Product Stewardship Summary
High Purity Hydrocarbons 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

There are 21 products in the High Purity Hydrocarbons product group. The High Purity Hydrocarbons are produced from petroleum or crude oil and consist of either a single or blend of aliphatic or C_8 aromatic hydrocarbons. The aliphatic or alkane hydrocarbons (linear, branched, and/or cyclic) range in carbon number from C_5 to C_{16}. Below are the High Purity Hydrocarbons products:

- Normal Pentane
- Methylcyclohexane Pure Grade
- n-Hexane 95%
- n-Heptane 95%
- n-Heptane Pure Grade
- Isooctane (2,2,4-trimethylpentane) Pure Grade
- Soltrol® 10 Isoparaffin Solvent
- Soltrol® 100 Isoparaffin Solvent
- Soltrol® 125 Isoparaffin Solvent
- Soltrol® 125H Isoparaffin Solvent
- Soltrol® 130 Isoparaffin Solvent
- Soltrol® 170 Isoparaffin Solvent
- Soltrol® 220 Isoparaffin Solvent
- Soltrol® DGS
- Paraxylene
- Ecosolv® Dry Cleaning Fluid
- HC-DCF™ Low Flash Solvent (Class II)
- Charcoal Lighter Distillate
- Charcoal Lighter Distillate – High Flash
- Charcoal Lighter Distillate – Mid Flash
- Alkylate 105

Product Uses

These products are used for applications including process solvents, chemical intermediates, pharmaceuticals, diluents/carriers, dry cleaning fluids, charcoal lighter fluids, and other specialty solvents.

Physical/Chemical Properties

The High Purity Hydrocarbons, with the exception of three products (Soltrol® 170 and 220 Isoparaffin Solvents and Soltrol® DGS), are volatile to highly volatile, flammable, and combustible liquids, and vapors may readily form flammable mixtures. The flash points for the volatile alkanes range from -55°C (-67°F) to 112°C (231°F); the flash points for the aromatics are 27-32°C (81-90°F). These products have the potential to cause fires if they are exposed to an ignitable source. Electrostatic charge can accumulate and create a hazardous condition when handling these materials. Containers may explode under pressurized conditions. Due to their inherent explosive characteristics, there are specific requirements for handling, storage, transportation, labeling and

disposal. However, these products are typically stable under normal ambient temperature and pressure and appropriate storage and handling conditions.

Health Information

The High Purity Hydrocarbons have low acute toxicity. Exposures to vapors or aerosols may be irritating to the eyes and respiratory tract. At high concentrations, vapors and aerosols may also cause central nervous system depression presenting possible symptoms such as headaches, dizziness and drowsiness. When there is repeated or prolonged skin contact, these products may cause skin irritation. The High Purity Hydrocarbons are not dermal sensitizers. There is low concern that these products can cause reproductive or developmental effects, and they are not considered to have mutagenic or carcinogenic properties.

If accidently ingested, a small amount of liquid may be aspirated into the lungs which can occur from either swallowing or vomiting. Aspiration of liquid into the lungs may cause inflammation of the lungs and lung edema (accumulation of fluid in the lungs). This is a medical emergency and requires immediate and proper treatment.

Paraxylene contains ethylbenzene. Ethylbenzene has been shown to be a carcinogen in laboratory animal studies. The relevance of these findings to humans is uncertain. In addition, repeated exposures to ethylbenzene have been shown to cause ototoxicity in animal studies.

Repeated inhalation exposure to n-hexane has been shown to cause peripheral neuropathy in both laboratory animals and in humans. n-Hexane has also been shown to cause male reproductive effects in laboratory animals, as well.

Soltrol® DGS contains 1-Decanol. This primary aliphatic alcohol has low acute toxicity but may cause irritation to the eyes and mild skin irritation. 1-Decanol is not a skin sensitizer. Repeated exposure is not expected to cause adverse effects. Aliphatic alcohols are also not expected to cause reproductive or developmental effects and not considered to have mutagenic or carcinogenic properties.

Environmental Information

The environmental hazard potential for the High Purity Hydrocarbon products is expected to be varied because their toxicity and fate will depend on the hydrocarbon product, or in the case of mixtures, the individual components in the mixture. If accidently spilled into the environment, these products have low solubility in water and are expected to rapidly degrade in air through atmospheric processes. These products are also biodegraded to varying degrees but not expected to persist in the environment. Some products however can cause significant harm to aquatic organisms and have a low to moderate potential to bioaccumulate. Soltrol® DGS contains 1-Decanol that is toxic to aquatic life and may be harmful to aquatic organisms with long lasting effects. 1-Decanol is not expected to persist in the environment and has a low potential to bioaccumulate. Due to their potential to cause significant harm to aquatic environments, care should be taken to avoid releases of these products 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 High Purity Hydrocarbons are by inhalation and skin or eye contact. 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 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 and/or blended 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 always adhere to safe handling practices, wear appropriate personal protective equipment (PPE), and will also likely have access to engineering controls to prevent exposure. 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 Company 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 of the High Purity Hydrocarbon products during transportation of large quantities via isocontainers, trucks, and railcars; however, the frequency of distribution incidents involving accidental releases of these products has been low and reported product volumes spilled have been minimal. Chevron Phillips Chemical is committed to operating in an environmentally responsible manner and has adopted the American Chemistry Council's Responsible Care® initiative.

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 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 High Purity Hydrocarbons 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.

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

- http://www.echemportal.org.

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

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

Conclusion

High Purity Hydrocarbon products contain components that 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 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/