



Product Stewardship Summary Raw Natural Gas Liquids (NGL) and Heavy NGLs Product Category (Raw NGL, Natural Gasoline, Naphtha)

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

Chemical Identity:

Raw natural gas liquids (NGL) and heavy NGL products are a category of products. They are a complex mixture of hydrocarbons derived from crude petroleum or separated as a liquid from natural gas. Raw NGL is the liquid condensate produced by natural gas processing plants. Raw NGL is typically a mixture primarily of ethane and propane, secondarily of normal butane and isobutane, with lesser amounts of pentane and heavier components. Natural gasoline is the bottoms cut of predominantly pentane (C5) and hexane (C6) range hydrocarbons produced in raw NGL fractionators. Natural gasoline is generally composed of straight-chain and branched hydrocarbons, with only trace amounts of aromatic or olefinic molecules. Naphtha is any of several gasoline range mixtures, generally produced from crude oil in refineries, and typically classified as either naphthenic and aromatic (N+A) naphtha or paraffinic naphtha.

This category contains three members, with CAS numbers and names listed below.

CAS Number	Product Name
8006-61-9/68425-31-0	Natural gasoline
64741-48-6	Raw NGL
8030-30-6 / 8032-32-4 / 68606-11-1 / 68410-05-9 / 64741-87-3 / 64741-46-4	Naphtha

Category Justification:

CAS numbers of raw NGL and heavy NGL products fall under the same category – “low boiling point naphthas (gasolines)” under CONCAWE (Conservation of Clean Air and Water in Europe - The oil companies' European association for environment, health and safety in refining and distribution) as detailed in its report No. 9/15 (Hazard classification and labelling of petroleum substances in the European Economic Area – 2015).

Product Uses:

Natural gasoline and naphtha are used as motor gasoline blending components and as petrochemical feedstocks. Raw NGL is fractionated into its primary constituents to be used as motor gasoline blending components, petrochemical feedstocks, or in heating applications (propane in particular).

Physical/Chemical Properties:

Natural gasoline and naphtha are clear, colorless to light yellow colored liquids at ambient temperature and pressure. Raw NGL is generally stored and transported under pressure in the liquid phase, but vaporizes rapidly upon release to the atmosphere. The liquid and vapor of raw NGL and heavy NGL products are extremely flammable.

Health Information:

Based on testing data of a number of similar products, acute toxicity of raw NGL and heavy NGL products is expected to be low. If swallowed, these products may be aspirated, resulting in inflammation and possible fluid accumulation in the lungs. Raw NGL and heavy NGL products may cause skin irritation. Inhalation of vapors at high concentration can cause central nervous system effects (e.g. headache, drowsiness, lightheadedness etc.). Raw NGL and heavy NGL products are classified as mutagens and carcinogens due to the likely presence of benzene. Benzene is classified as a known human carcinogen by various regulatory agencies worldwide. Raw NGL and heavy NGL products can contain amounts of toluene and/or n-hexane, components that are classified as reprotoxicants.

Environmental Information:

Raw NGL and heavy NGL products are expected to be toxic to aquatic organisms. Raw NGL and heavy NGL products are not considered to be readily biodegradable, but are expected to be inherently biodegradable and unlikely to persist in the environment. The components of raw NGL and heavy NGL products are potentially bioaccumulative.

Exposure Potential:

- *Workplace use:* This refers to potential exposure of raw NGL and heavy NGL products to persons in a manufacturing facility or through various industrial applications. Manufacturing and transport involving raw NGL and heavy NGL products are conducted in closed systems, so human exposure is expected to be very limited. Limited exposure may occur during maintenance, sampling, testing, or other procedures.
- *Consumer use:* There is no direct consumer use of raw NGL and heavy NGL products. Components derived from raw NGL, such as propane and normal butane, are commonly sold as consumer products.
- *Potential environmental release:* There may be some potential for exposure to the environment from an accidental release of raw NGL and heavy NGL products due to transportation of large quantities over long distances; however, exposure due to release is believed to be very low. Chevron Phillips Chemical Company LP 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 LP 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 begin by ensuring that all of our customers, distributors, carriers and users of raw NGL and heavy NGL products are well informed about the properties of each product. To that end, a Safety Data Sheet accompanies each shipment from our manufacturing plant.

Regulatory Information:

Regulations exist that govern the manufacture, sale, transportation, use and/or disposal of products of the raw NGL and heavy NGL products category. These regulations may vary by city, state, country or geographic region. Additional helpful information may be found by consulting the relevant product Safety Data Sheet.

Sources of Additional Information:

- Organization for Economic Cooperation and Development (OECD) - eChemPortal web-based search tool (use applicable CAS No): <http://www.echemportal.org/echemportal/>
- CONCAWE (Conservation of Clean Air and Water in Europe - The oil companies' European association for environment, health and safety in refining and distribution) Report No. 9/15 Hazard classification and labelling of petroleum substances in the European Economic Area - 2015 <https://www.concawe.eu/publications/543/40/Hazard-classification-and-labelling-of-petroleum-substances-in-the-European-Economic-Area-2015-report-no-9-15>
- European Chemicals Agency (ECHA) – Information on Registered Substances: <http://echa.europa.eu/information-on-chemicals/registered-substances>
- Chevron Phillips Chemical’s Safety Data Sheets: <http://www.cpchem.com/en-us/pages/msdssearch.aspx>

Conclusion:

Raw NGL and heavy NGL products are extremely flammable. They are not acutely toxic by skin, oral, or inhalation contact, however, they may be irritating to skin and could potentially be aspirated into the lung causing lung damage. They are classified as carcinogen and mutagen based on the likely presence of benzene. Appropriate personal protective equipment practices and labeling, storage, and transportation procedures must be followed. Further, 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 NGL products.

Contact Information:

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

Date: February 29, 2016