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Submission date: 2023/08/16

Product description:

PTFE Thread Sealing Tape

Claim immunity:

We request that the above products be exempted from the draft PFAS

The reason of application for exemption: There is no substitute for PTFE thread sealing tape. Secondly, PTFE thread sealing tapes have better performance and are more stable than similar products.

Therefore PTFE thread sealing tapes need to be exempted.

Performance

PTFE thread sealing tape, with its unique properties, has made it highly sought after in a variety of industries. Derived from polytetrafluoroethylene (PTFE), PTFE thread sealing tape is waterproof and has excellent resistance to high temperatures. The heat-resistant nature of PTFE thread sealing tape allows it to withstand extreme temperatures, making it well-suited for applications involving heat-sealing equipment, piping, automobiles, and electrical systems. PTFE thread sealing tapes have proven to be an indispensable sealing tool in a variety of industries and applications (Hillsirrigation, 2020).

Possible Substitutes:

Substitute Sealing Paste: In reference to the same brand of PTFE Thread Sealing Tape and Paste, PTFE Thread Sealing Tape has an application temperature range of -268 to 260 degrees Celsius, while the equivalent product (Blue Monster, n.d.), Pipe Dope, has an application temperature range of -45 to 204 degrees Celsius (Blue Monster, n.d.). Some of these sealing pastes are labeled as unsuitable for water and gas piping, which can also cause corrosion of the pipe.

Substitute Hemp Wire: With application temperatures ranging from -20 to 170 degrees Celsius, hemp wire degrades over time, especially in wet environments, which can lead to early leakage of pipes (Gazza Anselmo, n.d.).

In comparison, PTFE thread sealing tapes can withstand a wide range of temperatures without losing their sealing ability. Therefore, it is suitable for both hot and cold fluid transportation, making it a versatile choice for a wide range of industries.

In fact, PTFE thread sealing tape not only has excellent temperature resistance, it also has the following properties:

Chemical Resistance: PTFE thread sealing tape is highly resistant to a wide range of chemicals, acids, alkalis and solvents. This makes them suitable for a variety of applications where the fluid being conveyed may be corrosive or reactive.

Non-Reactive: PTFE thread sealing tape is a non-reactive material, which means it will not corrode or chemically react with the materials in the pipe or the fluids being conveyed. This is

especially important for applications involving sensitive materials.

Pressure Resistance: PTFE thread sealing tape is highly pressure resistant, making it ideal for high-pressure applications such as fuel injection systems.

Low Friction: PTFE thread sealing tape has a low coefficient of friction, which provides several advantages. It allows for easy assembly and disassembly of threaded connections without the risk of over-tightening, thus reducing the chances of damaging the threads or the connection itself.

Inertness: PTFE thread sealing tape is biologically inert, making it safe for use in applications where it might encounter food or beverages (Iqs Directory, n.d.).

Conclusion, PTFE thread sealing tape combines excellent sealing ability, chemical and temperature resistance, ease of use and versatility. Therefore, there is no substitute for PTFE thread sealing tapes.

Safety

PTFE thread sealing tape is chemically stable and has a smooth surface without any liquid chemical coating, no chemicals will seep out when used within the specified limits.

The alternative, sealing paste, is a gelatinous and pasty substance that will inevitably leach chemicals into the pipe during use, and if used on potable water pipes, the chemicals will be directly hazardous to human health.

Sealing paste contains harmful chemicals such as ethylene glycol butyl ether, which will directly jeopardize human health (Blue Monster, n.d.). In addition, there are benzene substances such as p-phenylenediamine that are classified by the World Health Organization as Class III carcinogens (Argco, n.d.). These chemicals are not only harmful to human health but also pollute the air, water and soil.

The alternative products, hemp wire and paste, may leak and cause safety hazards when used in natural gas pipelines. The sealing effect of the thread sealing tape can be premature due to the corrosion of the twine, and it also needs to be used in conjunction with a paste, the chemicals contained in which will inevitably seep into the pipe.

From a safety point of view, PTFE thread sealing tape is irreplaceable and is certified for drinking water according to DIN 30660.

Raw Material

Polyfluoroalkyl substances (PFAS) are a broad class of synthetic chemicals that contain fluorine atoms and are characterized by their strong carbon-fluorine bonds. PTFE (polytetrafluoroethylene) is a type of fluoropolymer, and while it contains fluorine atoms, it is not the same as PFAS. PFAS encompass a wide range of compounds, some of which have been associated with environmental and health concerns.

PTFE itself is considered a safe and inert material, and it's used in various applications due to its non-stick properties, chemical resistance, and high-temperature stability. Unlike some PFAS compounds, PTFE is not known to degrade into harmful substances or contribute to the environmental persistence and bioaccumulation associated with certain PFAS (Barbara J Henry, 2018).

Therefore, while PTFE does contain fluorine atoms, it is not classified as a PFAS compound in the same sense as the PFAS substances that have raised concerns. PTFE is a polymer composed of tetrafluoroethylene monomers, and its specific structure and properties make it distinct from the

PFAS compounds that are often associated with environmental and health issues.

Summary

In summary, PTFE thread sealing tape's exceptional sealing ability, temperature and chemical resistance, safety profile, and distinct composition make it an irreplaceable choice in various industries, outperforming substitutes and posing minimal environmental and health risks. We request that PTFE thread sealing tapes be given an exception to allow production and use until better alternatives are available.

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