



The MSDS format adheres to the standards and regulatory requirements of the United States and Canada and may not meet regulatory requirements in other countries.

DuPont Performance Elastomers L.L.C.
Material Safety Data Sheet

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"VITON" CURATIVE ALL IN SYNONYM LIST VIT002
VIT002 Revised 17-JAN-2007

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

"VITON" is a registered trademark of DuPont Performance Elastomers L.L.C..

Tradenames and Synonyms

"VITON" CURATIVE NO. 20, VC-20,

Company Identification

MANUFACTURER/DISTRIBUTOR

DuPont Performance Elastomers L.L.C.
Bellevue Park Corporate Center
300 Bellevue Parkway
Wilmington, Delaware 19809

PHONE NUMBERS

Product Information : 1-800-441-7515 (outside the U.S.
302-774-1000)
Transport Emergency : CHEMTREC 1-800-424-9300(outside U.S.
703-527-3887)
Medical Emergency : 1-800-441-3637 (outside the U.S.
302-774-1139)

COMPOSITION/INFORMATION ON INGREDIENTS

Components

Material	CAS Number	%
VINYLLIDENE FLUORIDE-HEXAFLUOROPROPENE POLYMER	9011-17-0	>60
BENZYLTRIPHENYLPHOSPHONIUM CHLORIDE (BTPPC)	1100-88-5	<35
LIMESTONE	1317-65-3	<4
BARIUM SULFATE	7727-43-7	<1

Components (Remarks)

Material is not known to contain Toxic Chemicals under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

HAZARDS IDENTIFICATION

Potential Health Effects

ADDITIONAL HEALTH EFFECTS

Before using, read Safety Bulletin, "Handling Precautions for "VITON" and Related Chemicals".

HUMAN HEALTH EFFECTS OF OVEREXPOSURE:

VC-20

Ingestion of powdered VC-20 (ground to about 0.3 to 0.5 mm) in rats caused lethality approaching that of BTPPC. Human health effects of VC-20 by ingestion may be comparable to BTPPC.

BENZYLTRIPHENYLPHOSPHONIUM CHLORIDE (BTPPC)

Human health effects of overexposure to BTPPC: Eye contact may cause severe eye irritation with discomfort, tearing, or blurring of vision. Absorption of the material through the eye may occur in amounts capable of producing systemic toxicity. Inhalation may cause irritation of the upper respiratory passages, with coughing and discomfort; or temporary lung irritation effects with cough, discomfort, difficulty breathing, or shortness of breath. Based on animal toxicity testing, gross overexposure by inhalation or ingestion may be fatal. Individuals with preexisting diseases of the lungs, eyes, or nervous system may have increased susceptibility to the toxicity of excessive exposures to BTPPC.

VINYLIDENE FLUORIDE-HEXAFLUOROPROPENE POLYMER

Skin contact with uncured polymer may cause skin irritation with discomfort or rash. Significant skin permeation and systemic toxicity after contact appears unlikely. There are no reports of human sensitization.

Eye contact with uncured polymer may cause irritation with discomfort, tearing, or blurring of vision.

Inhalation of fumes from burning polymer may cause temporary lung irritation effects with cough, discomfort, difficulty breathing, or shortness of breath. Higher exposures to fumes from burning material may cause pulmonary edema (body fluid in the lungs) with cough, wheezing, abnormal lung sounds possibly progressing to severe shortness of breath and bluish discoloration of the skin. Symptoms may be delayed. Prompt medical attention is required.

Smokers should avoid contamination of tobacco products with polymer and should wash their hands before smoking.

(HAZARDS IDENTIFICATION - Continued)

Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

FIRST AID MEASURES

First Aid

INHALATION

If exposed to fumes from overheating or combustion, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician if necessary.

SKIN CONTACT

Wash off with soap and water. If molten material gets on skin, cool rapidly with cold water. Do not attempt to remove material from skin. Obtain medical treatment for thermal burn.

EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

INGESTION

If swallowed, immediately give 2 glasses of water and induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.

FIRE FIGHTING MEASURES

Flammable Properties

Flash Point : >204 C (>399 F)
Method : Open cup

Fire and Explosion Hazards:

Will not burn without external flame.

Pellets may accumulate static charge when poured from one container to another.

(FIRE FIGHTING MEASURES - Continued)

Hazardous gases/vapors produced in fire are hydrogen fluoride (HF), carbonyl fluoride, carbon monoxide, low molecular weight fluorocarbons, phosphine, phosphorous oxides, hydrogen chloride (HCl).

Extinguishing Media

Water, Foam, Dry Chemical, CO2.

Fire Fighting Instructions

Wear self-contained breathing apparatus and clothing to protect from hydrogen fluoride fumes, which react with water to form hydrofluoric acid. Wear NEOPRENE gloves when handling refuse from a fire involving "VITON".

ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Spill Clean Up

Shovel into suitable container for disposal. Avoid creating dust. Wear protective gloves when handling product. Try to prevent the material from entering drains or water courses.

HANDLING AND STORAGE

Handling (Personnel)

See FIRST AID and PERSONAL PROTECTIVE EQUIPMENT SECTIONS.

Storage

Store in a cool, dry place. Keep containers tightly closed to prevent moisture absorption and contamination.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

VENTILATION Vapors and fumes liberated during hot processing should be exhausted from work areas to maintain hydrogen fluoride concentrations below the PEL.

(EXPOSURE CONTROLS/PERSONAL PROTECTION - Continued)

Provide grounding of equipment when handling pellets to prevent static build-up. Avoid contamination of cigarettes or tobacco with polymer.

Personal Protective Equipment

EYE/FACE PROTECTION

Wear safety glasses. Wear coverall chemical splash goggles and face shield when possibility exists for eye and face contact due to splashing or spraying of molten material.

RESPIRATORS

When temperatures exceed 200 degrees C and ventilation is inadequate to maintain concentrations below exposure limits, use a positive pressure air supplied respirator. Air purifying respirators may not provide adequate protection.

PROTECTIVE CLOTHING

Prevent any skin contact with this product. If there is potential contact with hot/molten material, wear heat resistant clothing and footwear. Do not touch decomposed parts even when cool. Neoprene gloves recommended.

Exposure Guidelines

Applicable Exposure Limits

BENZYLTRIPHENYLPHOSPHONIUM CHLORIDE

AEL * (DuPont) : 0.1 mg/m³ (8- and 12-Hr. TWA).

LIMESTONE

PEL (OSHA) : 15 mg/m³, total dust, 8 Hr. TWA
5 mg/m³, respirable dust, 8 Hr. TWA

TLV (ACGIH) : 10 mg/m³, total dust, 8 Hr. TWA

AEL * (DuPont) : None Established

BARIUM SULFATE

PEL (OSHA) : 15 mg/m³, total dust, 8 Hr. TWA
5 mg/m³, respirable dust, 8 Hr. TWA

TLV (ACGIH) : 10 mg/m³, total dust, 8 Hr. TWA

AEL * (DuPont) : 10 mg/m³, 8 & 12 Hr. TWA, total dust
5 mg/m³, 8 & 12 Hr. TWA, respirable dust

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

Melting Point	: NA
% Volatiles	: NA
Solubility in Water	: Slightly soluble
Odor	: Slight
Form	: Pellets
Color	: White opaque
Specific Gravity	: 1.50

STABILITY AND REACTIVITY

Chemical Stability

Stable at normal temperatures and storage conditions.

Conditions to Avoid

Temperatures above 200 C (392 F) without adequate ventilation.

Incompatibility with Other Materials

Incompatible with finely divided metals such as aluminum, alkali metals, alkaline earth metals..

Compounding with metal powders presents an explosion hazard.

Decomposition

HAZARDOUS DECOMPOSITION PRODUCTS Hydrogen fluoride (HF) and perfluoroolefins. Small amounts of benzene and toluene are formed during vulcanization.

If "VITON" is used or tested at temperatures above 316 C (601 F), the surface of the parts may contain HF or HF condensate, which may cause severe burns, sometimes with symptoms delayed for several hours. Wear neoprene or PVC (if temperature is below melting point of PVC) gloves when handling parts or equipment after exposure to such high temperatures. If condensate is expected, wash equipment and parts well with limewater (calcium hydroxide solution). Discard gloves after handling degraded "VITON" parts.

TOXICOLOGICAL INFORMATION

Animal Data

VC-20

Oral LD50: 98 mg/kg in rats

VC-20 administered orally to rats as a milled powder caused lethality in amounts approaching that of BTPPC. No other toxicity data exists to assess the potential hazards of VC-20.

BENZYLTRIPHENYLPHOSPHONIUM CHLORIDE (BTPPC)

Inhalation ALC: 130 mg/m³ in rats

Oral LD50: 43 mg/kg in rats

The compound is not a skin irritant or skin sensitizer, but is a severe eye irritant. Instillation of 100 mg into the eye of albino rabbits produced mortality in five of six rabbits. The effects in animals from single inhalation exposure at high concentrations (approximately 1300 times the AEL) by inhalation include respiratory distress, body weight losses, nasal, ocular and oral discharges and other nonspecific effects. Repeated exposures at lower concentrations produced lung damage, hematological and clinical chemical changes, damage to the lining of the nose, body weight losses and ocular discharges. Administration of oral doses near or above the LD50 produced impaired reflexes, labored respiration and other nonspecific effects. Lethal doses produced prostration, gasping, loss of skin color, incoordination, and histopathological changes in the liver, lungs, gastrointestinal tract, kidneys and testes.

VINYLIDENE FLUORIDE-HEXAFLUOROPROPENE POLYMER

Oral ALD : >5000 mg/kg Rats

Uncured polymer produced mild irritation on rabbit skin, but did not cause skin sensitization. Classified as "non-irritant" when tested by OECD protocol on rabbits. Aqueous latex dispersions of polymer caused slight eye irritation.

Repeated oral doses of this polymer caused enlargement and fatty degeneration of the liver. These liver effects diminished after a 14 day recovery period. No other clinical or pathological effects were found.

Single inhalation exposure to thermal decomposition products of this polymer include respiratory irritation and pulmonary edema. Repeated exposure to sub-lethal levels of the thermal decomposition products caused labored breathing and emphysema.

ECOLOGICAL INFORMATION

Ecotoxicological Information

AQUATIC TOXICITY:

No information is available.

DISPOSAL CONSIDERATIONS

Waste Disposal

Preferred options for disposal are (1) recycling and (2) landfill. Incinerate only if incinerator is capable of scrubbing out hydrogen fluoride and other acidic combustion products. Treatment, storage, transportation, and disposal must be in accordance with applicable federal, state/ provincial, and local regulations.

TRANSPORTATION INFORMATION

Shipping Information

DOT/IATA/IMDG:

Class:	6.1
Packaging Group:	III
UN-NO.:	3464
Labelling No.:	6.1
Proper Shipping Name:	Organophosphorus compound, toxic, solid, n.o.s. (Benzyltriphenylphosphonium Chloride)

REGULATORY INFORMATION

U.S. Federal Regulations

TSCA Inventory Status : In compliance with TSCA Inventory requirements for commercial purposes.

State Regulations (U.S.)

STATE RIGHT-TO-KNOW

No substances on the state hazardous substances list, for the states indicated below, are used in the manufacture of products on this Material Safety Data Sheet, with the exceptions indicated.

SUBSTANCES ON THE PENNSYLVANIA HAZARDOUS SUBSTANCES LIST PRESENT AT A CONCENTRATION OF 1 % OR MORE (0.01% FOR SPECIAL HAZARDOUS SUBSTANCES)- Limestone.

(REGULATORY INFORMATION - Continued)

WARNING - SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE
CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM- None known.

SUBSTANCES ON THE NEW JERSEY WORKPLACE HAZARDOUS SUBSTANCE LIST
PRESENT AT A CONCENTRATION OF 1% OR MORE (0.1% FOR SUBSTANCES
IDENTIFIED AS CARCINOGENS, MUTAGENS OR TERATOGENS)- None known.

OTHER INFORMATION

Additional Information

MEDICAL USE: CAUTION: Do not use in medical applications
involving permanent implantation in the human body. For other
medical applications see DuPont Performance Elastomers Medical
Application Policy (H-69237).

The data in this Material Safety Data Sheet relates only to the
specific material designated herein and does not relate to use in
combination with any other material or in any process.

Responsibility for MSDS : G. W. WORTHAM
Address : DuPont Performance Elastomers L.L.C.
CHESTNUT RUN PLAZA 713
WILMINGTON, DE 19880-0713
Telephone : 302-999-2319

Indicates updated section.

This information is based upon technical information believed to be
reliable. It is subject to revision as additional knowledge and
experience is gained.

End of MSDS