

## Product Description

**Formula-8** is engineered with mineralized PTFE in a shear-sensitive thixotropic paste that wets into, and seals threaded joints with strings of PTFE when torqued. Formula-8 is engineered to seal over the entire thread length for the life of the joint in liquid, gas, and vacuum service.  
NSN 8030-01-527-7193

## Features and Benefits

- Aqueous-based PTFE dispersion formulation
- Water soluble
- Stable from cryogenic temperatures to 287°C (+550°F)
- Stable in pressures up to 10,000 psi and in vacuums 10<sup>-3</sup> Torr
- Chemically inert
- Anti-galling, anti-corrosive, anti-seize
- Prevents pipe damage on stainless steel, steel, and plastic
- Silicone-free
- Insidiously wets to threads, and once dried down, will not be dislodged
- Will not cold flow over time
- Will not jam check valves, pumps, or plug orifices
- Non-migrating
- Non-toxic, solvent-free, non-hazardous, odorless, non-flammable, VOC-free
- Seals all sizes and types of threaded joints
- Permits sealing or disassembly at relatively low torques
- Engineered to replace thread sealing tapes
- Eliminates challenges associated with tape



## Applications

Natural gas applications  
Cryogenic applications  
Welding and industrial gases  
Gasoline, diesel, kerosene fuel systems  
Hydraulic systems  
Vacuum service to 10<sup>-3</sup> Torr

Chlorine and powerful oxidizers  
Oxygen systems  
Valves in bottled gases  
Instruments and fine threads  
Machine and engine sensors  
Ammonia and freon refrigeration service

Medical  
Wafer fab  
Offshore drilling rigs  
Coal power plants  
Aerospace  
Chemical processing  
Medical

Formula-8 is a very safe, solvent-free product. Not classified as hazardous according to OSHA 29 CFR 1910.1200 and WHMIS. Not hazardous under the consumer product safety regulations. See Safety Data Sheet for additional information.

# TECHNICAL DATA SHEET



## Formula-8® PTFE Thread Sealant



### Storage, Shipping and Handling

Do not store at temperatures below 0°C (32°F). *Product only freeze sensitive in the paste state.* Always keep unused product in original container, store upside down, tightly closed. Store in a cool, dry ventilated area. Avoid freezing and excessive heat during storage and shipping. DOT-classified as non-hazardous, can be shipped by air with no shipping restrictions. See Safety Data Sheet for additional information.

### Specifications and Approvals

- NASA-tested (ASTM G72-82 and ASTM G86)
- NSF-approved for food processing areas
- BAM-tested
- WHA high pressure oxygen tested
- NSN 8030-01-527-7193



Nonfood Compounds  
S2

Test	Rating
<b>Appearance</b>	Dispensed: paste Dried: hard
<b>Texture</b>	Paste: smooth, free of lumps
<b>NLGI</b>	Paste: 2 Dried: na
<b>Flammability Flash Point</b>	Non-flammable None
<b>VOC – EPA test 24</b>	Paste: 1.1% Dried: 0.0 %
<b>Color/Odor</b>	White/Odorless
<b>Dropping Point</b>	Dried: none
<b>Temperature Range</b>	Cryogenics to +287°C (+550°F)
<b>NSF Approved</b>	S2

Test	Rating
<b>Vapor Pressure</b>	Dried: none
<b>Density</b>	Dried: 1.2 g/ml
<b>ASTM G72 Oxygen Test AIT High Pressure 6000 psi held at constant steady pressure</b>	Dried: 6000 psi (414 bar) AIT: 173 C
<b>ASTM G72 Oxygen Test AIT Standard Test Pressure 1500 psi</b>	Dried: 1500 psi (103 bar) AIT: 180 C
<b>ASTM G86 Oxygen Impact test 3015 psi &amp; 72 ft-lbs (98 J) impact</b>	Dried: Samples: 20 Number Reactions: 0
<b>BAM oxygen gaseous tested at 60c</b>	Paste: 2320 psi (160 bar) Dried: 435 psi (30 bar)
<b>BAM oxygen liquid</b>	Paste: No limitations Dried: No limitations
<b>Solubility in Sulfuric Acid</b>	Dried: none, no effect
<b>Praxair GS-38</b>	Approved

### How to Apply

- Clean the male and female threads of any dirt or oil.
- Using a brass or stainless-steel wire brush clean off any material on the threads.
- Wipe down the threads using a lint free cloth and acetone.
- Starting one to two threads back from the end of the male fitting, use your finger to liberally apply Formula-8 to fill the threads.
- Fit and torque the male and female pieces together. Hand tighten or use standard pipe tools to torque.
- Wipe off excess sealant.
- Let dry down 12 hours before returning to service.
- Be careful not to over-tighten fittings, especially plastic, pvc, or cast iron, as the fittings may crack.



**On threaded joints 3/4" or larger, Fluoramics suggests using Formula-8 and LOX-8 Full Density PTFE tape:**

- Clean the male and female threads of any dirt or oil.
- Starting two threads back from the end of the male fitting, apply two wraps of LOX-8 Full-Density PTFE Tape in the direction of thread rotation, maintaining tension on the tape while wrapping.
- Apply the thread sealant over the tape as instructed above.

### Packaging

Part No.	Size	Container	Case Quantity
8900003	15 g (Net Wt. 0.52 oz)	Tube	12
8900006	100 g (Net Wt. 3.52 oz)	Tube	24
8900008	650 g (Net Wt. 22.9 oz)	Jar	12



**FORMULA-8® IS COMPATIBLE WITH THESE AND OTHER SIMILAR GASES AND AGGRESSIVE CHEMICALS:**

Acetylene	Helium	Perchlorate
Aluminum Chloride	Hydraulic Oils	Phosphoric Acid
Ammonium Nitrate	Hydriodic Acid	Potassium
Ammonium Perchlorate	Hydrogen	Potassium Persulfate
Antimony Trichloride	Hydrogen Bromide	Propane
Bromine	Hydrogen Peroxide	Propylene Oxide
Calcium Hypochlorite	Hydrogen Sulfide	Silane
Carbon Dioxide	Iodine	SiliconeTetrachloride
Chlorosilanes	Kerosene	Sodium Hypochlorite
Chlorosulfonic Acid	Muriatic Acid	Sodium Perchlorate
Chromic Acid	Nitric Acid	Sulfur Dioxide
Diesel Fuel	Nitrogen Oxides	Sulfur Trioxide
Ethylene	Oleum	Sulfuric Acid
Fluorine	Oxygen	Titanium Tetrachloride
Gasoline		

**FORMULA-8® IS COMPATIBLE WITH THE FOLLOWING PIPES AND THREADS:**

All plastics	Glass – ceramics	PTFE type plastics
Aluminum	Iron	Rigid PVC/CPVC
Brass	Kynar PVDF	Silicone Tubing
Bronze	Lead	Stainless steel
Cured epoxies	Neoprene	Steel
EPDM	Polycarbonates	Urethanes
Ethylene propylene rubber	Polyamides	Viton™ formulated plastic
Fluoro-silicones	Polyvinyl alcohol	Zinc