

# NITRIC ACID

Technical  
Information



## Tower Acid WW

### 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 NO<sub>x</sub>, 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<sub>2</sub> 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

MSDS  
#1023

	Typical Analysis	Specifications
Nitric Acid %	57	55.0 - 59.0
Sulphates (ppm)	<5	--
Chlorides (ppm)	<1	--
Oxides of Nitrogen as NO <sub>2</sub> (ppm)	<10	--
Iron (ppm maximum)	<10	--
Color (APHA)	10	--
Appearance	--	Clear, Water White
Specific Gravity @20°C (68°F) (g/cc)	1.363	--
Freeze Point	-22°C (-8°F)	--

### 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 MSDS #1023 for more specific and comprehensive information about chemical hazards.



**Product Disclaimer** Dyno Nobel Inc. disclaims any warranties with respect to this product, the safety or suitability thereof, or the results to be obtained, whether express or implied, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND/OR OTHER WARRANTY. Buyers and users assume all risk, responsibility and liability whatsoever from any and all injuries (including death), losses, or damages to persons or property arising from the use of this product. Under no circumstances shall Dyno Nobel Inc. be liable for special, consequential or incidental damages or for anticipated loss of profits.

NL-22-05-05-11

Dyno Nobel Inc.

2795 East Cottonwood Parkway, Suite 500, Salt Lake City, Utah 84121 USA  
Phone 800-732-7534 Fax 801-328-6452 Web www.dynonobel.com

DYNO  
Dyno Nobel

Groundbreaking Performance