NITRIC ACID

BLENDED >70–85%

Technical Information

NITROGEN PRODUCTS

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 demineralized water. Apart from the hydrogen and nitrate ions, 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. This is HNO_2 or nitrous acid. It can be minimized using various techniques from process air bleaching to inert chemical addition. The acid is miscible with water in all portions accompanied with a rise in temperature.

Application Recommendations

- NITRIC ACID is a strong oxidizing agent and reacts violently with oxidizable organic substances to the point that ignition can occur with the higher concentrations of 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

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

Properties

SDS #1025

	Typical Analysis	Specification
Nitric Acid %	82.9	81.0–85.0
Sulphates (ppm)	<10	20
Chlorides (ppm)	<1	5
Oxides of Nitrogen as NO_2 (ppm)	100	200
Iron (ppm maximum)	<10	15
Heavy Metals (ppm as Lead)	<0.2	–
Residue on Ignition (@800°C)	<0.3	10
Appearance	Clear to yellowish	–
Freeze point	not available	–
Specific Gravity (@ 20°C (68°F)	1.46–1.47 g/cc	–

Hazardous Shipping Description

- NITRIC ACID solutions are placarded corrosive and are transported under a hazard classification 8.
- The shipment will be marked with international transportation number UN 2031 which may be incorporated into the placard.
- Consult SDS #1025 for more specific and comprehensive information about chemical hazards.

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