

Gas oils (petroleum), hydrodesulfurized

Product Stewardship Summary

CAS number:

64742-79-6

Chemical formula:

Not applicable, most petroleum industry substances are Substances of Unknown or Variable composition, Complex reaction products or Biological materials (UVCB).

What are Gas oils (petroleum), hydrodesulfurized?

They are a complex combination of hydrocarbons obtained from a petroleum stock by treating with hydrogen to convert organic sulfur to hydrogen sulfide which is removed. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C₁₃ through C₂₅.

How are Gas oils (petroleum), hydrodesulfurized used?

They are mainly used as blending component in a wide range of lubricants and functional fluids or as process oils.

Health, Safety and Environmental considerations

Gas oils (petroleum), hydrodesulfurized have a typical flashpoint of above 80 °C and an initial boiling point of above 170 °C. They are not flammable according to UN GHS criteria, but will burn. They are neither self-reactive, nor self-heating and do not undergo exothermic decomposition when heated.

Due to potential reactions with oxidizing materials such base oils should be stored separately. The recommended storage temperature should not exceed 50 °C.

Gas oils (petroleum), hydrodesulfurized are harmful if inhaled, but of low toxicity when swallowed or in contact with skin in laboratory animals.

Eye irritation tests showed no signs of irritation. However, dermal exposure of laboratory animals (rabbits) resulted in skin irritation; no signs of corrosion or allergic reaction were observed. Repeated dermal exposure may also cause dryness or cracking after repeated dermal exposure may occur. If skin is not properly cleaned, pores may be clogged and result in oil acne or folliculitis. Inhalation of oil vapours or mists may cause respiratory irritation. Therefore, an occupational exposure limit (OEL) for oil mists at the workplace of 5 mg/m³ based on the recommendation of the American Congress of Governmental Hygienists (ACGIH) should not be exceeded. Appropriate personal protection equipment as well as procedures for safe handling and risk management controls as described in the current Shell Lubricant Safety Data Sheet should be applied.

This material has a typical kinematic viscosity of 3 mm²/s (at 40 °C) and is considered to pose an aspiration hazard.

Based on available data it can be concluded that hydrodesulfurized gas oils are not expected to be germ cell mutagens, to cause cancer or be reproductive toxins

Based on the above described health effects hydrodesulfurized gas oils are classified according to UN GHS criteria as harmful by inhalation (H332), skin irritant category 2 (H315) and aspiration hazard category 1 (H304).

The product is poorly soluble in water and will float on water. Therefore, tests on short- and long-term aquatic toxicity with fish, invertebrates and algae were carried out on water accommodated fractions resulting in toxicity to aquatic organisms and potential long-term effects on the aquatic environment.

Gas oils (petroleum), hydrodesulfurized are UVCB substances (see explanation under "Chemical formula"). Based on the available compositional information, measured and predicted data it can be concluded that the major constituents are readily or inherently biodegradable and have a low bio-accumulation potential. However, the presence of minor constituents with a certain environmental persistence or a bio-accumulation potential cannot be excluded.

Following UN GHS criteria, Gas oils (petroleum), hydrodesulfurized are classified for chronic aquatic toxicity category 2 (H411).

This material partly evaporates from water or soil surfaces, but due to the relatively low vapour pressure a significant proportion will remain after one day. If it enters soil, some of its constituents will be mobile and may lead to groundwater contamination.

The health, safety and environmental considerations above are not applicable for used oil, as this may contain more hazardous substances present as a consequence of different applications of this base oil, for which specific additives or other substances may have been introduced.

Storing and transporting Gas oils (petroleum), hydrodesulfurized

Based on their environmental toxicity these products are hazardous for transport (UN number 3082). They are mainly transported by road or rail.

The temperature during storage and transportation should not exceed 50°C.

Precautionary measures against static discharges must be undertaken during loading and unloading and all operators must wear personal protective equipment.

Storage tanks should be made from mild steel.

Risk Characterization Summary

Risks associated with exposure to these products have been evaluated for the following “chain-of-commerce” activities: manufacture, storage, product transfer, transportation, and customers / markets. They are manufactured, stored and transported to customers in closed systems. Product is considered to pose low risk in all applications due to the non-hazardous nature of the product.

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 health and safety information. Additional information is available through the chemical’s applicable [Safety Data Sheet](#) which should be consulted before use of the chemical. This product stewardship summary does not supplant or replace required regulatory and/or legal communication documents.

Shell Process Oils linked to CAS number 64742-79-6:

- HNR 25
- HMVIP 25
- Risella 907



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Shell Lubricants

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