Product Stewardship Summary

PROTECTIVE COATINGS 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

These products are comprised of high-performance, multifunctional surface-tolerant protective coatings, each containing two parts: an epoxy resin and a hardener.

ForSField™ G-121R Epoxy Resin
ForSField™ G-121H Hardener
ForSField™ SG-11R Epoxy Resin
ForSField™ SG-11H Hardener
ForSField™ TZ-904R Epoxy Resin
ForSField™ TZ-904H Hardener

Category Justification

Overall, the products within each class of compounds have similar physical and chemical characteristics. They also exhibit similar health and environmental hazards and environmental fates.

Product Uses

These products are engineered to enhance corrosion and chemical resistance in a range of environments including petrochemical plants, mining facilities, pulp and paper mills, chemical process plants, and offshore structures. They are commercially available to industrial customers only.

Physical/Chemical Properties

HEAT WARNING! Curing epoxy generates significant heat. Never handmix the ForSField™ epoxy resin with the hardener. Doing so will generate significant heat and the combined materials may reach temperatures which can cause severe burns to skin, melt plastic and foam, and ignite combustible materials (potentially as much as 300°F or higher). Do not mix the epoxy resin with the hardener in containers made of materials such as plastic, foam or glass. If a container of mixed epoxy resin and hardener starts to exotherm (heat up) take precautions to move the container to a safe location.

Health Information

Epoxy resins:
These products are expected to have low acute toxicity by the oral, dermal, and inhalation routes. They are irritating to the skin and eyes; they are also skin sensitizers. Insufficient information is available to evaluate the toxicity of these products following repeated exposures. These products are expected to be non-genotoxic; however, one of the products contains a constituent that is a suspected mutagen. Based on the constituents, these products are not expected to be reproductive or developmental toxicants.

Hardeners:
These products are corrosive to the skin, eyes, and respiratory tract; and ingestion would result in severe irritation to the gastrointestinal tract. These products are skin sensitizers. Insufficient information is available to evaluate the toxicity of these products following repeated exposures. Based on the constituents, these products are not expected to be genotoxic; nor are they expected to be reproductive or developmental toxicants.

Environmental Information

The environmental hazard potential for the hardener products is low, whereas the epoxy resin products are high. Some of the constituents in these products may cause acute and chronic toxicity to aquatic life, with effects ranging from harmful to toxic. The available data on the constituents in these products suggest that they are not readily biodegradable (will persist in the environment), with a low potential for bioaccumulation. 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 these products are skin and eye contact, and from inhalation of an aerosol from spray application and, to a lesser extent, roller application. 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) quality assurance workers who sample and analyze the products to ensure that they meet specifications; (2) workers involved in distribution and storage of these products; and (3) commercial consumers in occupational settings that use these products in intended applications. The most likely routes of exposure to these products in an occupational setting are eye and dermal contact, and inhalation exposure of an aerosol from spray application and, to a lesser extent, roller application. However, the likelihood of exposure to workers is expected to be low because these products are packaged in enclosed, controlled environments (i.e. drumming), 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 are 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 drums and/or pails via truck trailers. Spillage should be quickly collected and properly disposed of to minimize harm to the environment. 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 these products. These regulations may vary by city, state, country or geographic region. Additional relevant information may be found by consulting the applicable Safety Data Sheets.

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

- https://echa.europa.eu/information-on-chemicals/registered-substances

Australian Government Department of Health National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

- https://www.nicnas.gov.au/chemical-information

Government of Canada Draft Screening Assessment Epoxy Resins Group

- https://www.canada.ca/en/environment-climate-change/services/evaluating-existing-substances/screening-assessment-epoxy-resins-group.html

OECD: The Global Portal to Information on Chemical Substances (eChemPortal)

- https://www.echemportal.org

Conclusion

The Protective Coatings 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/