

MATERIAL SAFETY DATA SHEET

Format compatible with OSHA (1910.1200), ANSI (Z400.1-1993) and proposed ISO 14000 standards.

SECTION 1: Chemical Product & Company Identification

Thermoseal Inc.	Information Phone:	937-498-2222
2350 Campbell Road	Emergency Phone:	937-498-2222
Sidney, OH 45365-9573	Date Prepared:	April 1, 2000
	Supersedes MSDS Dated:	July 27, 1994

Product Name: Thermoseal® Sealex®

SECTION 2: Composition/Information on Ingredients

Hazardous Component	% by Weight	CAS #	OSHA PEL	ACGIH TLV
Polytetrafluoroethylene (PTFE)	100%	9002-84-0	N/E	N/E
If heated above 750°F (400°C), the product can evolve as degradation material as follows:				
Hydrogen fluoride	<1%	7664-39-3	3 ppm	3 ppm
Carbonyl fluoride	<1%	353-50-4	NE	2ppm

Other hazardous ingredients may be used in product formulations but are below OSHA reportable values.

SECTION 3: Hazards Identification

In form supplied, has no known hazards.

Above 536°F (280°C), a number of decomposition products can be produced which present a health risk if inhaled. At 824°F (440°C), carbonyl fluoride which, in presence of air, converts to highly corrosive and toxic hydrogen fluoride. Never use PTFE products above 380°C. Do not smoke when handling PTFE material.

Emergency Overview: When thermally decomposed, may cause polymer fume fever with flu-like symptoms or eye, nose, and throat irritation.

Potential Health Effects

EYE: If overexposure occurs due to thermal decomposition, flush with water for 15 minutes and call a physician.

SKIN: None under normal use and conditions.

INHALATION: If overexposure occurs due to thermal decomposition, move to fresh air and seek medical attention.

INGESTION: None under normal use and conditions.

Carcinogenicity: NA

Medical Conditions Aggravated: None under normal use and conditions.

Chronic Effects: NA

SECTION 4: First Aid Measures

EYES: If overexposure occurs due to thermal decomposition, immediately flush with water for 15 minutes and call a physician.

SKIN: Wash with soap and water.

INHALATION: Remove to fresh air, and seek medical attention.

INGESTION: Drink plenty of fluid to assist passage through system. Seek medical attention.

SECTION 5: Fire-Fighting Measures

Flash Point: 986° to 1022°F

Flammable Limits: LEL: NA UEL: NA

Extinguishing Media: Water, carbon dioxide, dry chemical, or foam.

Fire-Fighting Procedures: Fire fighters should wear SCBA and full protective equipment for protection against hazardous thermal decomposition products. Hazardous gases/vapors produced are hydrogen fluoride, carbonyl fluoride, and potentially toxic fluorinated compounds.

Unusual Fire or Explosion Hazards: Will burn in 100% oxygen atmosphere when ignition source is present.

SECTION 6: Accidental Release Measures

No special action required.

SECTION 7: Handling, Use & Storage

Handling: Normal wash up after handling is recommended. Do not smoke when handling.

Storage: Store in a clean dry area away from highly flammable material.

Use: The limitations of use, as shown in the graphs, are for guidance only. **Thermoseal engineers can advise on gasket selection and installation based on specified operating conditions. If you are in any doubt, visit our website at www.thermosealinc.com, fax us at 937-498-4911 or phone us at 937-498-2222.**

Gasket installation should be carried out by trained personnel only.

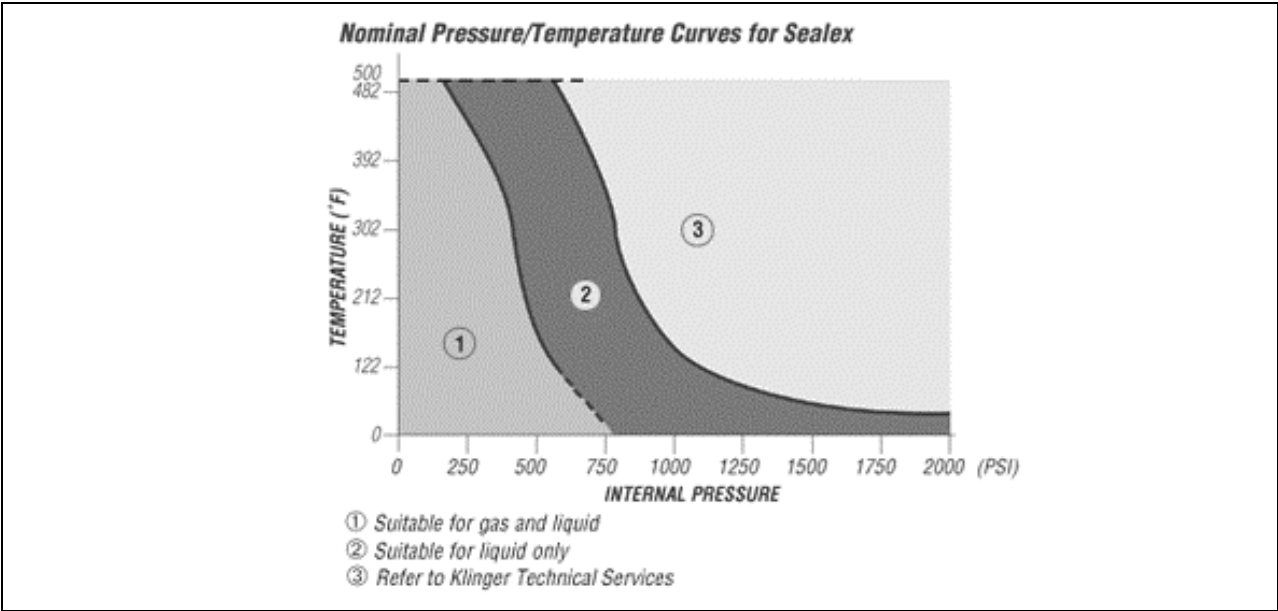
The ability of a gasket material to make and maintain a seal depends not only on the quality of the gasket material, but also on medium being sealed, the flange design, the amount of pressure applied to the gasket by the bolts and how the gasket is assembled into the flanges and tightened.

The higher the operating pressure and/or temperature, the greater the care and expertise required in selecting and installing gaskets. This includes, but is not limited to: confirmation that the flanges are suitable for the intended use; the finish on the flange faces; the parallelism of the flange faces; confirmation that the studs, bolts, washers and nuts are suitable for the intended use and in good condition; no antistick compound is applied to the flanges or gaskets; confirmation that the gasket material is suitable for the intended use; and the gasket is evenly loaded by the correct tightening sequence of the bolts or studs, and to the correct torque to give the required gasket assembly stress. The use of torque wrenches, hydraulic bolt tensioners or other loading devices can assist achievement of the correct gasket stress.

The application of release agents to the gasket or flanges may cause gasket failure.

Because conditions of use are beyond the manufacturer's control, it is the responsibility of the user to ensure that the product is suitable for the intended use.

WARNING: Catastrophic gasket failure can be caused by steam or water hammer. Steam or water hammer can cause an instantaneous increase in internal pressure on the assembly that far exceeds the design or test pressures. Where water hammer exists, the basic problem should be corrected. **DO NOT USE Thermoseal® Sealex® IN APPLICATIONS WHERE WATER OR STEAM HAMMER MAY STRESS THE GASKET BEYOND ITS DESIGN LIMITS.**



SECTION 8: Exposure Controls/Personal Protection

Respiratory Protection: None under normal use. Only necessary in fires and at temperatures above 500°F (260°C).

Skin Protection: None under normal use.

Eye Protection: Safety glasses are recommended.

Engineering Controls: No special steps necessary below 500°F (260°C).

SECTION 9: Physical & Chemical Properties

Appearance:	Soft, white tape	Odor:	Odorless
Boiling Point:	NA	Vapor Pressure:	NA
Vapor Density:	NA	Solubility in Water:	Insoluble
Specific Gravity:	0.4 – 0.6	Freezing Point:	NA
PH:	Not Relevant	% Volatile:	

SECTION 10: Stability & Reactivity

Stability: (Conditions to avoid) above 500°F (260°C).

Incompatibility: NA

Hazardous Decomposition Products: Hydrogen fluoride and carbonyl fluoride >750°F (400°C).

Hazardous Polymerization: Will not occur.

SECTION 11: Toxicological Information

Non-toxic at normal temperatures.

SECTION 12: Ecological Information

Not biodegradable.

SECTION 13: Disposal Considerations

Should be buried on approved landfill site properly licensed. Should not be incinerated.

SECTION 14: Transport Information

No special precautions necessary. DOT Hazard Class: Not regulated.

SECTION 15: Regulatory Information

OSHA: This MSDS is provided to comply with provisions of the Hazard Communication Standard (29 CFR 1910.1200).

	HMIS Ratings	NFPA Ratings
Health	2	2
Flammability	1	1
Reactivity	0	0

SARA Title III:

302/304	Not listed.
311/312	Not listed.
313/372	Contains no Section 313 notification chemicals at or above the <i>de minimus</i> concentration

TSCA: Components of this product are listed under TSCA Chemical Substances Inventory.

SECTION 16: Other Information:

MSDS Status: Revised Sections: All

LIMITED WARRANTY: All goods sold by Thermoseal Inc. are warranted to be free from defects in material and workmanship for a period of thirty (30) days from the date goods are shipped. Damage due to misuse, field alterations, lack of maintenance, improper storage, neglect, accident, or any other reason of any description whatsoever not under the control of Thermoseal Inc. is EXCLUDED FROM THIS LIMITED WARRANTY. Any claim by Buyer with reference to the goods sold herein shall be deemed waived by Buyer, unless submitted to Thermoseal Inc., in writing, within thirty (30) days from the date Buyer discovered or should have discovered, any claimed breach. THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER EXPRESSED OR IMPLIED WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION HEREINABOVE.

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