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## Product Stewardship Summary Surfactants Group

The product stewardship summary is intended to give general information about the chemical or categories of chemicals addressed. 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 Surfactants Group currently includes three products.

- DrisFlex™ Additive
- Diacel® LX 200 Cement Fluid Loss Additive
- EXP-C113-18

### **Category Justification**

The Surfactant Products contain various concentrations of non-ionic surfactants. In general, the health and environmental hazards are due to the surfactants with varied differences in the severity of their effects.

### **Product Uses**

These products are commercially available to oil or gas service industry customers, and are typically used in down-hole drilling applications (i.e., cementing).

### **Physical/Chemical Properties**

The Surfactant Products are low volatility liquids and non-combustible. These products are considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure, but can decompose at elevated temperatures. Avoid contact with heat, sparks, and oxidizing agents. Do not store in copper, copper alloys, zinc, or galvanized containers.

### **Health Information**

The Surfactant products exhibit low acute toxicity, except EXP-C113-18, via the oral, inhalation, and dermal routes. Adverse health effects following prolonged exposure to Diacel® LX200 Cement Fluid Loss Additive and DrisFlex™ are not expected. Mild to moderate skin and eye irritation may be associated with certain components in these products. They are not expected to be skin sensitizers and cause an allergic skin reaction. If accidentally ingested, these products are not anticipated to cause an aspiration hazard. Currently there are no available data on these products regarding carcinogenicity, reproductive or developmental toxicity.

### **Environmental Information**

The environmental hazard potential of the Surfactant Products is expected to be low (practically non-toxic), except for EXP-C113-18. This product is toxic to aquatic life. These products have a low potential to biodegrade if released to the environment, and there is limited data available regarding their potential to bioaccumulate in aquatic life. Given their potential to be persistent, care should be taken to avoid releases of these products to sewage, drainage systems, and water bodies. Spillage should be quickly collected in the event of an accidental release.

### **Exposure Potential**

The most likely routes of exposure to the Surfactant 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 and/or blend 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) 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 should adhere to safe handling practices and wear appropriate personal protective equipment (PPE). Additionally, they 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.

#### *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.

#### *Potential Environmental Release:*

There may be some potential for exposure to the environment from accidental releases during transportation of totes, pails, sacks or container ships; however, the frequency of distribution incidents involving accidental releases 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 has adopted the American Chemical Council's Responsible Care® initiative.

### **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 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 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 Sheet (SDS) at <http://www.cpchem.com>.

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

- <http://apps.echa.europa.eu/registered/registered-sub.aspx>

IPCS INCHEM. 1998. International Agency for Research and Cancer (IARC) – Summaries and Evaluations: Styrene, Polystyrene and Styrene-Butadiene Copolymers. Last updated 3/30. Available online at: <http://www.inchem.org/documents/iarc/vol19/styrene&polymers.html>

U.S. EPA. 2013. Aggregated Computational Toxicology Resource (ACToR). Toxicology Data. Styrene, 1,3-Butadiene Polymer (CAS# 9003-55-8). Accessed 12/23. Available online at: <http://actor.epa.gov/actor/GenericChemical?casrn=9003-55-8>

### **Conclusion**

Some of the Surfactant 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 SDS 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/)