



Product Stewardship Summary Hydrogen Rich Gas

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 on this chemical is available through the applicable Material Safety Data Sheet which must be consulted before using this chemical. The product stewardship summary does not supplant or replace required regulatory and/or legal communication documents.

Chemical Identity:

Hydrogen Rich Gas is a colorless gas at room temperature. It is a combination of light gases. It consists predominantly of hydrogen and low molecular weight hydrocarbons such as methane, ethylene, ethane, etc. Ethylene production via thermal steam cracking produces a wide variety of byproducts that are subsequently separated through distillation into various fractions. Hydrogen Rich Gas is produced and separated as a light end byproduct of the thermal steam cracking process in an ethylene production complex.

CAS Number: 68476-26-6 CAS name: Fuel Gases

Synonyms: Ethylene unit fuel gas, Sweeny tail gas, Tail gas

Product Uses:

Hydrogen Rich Gas is used primarily as an intermediate refinery or chemical plant feedstock to a hydrogen extraction unit.

Physical/Chemical Properties:

Hydrogen Rich Gas is classified as a flammable and compressed gas. Maintenance of special handling and storage procedures is required.

Health Information:

Based on available components data, Hydrogen Rich Gas is classified with acute inhalation toxicity category 4 (harmful if inhaled) under the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). Hazardous quantities of hydrogen sulfide (H₂S) may be present. Whenever a potential for exceeding 0.5 ppm (one-half the ACGIH TLV) exists, detection and monitoring of hydrogen sulfide must occur. Since the sense of smell cannot be relied upon to detect the presence of H₂S, the concentration should be measured by the use of fixed or portable devices.

Environmental Information:

Based on available data for similar materials and the components, Hydrogen Rich Gas is expected to be toxic to aquatic organisms but is not expected to bioaccumulate. Hydrogen Rich Gas is not expected to accumulate or present an environmental hazard.

Exposure Potential:

Exposure to Hydrogen Rich Gas in occupational and non-occupational settings is expected to be very limited. Hydrogen Rich Gas is handled in closed systems and protective equipment is used. Worker exposure is kept to a minimum.

- *Workplace use:* This refers to potential exposure to Hydrogen Rich Gas to persons in a manufacturing facility or through various industrial applications. Manufacturing and transport involving Hydrogen Rich Gas are usually conducted in closed systems, so human exposure is expected to be very limited.
- *Consumer use:* There is no direct consumer use of Hydrogen Rich Gas. Non-occupational exposure to Hydrogen Rich Gas is expected to be limited to exposure following inadvertent release of the product.
- *Potential environmental release:* Hydrogen Rich Gas is stored and transported in closed systems. Exposure to the environment is expected to be very low. 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 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. To that end, Material Safety Data Sheets are provided to the customers.

Regulatory Information:

Regulations exist that govern the manufacture, sale, transportation, use and/or disposal of Hydrogen Rich Gas. These regulations may vary by city, state, country or geographic region. Additional helpful information may be found by consulting the relevant product Material Safety Data Sheet and local and Federal regulations.

Sources of Additional Information:

- European Chemical Substances Information System (ESIS):
<http://esis.jrc.ec.europa.eu/>
- Organization for Economic Cooperation and Development (OECD) – eChemPortal web-based search tool (use applicable CAS No):
<http://www.echemportal.org/echemportal/>
- European Chemicals Agency (ECHA) – Information on Registered Substances:
<http://apps.echa.europa.eu/registered/registered-sub.aspx>
- Chevron Phillips Chemical's Material Safety Data Sheets:
<http://www.cpchem.com/en-us/pages/msdssearch.aspx>

Conclusion:

Hydrogen Rich Gas is mainly used as a feedstock stream for a hydrogen extraction unit in a refinery or chemical facility. Hydrogen Rich Gas is a flammable and compressed gas. It may be harmful by inhalation. Appropriate personal protective equipment practices and labeling, storage and transportation procedures shall be followed. Further, the relevant

product Material Safety Data Sheets and applicable regulatory guidelines and requirements, including, but not limited to, OSHA guidelines, should be consulted prior to the use or handling of Hydrogen Rich Gas.

Contact Information:

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

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