



Product Stewardship Summary

DRILLING SPECIALTIES GROUP 3 CRYSTALLINE SILICA-CONTAINING PRODUCTS

This 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 Drilling Specialties Group 3 Crystalline Silica-Containing products contain small quantities of crystalline silica (as an impurity). This group currently includes the following products:

- CF Desco® II Deflocculant
- Chrome Free Desco® Deflocculant
- Desco® Regular Deflocculant
- Diacel® D Additive
- Diacel® Adjustable Spacer Viscosifier
- Diacel® WBS 200 Additive
- Diaseal® M Lost Circulation Material
- Drill-Thin® Thinner
- Drill-Well™ D210 OBM Fluid Loss Additive
- EXP-D58 Additive
- Soltex® Potassium Additive
- Soltex® Additive

Category Justification

All the products in this group contain small quantities (<1 to 5 percent by weight) of crystalline silica (as an impurity) and exhibit, overall, similar physical and potential human health hazards. In addition, all the products are marketed for use in the oil field additives industry.

Product Uses

These Drilling Specialties Group 3 products are sold to oil or gas service industry customers for use in drilling fluid, completion and work-over, and cementing applications.

Physical/Chemical Properties

The products in the Drilling Specialties Group 3 Crystalline Silica-Containing products are solids that are combustible upon heating. 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 carbon oxides, is possible. These products should be kept in tightly closed containers, and stored in a cool and well-ventilated environment away from ignitable sources.

Health Information

Due to the presence of crystalline silica in these products, they may pose a chronic inhalation hazard. Crystalline silica is classified by the International Agency for Research on Cancer (IARC) and National Toxicology Program (NTP) as a human carcinogen. Crystalline silica has been associated with the development of lung diseases, including silicosis and lung cancer.

Other potential human health hazards associated with some products may cause irritation by mechanical abrasion of the eyes, skin and respiratory tract, irritation to the skin and eyes, and potential for skin sensitization associated with chromium and stannous sulfate. If accidentally ingested, these products are not expected to cause an aspiration hazard; however, some products may be harmful. Iron and stannous sulfate have been reported to cause toxicity to the liver and blood following chronic oral exposures in animal studies. Irritation of the gastrointestinal tract was also observed in chronic oral animal toxicity studies conducted with iron compounds. The available toxicity data show no evidence that these products are reproductive, teratogenic or developmental toxicants.

Environmental Information

Some of these products are considered acute and chronic aquatic toxicants described as being harmful. These products may persist in the environment because they are not expected to be readily biodegradable, however, most of these products demonstrate a low potential to accumulate in aquatic life. Due to the potential for some of these products to cause significant harm to aquatic environments, 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 Drilling Specialties Group 3 Crystalline Silica-Containing products are skin and eye contact, and inhalation exposures. Approaches to preventing exposure include working in well-ventilated areas, wearing appropriate personal protective equipment (PPE), and following 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. However, the likelihood of exposure to workers is expected to be low because these products are manufactured and packaged in controlled environments, and transported in well-sealed containers, and because workers in the manufacturing and/or quality lab settings are properly trained to handle such products and wear appropriate personal protective equipment (PPE). Further, these products are sold to industrial customers that represent themselves as being familiar with their intended applications, safe-handling, storage, and disposal requirements. Packaging and loading, quality assurance, and transportation workers should always adhere to safe-handling practices, wear appropriate PPE and practice applicable exposure prevention measures (i.e. engineering controls). Customers should 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 Company to sophisticated industry users and not to the general population.

Potential Environmental Release:

There may be some potential for significant exposure to the environment from accidental releases during transportation of bags via truck trailers, railcars, or shipping containers; however, the frequency of distribution incidents involving accidental release of these products has been low, and reported volumes spilled have been minimal. Chevron Phillips Chemical Company 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 Company 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 Company 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 the Drilling Specialties Group 3 Crystalline Silica-Containing 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 (SDS) 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>.

Data Review and Test Plan for Tannins, Sulfomethylated. High Production Volume (HPV) Chemical Challenge Program. 05/13/11. [Internal document.](#)
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Conclusion

The Drilling Specialties Group 3 Crystalline Silica-Containing products are classified as hazardous chemicals. Efforts should be taken to minimize exposure 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 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:

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