

MATERIAL SAFETY DATA SHEET

ISSUE DATE: August 31, 2009

SUPERCEDES: N/A

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATERIAL IDENTIFICATION: CYCLETIGHT® Manway Gasket

COMPANY IDENTIFICATION:

MANUFACTURER/DISTRIBUTOR

VSP Technologies, Inc.
8140 Quality Drive
Prince George, VA 23875

PRODUCT INFORMATION: (804)541-0812

TRANSPORTATION EMERGENCY, CHEMTREC (24 hour): (804)541-0812

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENTS

COMPONENT	CAS. NO	%	TLV (ACGIH)	PEL (OSHA)
Polytetrafluoroethylene	9002-84-0	57%	Not Established*	Not Established
Type 316 Stainless Steel	Iron: 7439-89-6 Nickel: 7440-02-0 Chromium: 7440-47-3 Molybdenum: 7439-98-7	42%	Iron 5.0 g/m3 (oxide fume) Nickel 1.5mg/m3 Chromium 0.5 mg/m3 (metal) Molybdenum 10.0 mg/m3	Iron 10.0 mg/m3 (oxide fume) Nickel 1.0 mg/m3 Chromium 1.0 mg/m3 (metal) Molybdenum 10.0 mg/m3
Synthetic Rubber	184963-095	<1%	2 mg/M3	20 mppcf

*Minimize Exposure to Polytetrafluoroethylene Decomposition Products.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

White, Soft, Odorless.
The product is a non-hazardous solid material in its original form.
During a fire, irritating and highly toxic gases may be generated.

POTENTIAL HEALTH EFFECTS: The product is non-hazardous in its original form.

ACUTE AND CHRONIC EFFECTS:

Polytetrafluoroethylene:

Overheating (over approximately 315°C or 600°F) of material may create thermal decomposition products that could result in irritation of the mucous membranes, eyes, skin, respiratory tract, or polymer fume fever. Polymer fume fever is a temporary flu-like illness with fever, chills, and sometimes coughs, of approximately 24-48 hours duration.

Stainless Steel:

Inhalation of high concentrations of freshly formed oxide fumes and dusts of iron, chromium, nickel, and other metals whose particle size is in the respirable range, can cause an influenza-like illness termed "metal fumed fever". Typical symptoms last 12 to 48 hours and are characterized by fever, chills, muscle aches, metallic taste in mouth and irritation of the mucous membranes and respiratory tract. Dust, fumes and particulate matter may be irritating to skin.

Inhalation of high concentrations of iron oxide over prolonged periods of time may lead to a benign lung disorder (pneumoconiosis) known as siderosis. Inhalation of high concentrations of ferric oxide over prolonged periods of time may enhance the development of lung cancer in individuals who are exposed to other pulmonary carcinogens or toxins. Exposure to high concentrations of chromium-containing dusts may cause sensitization and dermatitis. Certain nickel dusts may cause lung and nasal cancers in humans. Exposure to metallic nickel and certain nickel compounds may cause sensitization. Skin contact may cause a dermatitis term "nickel itch".

Synthetic Rubber:

ACUTE OR IMMEDIATE EFFECTS: ROUTES OF ENTRY AND SYMPTOMS:

INGESTION:

One type of Neoprene was tested for oral toxicity in rats. The LD-50 is in excess of 20,000 milligrams per kilogram body weight which is low toxicity. Other types of Neoprene are predicted to have the same low toxicity. Ingestion is not a probable route of exposure.

SKIN:

Patch tests were run with four types of Neoprene on human volunteers. No skin reactions were shown. Results are predicted to be similar for the types of Neoprene in this MSDS.

EYE:

Mechanical irritation only.

INHALATION:

At processing temperatures above 200 C (392 F), fumes irritating to the eyes, nose, and throat may be produced. This exposure may result in reddening, tearing, and itching of the eyes and soreness in the nose and throat together with coughing.

CHRONIC EFFECT:

None are known.

3. HAZARDS IDENTIFICATION (continued)

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Individuals with pre-existing diseases of the lungs may have increased susceptibility to exposures of thermal decomposition products.

CARCINOGENICITY INFORMATION:

The following components are listed by IARC, NTP, OSHA or ACGIH as carcinogens:

Material	IARC	NTP	OSHA	ACGIH
Polytetrafluoroethylene	Group 3			
Nickel	Group 2B- Yes	Suspect Carcinogen	Possible Select	
Chromium	Group 3- Yes	Yes	Yes	

IARC, Group 2B = Possibly carcinogenic to humans. Also classified as potential occupation carcinogen by NIOSH.

IARC Group 3 = Unclassifiable as to Carcinogenicity in Humans.

4. FIRST AID MEASURES

FIRST AID:

INHALATION: If inhalation of thermal decomposition products produces respiratory difficulty, or influenza like symptoms, move individual to fresh air. Consult physician if symptoms persist. If breathing stops, give artificial respiration and seek medical attention immediately.

SKIN CONTACT: Skin irritation or burns could result if contact with materials occurs during heating or thermal decomposition. If melted polymer gets on skin, cool rapidly with cold water. Do not attempt to peel polymer from skin. Obtain medical attention immediately.

EYE CONTACT: Flush eyes with plenty of water. Consult medical personnel.

INGESTION: If material is ingested, seek medical attention. Do not induce vomiting.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

FLASH POINT: Not applicable for PTFE and stainless steel. Flash point >500 °F for elastomer.

FLAMMABLE LIMITS: Not applicable.

FIRE AND EXPLOSIVE HAZARDS: During a fire, irritating and highly toxic gases may be present due to PTFE and elastomer decomposition.

EXTINGUISHING MEDIA: Water, carbon dioxide, foam or dry chemical. PTFE does not burn without external flame. Use extinguishing media appropriate for the surrounding fire.

FIRE-FIGHTING EQUIPMENT/INSTRUCTIONS: Wear Positive Pressure Self-Contained Breathing Apparatus (SCBA). Wear full protective equipment. The principal evolved gas when PTFE is heated in air at 400°C (750°F) is carbonyl fluoride, COF₂. This compound then hydrolyzes to a significant extent in the 50% RH air to HF and CO₂. Hydrogen fluoride fumes can react with water to form hydrofluoric acid. Wear Neoprene gloves when handling refuse from fire. Avoid breathing decomposition products.

6. ACCIDENTAL RELEASE MEASURES

SPILL CLEAN UP: Collect by sweeping or vacuuming any loose material to prevent accumulation of product.

7. HANDLING AND STORAGE

HANDLING (PERSONNEL): PTFE is not likely to be hazardous by skin contact, but cleansing after use is advisable. Smoking tobacco or cigarettes contaminated with PTFE particles may cause "polymer fume fever."

STORAGE: No special precautions necessary.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

VENTILATION: None required under normal conditions of use. Use local exhaust ventilation if material is overheated (over approximately 500°F). Exhaust ventilation should be provided in accordance with guidelines in Industrial Ventilation by the American Conference of Governmental Industrial Hygienists.

PERSONAL PROTECTIVE EQUIPMENT:

EYE/FACE PROTECTION: Wear safety glasses if handling presents a physical hazard of eye injury.

RESPIRATORS: Respiratory protection is not normally required under anticipated conditions of use. If respirators are necessary, wear NIOSH/MSHA approved respiratory protection.

PROTECTIVE CLOTHING: None required unless necessary for protection from thermal burns.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DATA:

MELTING POINT: 327°C to 345°C (PTFE)

SPECIFIC GRAVITY: Gasket = 1.39 gm/cc
EPTFE = 0.75 gm/cc

ODOR: Odorless

FORM: Gaskets

COLOR: White

% VOLATILES: Not Applicable

pH: Not Applicable

SATURATION IN WATER (BY VOL): Insoluble

EVAPORATION RATE: Not Applicable

SOLUBILITY IN WATER: Insoluble

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable at normal temperatures and storage conditions.

INCOMPATIBILITY WITH OTHER MATERIALS: None reasonably foreseeable.

CONDITIONS TO AVOID: Avoid overheating this material. Polytetrafluoroethylene, when heated above approximately 315°C (600°F), can evolve toxic decomposition products which can cause polymer fume fever (See ACUTE AND CHRONIC HEALTH EFFECTS – Section 3). Trace amounts of hydrogen fluoride and carbonyl fluoride may be evolved at about 400°C (750°F), with larger amounts at higher temperatures.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition may release particulate and gaseous products including: hydrogen fluoride, carbonyl fluoride and metallic oxide fumes. Synthetic rubber, when completely combusted can produce hazardous combustion products.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

Polytetrafluoroethylene:

The compound is not a skin irritant. There are no reports of human sensitization. Effects in animals from single exposure by inhalation to high concentration of the dust include irritation of the lungs. Repeated oral doses resulted in no observable toxic effects except for alteration in the number of circulating white blood cells after long-term dosing 25% of diet for 90 days. Tests demonstrate no developmental toxicity in animals, and no genetic damage in animals or in bacterial cell cultures.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION (AQUATIC TOXICITY):

Polytetrafluoroethylene is not toxic. Synthetic rubber toxicity is expected to be low based on insolubility in water.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

14. TRANSPORT INFORMATION

D.O.T. SHIPPING INFORMATION: Not regulated.

15. REGULATORY INFORMATION

US OCCUPATIONAL SAFETY AND HEALTH: The Intended use of the product meets the definition of an article under 29 CFR 1910.1200.

US TSCA: Meets the statutory requirements of an article.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA): Meets the statutory requirements of an article.

CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) CLASSIFICATION: None, the product is not a controlled product.

CERCLA REPORTABLE QUANTITY:

PTFE: None

Nickel: RQ 100 lbs for particles less than 100 micrometers in diameter

Chromium: RQ 5,000 lbs for particles less than 100 micrometers in diameter

Synthetic rubber: None

RCRA STATUS: If discarded in its purchased form, this product would not be a hazardous waste by listing. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

SARA TITLE III:

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES: None

SECTION 311/312 HAZARD CATEGORIES: Non-hazardous Under Section 311/312

SECTION 313 TOXIC CHEMICALS: Chromium and Nickel

15. REGULATORY INFORMATION (continued)

STATE REGULATIONS (U.S.):

CALIFORNIA PROPOSITION 65:

This product contains the following levels of listed substances which the State of California has found to cause cancer, birth defects or other reproductive harm: Nickel

NEW JERSEY RIGHT TO KNOW:

Requires reporting the top five components by percent:

Polytetrafluoroethylene..... 50%

316 Stainless Steel..... 50%

PENNSYLVANIA RIGHT TO KNOW:

Listed Hazardous Substances and Special Hazardous Substances which must be identified when present in products at reportable levels are:

PolytetrafluoroethyleneCAS. NO. 9002-84-0

Chromium.....35 P.S., Section 7301-7320

RHODE ISLAND RIGHT TO KNOW

Listed Hazardous Substances and Special Hazardous Substances which must be identified when present in products at reportable levels are:

PolytetrafluoroethyleneCAS. NO. 9002-84-0

State Regulatory Information:

1. Warning: Chromium has been listed as an extraordinarily hazardous substance or carcinogen by the State of Massachusetts. Nickel has also been listed as an extraordinarily hazardous substance by the State of Massachusetts.

2. Warning: Chromium is subject to Pennsylvania Worker and Community Right to Know Act (35 P.S., Section 7301-7320)

3. Warning: this product contains the following materials known to the state of California to cause cancer or reproductive effects:

- Nickel

16. OTHER INFORMATION

MSDS STATUS:

Approved by: Jerry Waterland

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Virginia Sealing Products, Inc. The data on this MSDS relates only to the specific material designated herein. Data contained is supplied by manufacturers of individual components.