

Go Green with DART-MS

Facts about Nitrogen Gas Ionization

The Ambient Ionization Source to Reduce Your Footprint

Green Possibilities

- You can reduce or eliminate solvent consumption and waste → DART does not require any solvent
- You can minimize plastic/glass vial disposal cost → Sample direct with any of our consumables for real time sample analysis
- You can quick analyze samples → Reduce instrument demand by avoiding time / solvent consuming chromatography for many samples
- Ionization with Nitrogen for the majority of sample, use Helium for very low vapor pressure samples**

Benefits of Nitrogen Ionization

N₂ DART is a sustainable alternative to helium ionization methods

- The ionization efficiency of excited nitrogen is high enough that almost all but the very smallest organic compounds can be easily ionized.
- Reduced in-source fragmentation due to lower internal energy metastables.
- Nitrogen is literally the most abundant gas in the world

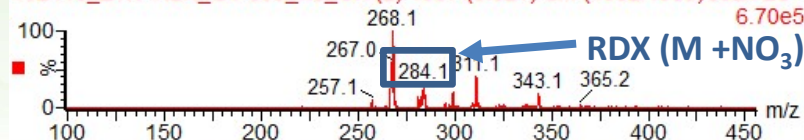


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Examples of DART Ionization with Nitrogen Gas

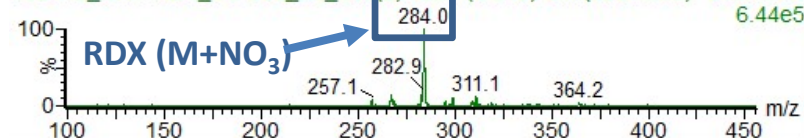
NEG; He; 300C; 0.5mm Cer Cap; 0.7

102418_ETN_RDX_GV_350_He_ON (2) 1087 (3.621) Cm (1082:1099) Scan ES-



Helium

102418_ETN_RDX_GV_350_N2_ON (2) 1004 (3.345) Cm (993:1009) Scan ES-



Nitrogen

The above Spectra compares nitrogen and helium ionization of the explosive RDX. Ionization of RDX with Nitrogen gas shows cleaner spectra than with Helium gas

PEAK - NG3000A®

ULTRA HIGH PURITY NITROGEN GENERATOR

This nitrogen generator supplies ultra-high purity ionization at 99.9995% which provides sufficient purity to ionize compounds by DART



N₂ Tanks vs N₂ Generator

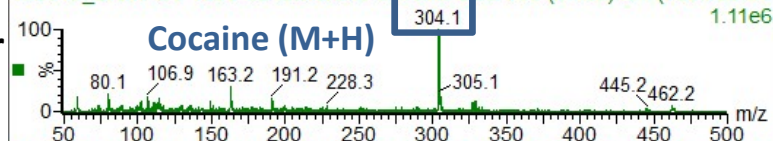
Equivalent signal response is observed when using nitrogen from either Grade 4.8 cylinder tanks or the Peak NG3000A Generator

Caution: Not all generators are adequate. Lower purity nitrogen generators may not prove capable for DART use

Generator

NG3k N2 generator_10min_300C_POS 0.1ng/uL 1ng/uL

102318_DART_GV_150V_N2_Generator_Cocaine_LOD_738 (2.458) Cm (736:752-66



N2 tank

102318_DART_GV_150V_N2_Tank_Cocaine_LOD_816 (2.718) Cm (793:819-728:756

