NITRIC ACID

Strong - Low Oxide 98%

Technical Information

Properties

SDS #1024

	Typical Analysis	Specification
Nitric Acid, % by weight	98.7	98.0-99.0
Sulfate (ppm)	<5	--
Chloride (ppm)	<1	--
Iron (ppm)	<10	--
Oxides of Nitrogen as NO2 (ppm)	<30	--
Appearance		Clear, trace yellow

Product Description

NITRIC ACID is created by oxidizing anhydrous ammonia over a platinum catalyst at extreme temperatures. The resultant gases, nitric oxide and nitrogen dioxide, or NOx, are cooled and absorbed into dimineralized water. Apart from the hydronium and nitrate ions, the NITRIC ACID will not contain any ions unless they were present in the water source used for absorbing the acid gas or in the compressed air used in the process. The product acid is clear and colorless to slightly yellow. The common yellow discoloration in NITRIC ACID is directly proportional to the level of oxides of nitrogen dissolved in the solution (HNO_2 or nitrous acid). The acid is miscible with water in all proportions accompanied with a rise in temperature.

98% NITRIC ACID is produced by concentrating 56% NITRIC ACID in a distillation column with the aid of magnesium nitrate as a dehydrating agent. The resulting very pure product is highly concentrated, free of sulfates and chlorides and contains a low concentration of dissolved oxides.

Application Recommendations

- NITRIC ACID is a strong oxidizing agent and reacts violently with oxidizable organic substances to the point that ignition can occur with this acid. This chemical is used for nitration of organics for the production in plastics, surface coatings, dyes, pesticides and explosives.

Transportation, Storage and Handling

98% NITRIC ACID is shipped in high purity aluminum rail cars or in stainless steel tanker trucks. Due to the corrosivity of concentrated nitric acid on stainless steel, shipment by truck is preplanned to limited the transportation timeframe. 98% NITRIC ACID will develop higher levels of dissolved oxides if the product is stored for extended periods in high ambient temperatures.

- NITRIC ACID is highly corrosive to human tissue.
- **ALWAYS** wear liquid impervious clothing, gloves and boots.
- **ALWAYS** protect eyes and face with shield when transferring or handling this product.
- NITRIC ACID has a high vapor pressure and begins to vaporize into a white fume at warm ambient temperatures. Breathing fumes may cause severe respiratory problems.
- **NEVER** use NITRIC ACID as a substitute where mineral acids are typically used.

Hazardous Shipping Description

- NITRIC ACID solutions are placarded corrosive and are transported under a hazard classification 8.
- A spill of 1,000 pounds or more is a reportable quantity (RQ) pursuant to CERCLA Section 311 of the Clean Water Act.
- The shipment will be marked with international transportation number UN 2031 which may be incorporated into the placard.
- Consult MSDS #1024 for more specific and comprehensive information about chemical hazards.

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