for HE Polymer 100. Internal document.

Chevron Phillips Chemical Company LP. 2012 OSPAR Commission Harmonised Offshore Chemical Notification Format (HOCNF): Recommendation 2010/3 for HE Polymer 150. Internal document.

European Chemical Agency (ECHA) Registered Substances Database. Available online at: <http://apps.echa.europa.eu/registered/registered-sub.aspx#search>

National Industrial Chemicals Notification and Assessment Scheme 2005. Assessment Report: Driscall D Polymer.

Organization for Economic Co-operation and Development (OECD). 2001. SIDS Initial Assessment Report for Potassium Chloride, November 6-9, 2001.

Phillips 66 1984 Toxicity Study Summary: H.E. Polymer. Internal document.

European Chemical Agency (ECHA) Registered Substances Database. Available online at: <http://apps.echa.europa.eu/registered/registered-sub.aspx#search>

### **Conclusion:**

The water-soluble synthetic polymer products are classified as nonhazardous 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 appropriate 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:**

<http://www.cpchem.com/>