

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

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24-Hour Emergency Phone Number: 989-636-4400

Product: SARAN* 560-IF white plastic film FP

Product Code: 76648

Effective Date: 09/07/99 Date Printed: 06/16/04 MSD: 006441

The Dow Chemical Company, Midland, MI 48674

Customer Information Center: 800-258-2436

2. COMPOSITION/INFORMATION ON INGREDIENTS

| | | |
|---|------------------|------|
| Copolymer of vinylidene chloride and vinyl chloride | CAS# 009011-06-7 | >75% |
| Copolymer of ethylene and vinyl acetate | CAS# 024937-78-8 | <10% |
| Titanium dioxide | CAS# 013463-67-7 | <10% |
| Proprietary additives | | <6% |

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

* White plastic film. Odorless. Toxic fumes may be released in *
* situations. *
* *

POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data.)

EYE: Solid or dust may cause irritation or corneal injury due to mechanical action.

SKIN: Essentially nonirritating to skin. Skin absorption is unlikely due to physical properties.

INGESTION: Single dose oral toxicity is considered to be extremely low. No hazards anticipated from swallowing small amounts incidental to normal handling operations.

INHALATION: Vapors are unlikely due to physical properties.

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SYSTEMIC & OTHER EFFECTS: Based on available data, repeated exposures are not anticipated to cause significant adverse effects. Additives and/or pigments are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency.

4. FIRST AID

EYES: Flush eyes with plenty of water; mechanical effects only.

SKIN: No adverse effects anticipated by this route of exposure.

INGESTION: No adverse effects anticipated by this route of exposure incidental to proper industrial handling.

INHALATION: No adverse effects anticipated by this route of exposure.

NOTE TO PHYSICIAN: No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: Not applicable.

METHOD USED: Not applicable.

AUTOIGNITION TEMPERATURE: Not applicable.

FLAMMABILITY LIMITS

LFL: Not applicable.

UFL: Not applicable.

HAZARDOUS COMBUSTION PRODUCTS: Under fire conditions polymers decompose. The smoke may contain polymer fragments of varying compositions in addition to unidentified toxic and/or irritating compounds. Hazardous combustion products may include and are not limited to: hydrogen chloride, carbon monoxide and carbon dioxide.

OTHER FLAMMABILITY INFORMATION: Dense smoke is produced when product burns.

EXTINGUISHING MEDIA: Water, carbon dioxide, dry chemical.

FIRE FIGHTING INSTRUCTIONS: Keep people away. Isolate fire area and deny unnecessary entry. Cool surroundings with water to

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localize fire zone. Soak thoroughly with water to cool and prevent reignition.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES (See Section 15 for Regulatory Information)

PROTECT PEOPLE: Clear non-emergency personnel from area.

PROTECT THE ENVIRONMENT: Avoid contamination of drinking water, natural water, ground water or any waterway.

CLEANUP: Sweep up.

7. HANDLING AND STORAGE

HANDLING: Mechanical handling equipment can cause formation of dusts. Maintain good housekeeping. Layers of flammable dusts should not be permitted to accumulate.

STORAGE: Recommend storing in a cool, dry place away from high temperatures, hot pipes, and direct sun.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Good general ventilation should be sufficient for most conditions.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION: Use safety glasses. If there is a potential for exposure to particles which could cause mechanical injury to the eye, wear chemical goggles.

SKIN: No precautions other than clean body-covering clothing should be needed.

RESPIRATORY PROTECTION: No respiratory protection should be needed.

EXPOSURE GUIDELINE(S): Although some of the additives used

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in this product may have exposure guidelines, these additives are encapsulated in the product and no exposure would be expected under normal handling conditions.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: White plastic film.

ODOR: Odorless.

BOILING POINT: Not applicable

VAPOR PRESSURE: Not applicable

VAPOR DENSITY: Not applicable

SOLUBILITY IN WATER: Insoluble

SPECIFIC GRAVITY: Not applicable

10. STABILITY AND REACTIVITY

STABILITY: Thermally stable at typical use temperatures.

CONDITIONS TO AVOID: Product can decompose at elevated temperatures.

HAZARDOUS DECOMPOSITION PRODUCTS: Hazardous decomposition products depend upon temperature, air supply and the presence of other materials. Hazardous decomposition products may include and are not limited to hydrogen chloride.

INCOMPATIBLE MATERIALS: Avoid contact with nitric acid, sulfuric acid.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION (See Section 3 for Potential Health Effects. For detailed toxicological data, write or call the address or non-emergency number shown in Section 1)

SKIN: The dermal LD50 has not been determined.

INGESTION: Single dose oral LD50 has not been determined.

MUTAGENICITY: No relevant information found.

12. ECOLOGICAL INFORMATION (For detailed Ecological data, write or call the address or non-emergency number shown in Section 1)

ENVIRONMENTAL FATE

MOVEMENT & PARTITIONING: No bioconcentration is expected

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because of the relatively high molecular weight (MW>1000). In the terrestrial environment, material is expected to remain in the soil. In the aquatic environment, material will sink and remain in the sediment.

DEGRADATION AND PERSISTENCE: This water insoluble polymeric solid is expected to be inert in the environment. Surface photodegradation is expected with exposure to sunlight. No appreciable biodegradation is expected.

ECOTOXICITY: Not expected to be acutely toxic.

13. DISPOSAL CONSIDERATIONS (See Section 15 for Regulatory Information)

DISPOSAL: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State/provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. THE DOW CHEMICAL COMPANY HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2 (Composition/Information On Ingredients).

FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: recycler, reclaimer, incinerator or other thermal destruction device, and landfill.

For additional information, refer to Stability & Reactivity Information, MSDS Section 10.

As a service to its customers, Dow can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums. Telephone Dow's Customers Information Center at 800-258-2436 or 989-832-1556 for further details.

14. TRANSPORT INFORMATION

DEPARTMENT OF TRANSPORTATION (D.O.T.): This product is not regulated by D.O.T. when shipped domestically by land.

CANADIAN TDG INFORMATION: This product is not regulated by TDG

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when shipped domestically by land.

15. REGULATORY INFORMATION (Not meant to be all-inclusive--selected regulations represented)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

U.S. REGULATIONS

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SARA 313 INFORMATION: To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Not to have met any hazard category

STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

| CHEMICAL NAME | CAS NUMBER | LIST |
|------------------|-------------|---------|
| TITANIUM DIOXIDE | 013463-67-7 | NJ3 PA1 |

NJ3=New Jersey Workplace Hazardous Substance (present at greater than or equal to 1.0%).

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REGULATORY INFORMATION (CONTINUED)

PA1=Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%).

OSHA HAZARD COMMUNICATION STANDARD:

This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CANADIAN REGULATIONS
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WHMIS INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is:

This product is not a "Controlled Product" under WHMIS.

16. OTHER INFORMATION

MSDS STATUS: New MSDS.

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The Information Herein Is Given In Good Faith, But No Warranty, Express Or Implied, Is Made. Consult The Dow Chemical Company For Further Information.