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DuPont
Material Safety Data Sheet

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"ELVANOL" POLYVINYL ALCOHOL ALL IN SYNONYM LIST NOL015
NOL015 Revised 27-OCT-2006

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

"ELVANOL" is a registered trademark of DuPont.

Tradenames and Synonyms

"ELVANOL" 52-22,
"ELVANOL" 52-22DF,
"ELVANOL" 52-22S4,
"ELVANOL" 52-22S8, #

Company Identification

MANUFACTURER/DISTRIBUTOR
DuPont Packaging & Industrial Polymers
1007 Market Street
Wilmington, DE 19898

PHONE NUMBERS

Product Information : 1-(800)-441-7515
Transport Emergency : 1-(800)-424-9300
Medical Emergency : 1-(800)-441-3637

COMPOSITION/INFORMATION ON INGREDIENTS

Components

| Material | CAS Number | % |
|------------------------|------------|------|
| VINYL ALCOHOL POLYMERS | 25213-24-5 | >97 |
| METHANOL | 67-56-1 | <1 |
| SODIUM ACETATE | 127-09-3 | <1.4 |
| PROCESS AIDS | | 0-3 |

HAZARDS IDENTIFICATION

Potential Health Effects

ADDITIONAL HEALTH EFFECTS

Before using "ELVANOL" Polyvinyl Alcohol read DuPont Bulletin,
"Safe Handling Information".

(HAZARDS IDENTIFICATION - Continued)

ACUTE OR IMMEDIATE EFFECTS: ROUTES OF ENTRY AND SYMPTOMS

INGESTION Not a probable route of entry. The oral LD-50 of one type of "Elvanol" is greater than 11000 milligrams per kilogram of body weight as determined in rats, which is low toxicity. Other types of "Elvanol" are predicted to have similar LD-50 values.

SKIN One type of "Elvanol" was tested on male guinea pigs. No irritation or sensitization effects were noted. Based on experience with handling these polymers and others which are similar chemically, no unusual dermatitis hazard is expected from routine handling.

EYE Mechanical irritation only.

INHALATION "Elvanol" is supplied as a granular solid. Under certain conditions of use, dust may be formed. Treat this dust as a nuisance dust; use a dust mask if dust exceeds the recommended limits. "Elvanol" is rarely heated above 100 degrees C. If the temperature exceeds 200 degrees C, fumes irritating to the eyes, nose, and throat will be evolved. If exposed to these fumes, the eyes will tear, itch, and turn red. The nose will burn. The throat will burn and coughing may result.

CHRONIC EFFECTS None are known.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE None are known.

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, move to fresh air. Consult a physician if symptoms persist.

SKIN CONTACT

In case of contact, immediately wash skin with soap and water. Wash contaminated clothing before reuse.

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.

(FIRST AID MEASURES - Continued)

EYE CONTACT

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

FIRE FIGHTING MEASURES

Flammable Properties

Flash Ignition Temperature: No data

Fire and Explosion Hazards:

The solid polymer can be combusted only with difficulty. Dust from "ELVANOL" can form an explosive mixture in the air. Information about special precautions needed for bulk handling is available upon request.

HAZARDOUS COMBUSTION PRODUCTS Complete combustion gives carbon dioxide and water. Incomplete combustion gives, in addition, carbon monoxide and hydrocarbon oxidation products including organic acids, aldehydes and alcohols, oxides of sodium.

Extinguishing Media

Water, CO2, Foam.

Fire Fighting Instructions

Use self-contained breathing apparatus if exposed to fumes.

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

Sweep up to avoid slipping hazard.

HANDLING AND STORAGE

Handling (Personnel)

See FIRST AID and PERSONAL PROTECTIVE EQUIPMENT SECTIONS.

Storage

Store in a cool, dry place. Keep container closed to prevent contamination.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

In the event the polymer is heated above 200 C (392 F), local ventilation should be used to avoid exposure to fumes. Use ventilation to avoid exposure of personnel to dust.

Personal Protective Equipment

EYE Eye protection is recommended as good industrial hygiene practice.

SKIN Gloves and a long sleeve shirt are recommended, particularly when hot polymer is being handled.

RESPIRATOR If local ventilation is inadequate, use a respirator for fumes or a dust mask for dust.

Exposure Guidelines

Applicable Exposure Limits

METHANOL

| | |
|----------------|--|
| PEL (OSHA) | : 200 ppm, 260 mg/m ³ , 8 Hr. TWA |
| TLV (ACGIH) | : 200 ppm, 8 Hr. TWA, Skin STEL 250 ppm |
| AEL * (DuPont) | : 200 ppm, 8 & 12 Hr. TWA, Skin |

SODIUM ACETATE

| | |
|----------------|--|
| PEL (OSHA) | : None Established |
| TLV (ACGIH) | : None Established |
| AEL * (DuPont) | : 10 mg/m ³ , 8 & 12 Hr. TWA, total dust 5 mg/m ³ , 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 : Approximately 200 deg. C (392 deg. F)
% Volatiles : 5 WT%
Solubility in Water : Moderate solubility
Odor : Mild
Form : Free-flowing granules
Color : White
Specific Gravity : 1.3

STABILITY AND REACTIVITY

Chemical Stability

Stable at normal conditions.

Conditions to Avoid

Temperatures above 200 C (392 F) .

Incompatibility with Other Materials

None reasonably foreseeable.

Decomposition

Decomposes with heat.

HAZARDOUS DECOMPOSITION PRODUCTS - carbon monoxide and hydrocarbon oxidation products including organic acids, aldehydes and alcohols, oxides of sodium.

Polymerization

Polymerization will not occur.

ECOLOGICAL INFORMATION

Ecotoxicological Information

AQUATIC TOXICITY:

Concentrations of "ELVANOL" up to 10,000 milligrams per liter of water showed no mortality or other effect when tested on bluegill sunfish.

DISPOSAL CONSIDERATIONS

Waste Disposal

Preferred options for disposal are (1) recycling, (2) incineration with energy recovery, and (3) landfill. The high fuel value of this product makes option 2 very desirable for material that cannot be recycled. Treatment, storage, transportation, and disposal must be in accordance with applicable federal, state/provincial, and local regulations.

TRANSPORTATION INFORMATION

Shipping Information

DOT
Proper Shipping Name : Not applicable
Hazard Class : Not regulated

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)- Methanol.

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)- Methanol.

OTHER INFORMATION

NFPA, NPCA-HMIS

NPCA-HMIS Rating
Health : 1
Flammability : 1
Reactivity : 0

Personal Protection rating to be supplied by user depending on use conditions.

Additional Information

MEDICAL USE: CAUTION: Do not use in medical applications involving permanent implantation in the human body. "ELVANOL" is intended for industrial use and is expressly not for use in cosmetic, personal care and pharmaceutical or similar applications. For other medical applications see DuPont CAUTION Bulletin No. H-50102.

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 : T. P. PRICE
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WILMINGTON, DE 19880-0713
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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