China Supply Good Price Cylinder Gas NF3 Gas Nitrogen Trifluoride

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: CMC
- Certification: COA
- Model Number: NF3
- Minimum Order Quantity: 1kg
- Price: US $500/kg
- Packaging Details: Cylinder/Tank
- Delivery Time: 15 days
- Payment Terms: L/C, T/T
- Supply Ability: 20000 Tons/Year

Product Specification

- Product Name: Nitrogen Trifluoride
- Appearance: Colorless, Odorless
- Boiling Point: -129.0 ºC
- Melting Point: -206.79 ºC
- Cylinder Pressure: 15MPa/20MPa
- Valve: Diss640
- Cylinder Standard: DOT/ISO/GB
- Transport Package: Cylinder
- Trademark: CMC
- Origin: China
- Supply Ability: 5000tons/Year
- CAS No.: 7783-54-2
- Formula: NF3
- EINECS: 232-007-1
- Constituent: Industrial Pure Air

More Images

Our Product Introduction

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Product Description

Product Description

NF3 gas refers to nitrogen trifluoride in its gaseous state. Nitrogen trifluoride (NF3) is a compound composed of one nitrogen atom bonded to three fluorine atoms. In its gaseous form, NF3 is a colorless, odorless gas. Here are some key points about NF3 gas:

State: Nitrogen trifluoride is typically encountered as a gas at standard temperature and pressure (STP). Its boiling point is -129 degrees Celsius (-200 degrees Fahrenheit), and it can exist as a gas at room temperature.

Properties: NF3 gas is non-flammable, non-toxic, and has a slightly sweet odor at high concentrations. It is stable and does not react with most common materials at room temperature. NF3 has a molecular weight of 71.0 g/mol.

Uses: NF3 gas has several industrial applications:

Electronics Manufacturing: It is widely used as a cleaning agent in the electronics industry to remove residues from silicon wafers, chambers, and other electronic components during the manufacturing process.

Plasma Etching: NF3 gas is employed as a plasma etchant in the semiconductor industry to selectively remove materials from the surface of silicon wafers and other substrates.

Solar Panel Manufacturing: It is used in the production of thin-film photovoltaic cells, which are used in solar panels.

Chemical Reactions: NF3 can serve as a fluorinating agent in various chemical reactions, allowing for the introduction of fluorine atoms into organic molecules.

Environmental Impact: Nitrogen trifluoride has a high global warming potential (GWP) and a long atmospheric lifetime, contributing to its potential impact on climate change. It is considered a potent greenhouse gas. Monitoring and reducing NF3 emissions are important for mitigating its environmental impact.

When working with NF3 gas, it is crucial to follow appropriate safety protocols, including working in well-ventilated areas and using proper protective equipment. Care should also be taken to prevent exposure to high concentrations, as NF3 can displace oxygen and cause asphyxiation in confined spaces.

Overall, NF3 gas is widely used in the electronics and semiconductor industries, as well as in solar panel manufacturing, due to its effective cleaning and fluorinating properties.

Overview

DOT Class	2.2 & 5.1	Un Number	Un 2451
Cylinder Standard	DOT/ISO/GB	Cylinder Pressure	15MPa/20MPa
Valve	Diss640	Melting Point	-206.79 ºC
Appearance	Colorless, Odorless	Boiling Point	-129.0 ºC
Density	2.96 Kg/M3	Molecular Weight	146.05
Transport Package	47L, 440L	Specification	99.99%, 99.996%
Trademark	CMC	Origin	China
HS Code	28129011	Production Capacity	5000tons/Year

Product Name	Nitrogen trifluoride NF3
Chemical Formula	NF3
Hazard Class	2.2
Molecular Weight	71.002
Boiling Point (ºC)	-129.05
CAS	7783-54-2
Density(kg/m³)	3.015

Process:

Nitrogen trifluoride is prepared by the direct fluorination of ammonia. It may also be obtained by electrolysis of molten ammonium bifluoride or by direct combination of the elements nitrogen and fluorine using an electrical discharge at low temperatures.

Specification:

Cylinder: 44L	Valve: CGA640	Content:20kg
Cylinder: 440L	Valve: CGA640	Content:200 kg
ISO-20ft	Valve: CGA640	Content:4000kg
ISO-40ft	Valve: CGA640	Content:8000kg

Application:

Nitrogen trifluoride is used

1. as a high-speed, selective etchant in silicon processing. It has been used to etch silicon, polysilicon, silicon nitride and silicon oxide as well as refractory metals and silicides
2. to in-situ tube cleaning

3. as a nitrogen source gas for nitride deposition
4. as the fluorine source in HF/DF chemical lasers
5. as a fluorinating agent
6. for fiber treatment

Emergency Measures:
Signal word: Danger

Detailed Photos

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