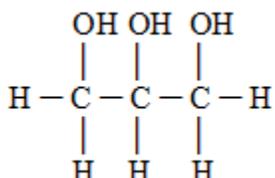


TECHNICAL DATA SHEET

MOON OU Kosher, USP*/FCC *For excipient use only

Description:



Moon OU Kosher, Glycerin 99.7% USP*/FCC

*For excipient use only

CAS# 56-81-5; **Formula:** CH₂OHCHOHCH₂OH

Moon OU Glycerin is produced by refining crude glycerine in a series of purification steps. Crude glycerine is derived by cleaving the glycerine chain off of its triglyceride backbone. The diagram above shows the glycerin molecular structure. It is a clear liquid with a slightly sweet taste.

PHYSICAL PROPERTIES

(all properties @ 22°C (72°F), 760mmHg unless stated)

Equivalent Weight: 246 Flash Point >198.9°C (390°C)
Specific Gravity: 1.26 Molecular Weight: 92
Melting Point: 18°C
Viscosity: ~1150 cp @ 20°C
Boiling Point: 290°C
Taste: Tangy sweet

Stable and soluble in water and miscible with ethanol, slightly soluble with acetone.

GENERAL INFORMATION

Regulatory Compliance:

- Designated as Kosher by the Orthodox Union
- Complies with USP- United States Pharmacopeias
- Complies with FCC- Food Chemicals Codex
- Complies with IPEC- International Pharmaceutical Excipients Council

Application Uses:

End-use applications for Moon OU Glycerin include pharmaceutical applications (for excipient use only), food and beverage ingredient, sweetener, personal care items such as tooth pastes, polyether polyols, alkyd resins, explosives, humectants, coatings, pet foods, lubricants, flexible foams, solid fuel, de-anti-icers, and soaps.

GENERAL INFORMATION cont...

Derivation/Allergen/BSE & TSE/Microbial:

Our Moon OU Glycerin is produced at P&G Chemicals' Cinnamati plant. It is manufactured from vegetable oils.

- No preservatives or additives are present.
- No allergens are present from the following sources: milk, egg, fish, crustacean shellfish, tree nuts, peanuts, wheat, sulfites, sesame seeds, aspartame, gluten source, monosodium glutamate, mustard seed or soybean
- Bovine Spongiform Encephalopathy (BSE) and Transmissible Spongiform Encephalopathy (TSE) are not a concern with Moon OU glycerin.
- Our manufacturing process contains a distillation step (reaching temperatures of 300 - 345°F) which is self-sterilizing, destroying potential microbes. Moreover, glycerin contains low available moisture and has inherent antimicrobial properties as a concentrated solution.

Shelf Life

We expect the shelf life of Moon OU Glycerin USP/FCC to be approximately 2 years if it is kept under the recommended storage and handling conditions. If the product has not been used within 2 years, we recommend to test the product for key specifications. No specific data has been collected for the shelf life of opened containers of glycerin. Since glycerin is hygroscopic, it can be expected that moisture content would increase upon extended exposure to air.

Storage and Handling (recommended)

Handling Temp Min-Max: 35-52°C (95-125°F)

Sensitive Properties: Odor, Moisture, Color, FA&E, RCS

Max Steam, psig: 10 psig for storage, 30 psig for railcar

Nitrogen Blanket: YES (>1 month)

Load out filter: 5 micron

Rail Car or Tank Truck: Latchet, stainless, aluminum or Food Grade lining

Agitation/Recirculation: Yes

Storage Tank: Stainless Steel or lined with Calcite 252 or Placate 9570

Pumps and Lines: Stainless Steel or lined with Calcite 252 or Placate 9570

Note: Heating should not exceed the max handling temperature of (52°C) 125°F

IMPORTANT NOTE This technical product information and suggestions for use, while believed to be accurate and reliable, is given without guarantee or warranty of any kind expressed or implied. Purchaser assumes all risk in acting on this information provided by Procter & Gamble representatives. Individual requirements vary, and each purchaser is urged to perform their own tests, experiments and investigations in the use of Procter and Gamble products and for purposes of determining compliance with applicable Federal, State and local laws and regulations. Nothing contained herein shall be construed as a recommendation to use any product in connection with existing patents covering any material or its use. Moreover, no license is to be implied under any Procter & Gamble patents relating to uses of the above

For further details, or samples of Moon OU Glycerin and other P&G Chemicals products, visit our website:

www.pgchemicals.com