

# 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

N<sub>2</sub> DART is a sustainable alternative to helium ionization methods

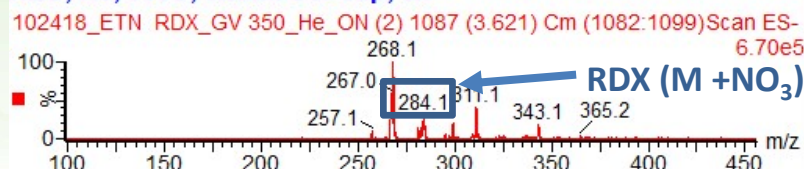
- The ionization efficiency of excited nitrogen is high enough that almost all but the very smallest organic compounds can be easily ionized.
- Reduced in-source fragmentation due to lower internal energy metastables.
- Nitrogen is literally the most abundant gas in the world



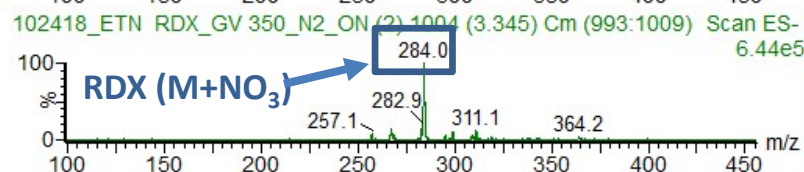
999 Broadway Suite 404  
Saugus, MA 01906-4510  
P (781) 484-1043  
[info@ionsense.com](mailto:info@ionsense.com)  
[www.ionsense.com](http://www.ionsense.com)

### Examples of DART Ionization with Nitrogen Gas

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



Helium



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



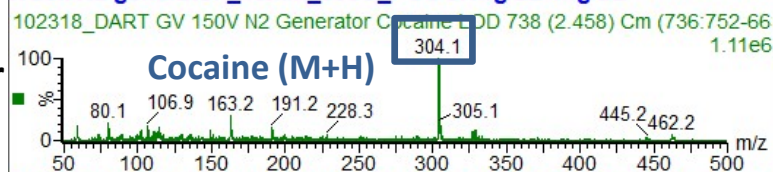
### N<sub>2</sub> Tanks vs N<sub>2</sub> Generator

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



### N2 tank

