



Product Data Sheet ANHYDROUS AMMONIA

82.4-0-0 fc*

The New Era, Spec Label, Green Play Ammonia Zero Carbon.

GUARANTEED ANALYSIS

Total Nitrogen (N) -----82.4%

Made from wind, solar, water and air.

Green Play Ammonia is Zero Carbon 82.4% Nitrogen.
Why a New Era? A steady price over 7 years, at zero carbon emission
Employment is local building Green Ammonia at 2,000 plants.

DOT transport delivery is made from the local Green Play Plant.
Composition is 82.42 percent Nitrogen, dull. 17.58 percent Hydrogen with 1 gallon H2O added per 999 gallons of sharp NH3 to delay Hydrogen embrittlement.
Pounds of Nitrogen per gallon at 60 degrees F. 4.2436 lbs. N.
Pounds of Nitrogen per pound of zero carbon Ammonia. 82.42%.
Weight Per Gallon, dull, 5.15318 lbs. at 58 to 60 degrees F.
Weight Per Cubic Foot. 38.4 lbs./cu. ft.
Specific Gravity at 60 degrees F. .617 SG.
Viscosity Centipoise. .1184 cP @ 60 degrees F.
Gallons per US Short ton. 388.1099 gallons@60 degrees F.
Gallons per 100 lbs. N. 23.58 at 60 degrees F.
Nitrogen per gallon at 60 degrees F. 4.24 lbs. N using Mass Flow Metering.
Mass Flow readout accuracy in all temperature and pressure ranges. +20 lbs. in 10,000 lbs. applied.
Injection pressures, 40 psi to 350 psi.
pH alkaline at 14.
Tank Pressure at 32 degrees F. 47.5 psi.
Tank Pressure at 60 degrees F. 92.5 psi.
Tank Pressure at 77 degrees F. 130 psi.
Tank Pressure at 100 degrees F. 197.2 psi.
Less Than 5 ppm oil.
New tanks have trace amounts of steel, and rouge. It is found in 100 mesh filters and magnetic strainers.

How To Use Green Play Ammonia™

Non-Flammable, Inhalation hazard.
Authorized Trained Personnel and Hazmat driver's license required to handle and transport.
Goggles and Gloves required at all transfers and field use.
DOT Number 1005.
Can be controlled and mixed with air at 16% to 23% mix for burning.
Can be used to control plant and engine emissions in SCR, selective catalytic reaction.
Can be used for reciprocating engine power 2024.
Pressure Vessel delivery to pressure vessel storage, ASME Tanks required under the rule of 1544 and rule 3088.
ASME Pressure Vessel, 70,000 psi Steel Tanks are rated at 250 psi storage, tender and application.
ASME Interstate Transport Rated Steel Tanks are rated at 265 PSI for long distance transfer between states.
Hoses are designed for 350 psi operation pressure, Burst Pressure 1,750 psi.

Special Note.

At one ton Fossil ammonia built from Steam Methane Reformation uses 33,575,000 million BTU of natural gas, \$40 to \$80 of coal fired electricity and 1.7 tons of CO2 lost at the plant. The oilfield is other part of the factoid of another 33% loss.

The actual CO2 emission at fossil natural gas ammonia is 2.2 tons. The calculation includes the mining and exploration loss of Methane, CO2 combined. Coal Methane based Ammonia with Steam Methane Reformation is 4.4 tons of CO2 without the mining loss of coal.

China has 83 fossil ammonia plants of which 64 are coal fired. They now produce 40% of the all the ammonia in the world.

Nitrous Oxide loss comes from agricultural tillage application of all nitrogen sources. Mostly second and third nitrogen products such as Urea, UAN and URAN) produce 62.5% of the nitrous oxide emission that comes from agriculture.

*Fungible Certificate

Green Hydrogen Quote a Low Heat Value of 119,000 BTU per Kilo. Fuel Cell purity.
Green Hydrogen Quote in High Heat Value of 141,000 BTU per Kilo for Direct Fueling.
Contact Exactrix Global Systems, Green Play ammonia. www.greenplayammonia.com

Agricultural Direct Application Green Zero Carbon Ammonia as a growth stimulant for commodity crops.

For most effective results the Zero Carbon material is applied at soil depth of 6 to 8 inches at an application CV of 1% using Mass Flow measurement.
For reduced use at 140 lbs. N/A (33 gals./A) in irrigated production.
The Green Play Ammonia material is dual applied with associated materials such as Ammonium Poly Phosphate, Potassium Thio-sulfate, Zinc and Ammonium Thio-Sulfate.
Anhydrous Ammonia can be injected deep in the Fall, Spring and Summer at 6 to 8 inches to avoid leaching and loss thru the surface improving NUE, Nitrogen Use Efficiency.
Anhydrous Ammonia works best in undisturbed, No-tillage moist soils with growing cover and good organic matter of 2% to 5%.
Sandy Soils with low CEC below 10 should not be fall banded. Sandy soils with a low CEC can be spring banded into a growing crop for side dress treatment.
Anhydrous Ammonia as TAPPKTS plus Zinc will not leach if No-till Fall Applied at 6 to 8 inch depths at 2% OM with a CEC of 10 or greater, 10 lbs N per 1 CEC. Soil temperatures in October fall banding at 60 degrees F with a Cover Crop allow the bands to be attached to growing roots.
No-tillage Winter Wheat can be fall banded with applications at 1%CV TAPPKTS plus Zinc. Rotational band loading allows the 7th year as a skip year in no-till.

Yielder® NFuel Energy. Zero Carbon BTU's from the wind and solar. Binary Fueling NH3 and H2.

Can be used as a hydrogen source for fueling hydrogen engines.
Can be used as an Anhydrous Ammonia source for fueling ammonia engines.
Can be used for Building Heat, Grain Dryers, Cement Kilns, Asphalt Plants, Rotary Kilns, Ethanol and Biodiesel plants as a zero carbon heat source.
Kilograms H2 per Ton NH3 delivered. 160 Kilograms H2 /Short Ton.
British Thermal Units (BTU) at 60 degrees F per ton of NH3: 15,755,727 BTU.
Gallons NH3 per Ton at 60 degrees F: 388.3495 gallons.
Pounds of H2 in a green zero carbon ton of NH3: 352 pounds of H2.
Green Ammonia Zero Carbon BTU per gallon of NH3 at 60 degrees F: 40,570 BTU.
Standard ASME 250 psi rated tanks. Meets all current codes at the state fire marshals office.
Code Welders note: Infrastructure, Insurance and tank repairs are covered by the National Board of Review and Hartford Steam and Boiler Insurance Co.
Code Welders note: Lowest storage, transportation and plant construction cost as zero carbon fueling with either NH3 or H2.
Crackers are used to deliver hydrogen to the hydrogen engines built by major firms in Japan, USA and Europe.
Crackers are not required with Ammonia fueled engines built in Japan, USA and Europe.
Hydrogen Engine Launch Caterpillar.
May 31, 2022 Cat G3516H Demonstration project CHP 1540 kVA