

HYDRO SEALING TECHNOLOGY SDN BHD (426172-P)

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HYDRO
House of Seals

MATERIAL SAFETY DATA SHEET

Product: PTFE/FEP

Synonyms: Tubing, Beading, Monofilament, Special

MSDS ID : FEP CLEAR

For Use with Encap-O-Seal FEP Encapsulated O-rings and Gaskets.

2. Composition and Information on Ingredients

Ingredient: Tetrafluoroethylenehexafluoropropylene

CAS Number: 25067-11-2

Weight %: >99%

ACGIH FLV: -

PEL: -

STEL: -

3. Hazard Identification

Emergency Overview: This MSDS was prepared for an article which by OSHA standards is non-hazardous. There may be pertinent information within this document that applies to specific circumstances; however the product as is has no hazardous properties.

Harmful if thermal decomposition products are inhaled. Normally inhalation problems should not be expected.

Potential Health Effects: Vapors and fumes liberated during hot processing (above 260 C) with this material may cause flu-like symptoms (chills, fever, and cough) that may not occur until several hours after exposure and typically pass within 36 to 48 hours. These vapors and fumes when liberated may also cause eye and skin irritation.

4. First Aid Information

Inhalation: If exposed to fumes from overheating or combustion, remove to fresh air. Keep warm and at rest. If breathing has stopped, give artificial respiration. Call a physician.

Skin Contact: This product is not likely to be hazardous, but cleanse skin after use. If contact with hot material occurs, immediately cool with plenty of cold water. Have burn treated by a physician.

Ingestion: Not an expected route of exposure.

Eye Contact: Flush eyes with plenty of water for at least 15 minutes. Consult a physician.

5. Fire Fighting Measures

Flash Point: None

General Information: Low fire hazard.

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

Fire Fighting Procedures: Keep personnel removed and upwind of fire. Wear a self-contained breathing apparatus and full protective equipment. Wear neoprene gloves when handling refuse from fire.

WARNING: Hazardous decomposition products including carbon dioxide, carbon monoxide, carbonyl fluoride, perfluoroisobutylene, hydrogen fluoride, toxic gases, or particles may be formed during combustion. These products may cause severe eye, nose, throat, and lung irritation or toxic effects.

6. Accidental Release Measures

Spills/Leaks: Shovel or sweep up.

7. Handling and Storage

Store away from extreme heat.

8. Exposure Controls and Personal Protection

Engineering Controls: Use local exhaust ventilation when heating.

Personal Protective Equipment:

Eyes: Wear safety glasses with side shields when cutting or grinding.

Skin: Wear appropriate gloves when handling heated material to prevent thermal burns.

Clothing: Wear protective clothing and boots as required.

Respirators: If thermal decomposition occurs, a NIOSH approved mask for acidic gases must be used to avoid inhalation of vapors in accordance with OSHA regulations.

9. Physical and Chemical Properties

Physical State Solid

Specific Gravity 2.2

Color/Appearance Translucent Colorless

Odor Odorless

Boiling/Cond. Point Not Applicable

Melting/Freezing Point 240 - 305 C

Solubility Insoluble

Percent Volatile Not Applicable

10. Stability and Reactivity

Stable at room temperature under normal storage and handling conditions. Avoid excess heat.

Decomposition products include carbon monoxide, carbon dioxide, perfluoroisobutylene, carbonyl fluoride, hydrogen fluoride, and toxic gases or particles. Hazardous polymerization will not occur

11. Toxicological Information

When heated for a long time, a very small quantity of hydrogen fluoride, carbonyl fluoride, and perfluoroisobutylene are generated. The higher the temperature (above 260 C), the larger the amount it released.

Hydrogen Fluoride and Carbonyl Fluoride may cause the following symptoms: Burning sensation, cough, dizziness, headache, labored breathing, nausea, shortness of breath, sore throat, vomiting. Symptoms may be delayed. Inhalation of this gas may cause lung oedema. Perfluoroisobutylene may cause the following symptoms: Irritated respiratory tract. Inhalation of this gas may cause lung oedema. The effects may be delayed. Medical observation is indicated.

12. Ecological Information

This product may not degrade significantly in most natural environments. Ecotoxicity is expected to be low.

13. Disposal Considerations

Dispose of in compliance with Federal, State, and Local Government regulations. Usually is considered inert material that can be recycled or landfilled. Do not incinerate.

14. Regulatory Information

The components of this product are in compliance with the chemical notification requirements of TSCA.

All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances, or are exempt polymers whose monomers are listed.

15. Other Information

The information in this Material Data Sheet is believed to be correct as of the date issued. HYDRO, Incorporated makes no warranties, expressed or implied, including but not limited to any implied warranty of merchantability or fitness for a particular purpose or course of performance or usage of trade. User is responsible for determining whether the HYDRO product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of an HYDRO product, some of which are uniquely within the user's knowledge and control, it is essential that the user independently evaluate the HYDRO product to determine whether it is fit for a particular purpose, and suitable for the user's method of use or application.

MATERIAL SAFETY DATA SHEET

FEP – VMQ (SILICONE)

SECTION 1 - IDENTITY

- 1.1 Common Name (used on label): PEROXIDE CURED SILICONE
- 1.2 CAS No..... : Mixture
- 1.3 Chemical Name..... : **N/A**
- 1.4 Chemical Family..... : Functional Polydimethylsiloxanes with filler and auxiliaries.
- 1.5 Formula..... : The specific chemical identity of the ingredients is considered a trade secret.

SECTION 2 - HAZARDOUS INGREDIENTS

Principal Hazardous Component(s) (Chemical & Common Names)	<u>Threshold Limit Value</u>
A. None Found	
B. Non-Hazardous:	
1. Functional Polydimethylsiloxanes	N/E

SECTION 3 - PHYSICAL & CHEMICAL CHARACTERISTICS

- 3.1 Boiling Point..... : **N/A**
- 3.2 Specific Gravity (H2O=1)..... : Approximately 1.13
- 3.3 Vapor Pressure..... : **N/D**
- 3.4 Percent Volatile by Volume..... : **N/A**
- 3.5 Vapor Density (Air=1)..... : **N/A**
- 3.6 Evaporation Rate..... : **N/A**
- 3.7 Solubility in Water..... : Negligible
- 3.8 Reactivity in Water..... : None
- 3.9 Appearance and Odor..... : RED 70 DURO, Solid Elastomer, no odor.
- 3.10 Flash Point..... : > 200 Celsius/392 Fahrenheit
- 3.11 Flammable Limits in Air by
Volume..... : Lower: **N/A** Upper: **N/A**
- 3.12 Auto-Ignition Temperature..... : > 400 Celsius/752 Fahrenheit
- 3.13 Extinguisher Media..... : Sand, Carbon Dioxide, Dry Chemical or
Foam type extinguishing media.
- 3.14 Special Fire Fighting Procedures: Fire fighters should wear full protective
clothing including a self-contained
breathing apparatus
- 3.15 Unusual Fire & Explosion Hazards : None Known

SECTION 4 - PHYSICAL HAZARDS

- 4.1 Stability.....: Stable: **X** Unstable:
Conditions to Avoid.....: None Known.
Stable at ambient temperatures and atmospheric pressure.
- 4.2 Incompatibility.....: (Materials to Avoid) None Known
- 4.3 Hazardous Decomposition
Products.....: SiO₂, CO₂, CO and traces of incompletely
burned hydrocarbons at combustion. At
temperatures of approx. 150 C/302 F a small
amount of Formaldehyde can be released by oxidative degradation.
- 4.4 Hazardous Polymerization....: Will Not Occur.
Conditions to Avoid.....: None Known

SECTION 5 - HEALTH HAZARDS

- 5.1 Threshold Limit Value.....: **N/E**
- 5.2 Sign & Symptoms of Exposure:
1. Acute Overexposure.....: Toxicological testing has not been conducted
with this material.
Route of Entry: Eye Contact: No toxic effects are expected.
Skin Contact: No toxic effects are expected.
Inhalation: Not expected in industrial use.
Ingestion: Not expected in industrial use.
2. Chronic Overexposure...: None Known
- 5.3 Medical Conditions Generally
Aggravated by Exposure... : There is no data available which address
medical conditions which are generally
recognized as being aggravated by exposure
to this product.
- 5.4 Chemical Listed as Carcinogen or
Potential Carcinogen..... : National Toxicology Program: **No**
I.A.R.C. Monographs: No
OSHA: No
- 5.5 OSHA Permissible Exposure
Limit.....: **N/E**
- 5.6 ACGIH Threshold Limit Value: **N/E**
- 5.7 Other Exposure Limit Used... : Unknown
- 5.8 Emergency & First-Aid
Procedures..... : Inhalation: **N/A**
Eyes: If contact with eyes, immediately flush
eyes with plenty of water. Seek medical
attention if irritation occurs.
Skin: If contact with skin, wash skin with
water and soap. Seek medical attention if
irritation occurs.
Ingestion: If swallowed, allow affected
person to vomit naturally, seek medical
attention.

SECTION 6 - SPECIAL PROTECTION INFORMATION

6.1 Respiratory Protection.....:	N/R
6.2 Ventilation.....:	Local Exhaust: N/R Mechanical-General: N/R Mechanical-Special: N/R Mechanical-Other: N/R
6.3 Protective Gloves.....:	Recommended
6.4 Eye Protection.....:	N/R
6.5 Other Protective Clothing or Equipment.....:	Not Necessary

SECTION 7 - SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

7.1 Precautions to be taken in Handling & Storage.....:	Store cool and dry.
7.2 Other Precautions.....:	N/A
7.3 Steps to be Taken in Case Material is Released or Spilled.....:	Take up by mechanical means and place in an appropriate chemical waste container. Observe all Local, State and Federal Laws and Regulations regarding disposal, spill, clean up, removal or discharge.
7.4 Waste Disposal Methods.....:	According to Local, State and Federal Regulations.

SECTION 8 - OTHER INFORMATION

8.1 Transportation Information...:	DOT Shipping Name: N/A
	DOT Hazard Class: N/A
	DOT Label(s): N/A
	UN/NA Number: N/A
	Placards: None
	IATA: N/A
	IMO IMDG-Code: N/A
	European Class:
	RID (OCTI): N/A
	ADR (ECE): N/A
	RAR (IATA): N/A

8.2 These data are offered in good faith as typical values and not as a product specification. No warranty, either expressed or implied, is made. The recommended handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use.