

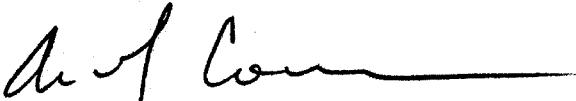
September 21, 2000

To whom it may concern:

Tyco Plastics manufactures plastic products that are classified as "articles" according to the Occupational Safety and Health Administration (OSHA) as defined in 29CFR1910.1200. "Film Guard" sheeting is manufactured using polyethylene resins as shown of the attached Material Safety Data Sheet (MSDS).

The OSHA Hazard Communication Standard requires chemical manufacturers to develop MSDS on the chemicals they produce. However, products classified as an "articles" are exempt from these requirements. OSHA defines "article" to mean: "a manufactured item other than a fluid or particle: (i) which is formed to a specific shape or design during the manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g., minute or trace amounts of a hazardous chemical (as determined under paragraph (d) of this section), and does not pose a physical hazard or health risk to employees.

Sincerely,

A handwritten signature in black ink, appearing to read "A. G. Coenen", written over a horizontal line.

Allen G. Coenen  
Safety Manager

Cc: Ron Shaw – Plant Manager



UNION CARBIDE CORPORATION  
**MATERIAL SAFETY DATA SHEET**



**Product Name:** CFPH-1210 NT 1A  
**MSDS#:** 000000003383

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Union Carbide urges each customer or recipient of this MSDS to study it carefully to become aware of and understand the hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology, and fire prevention, as necessary or appropriate to use and understand the data contained in this MSDS.

To promote safe handling, each customer or recipient should: 1) Notify its employees, agents, contractors and others whom it knows or believes will use this material or the information in this MSDS and any other information regarding hazards or safety; 2) Furnish this same information to each of its customers for the product; and 3) Request its customers to notify their employees, customers, and other users of the product of this information.

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

**1.1 IDENTIFICATION**

<b>Product Name</b>	CFPH-1210 NT 1A
<b>Chemical Name</b>	BASE RESIN: Utility Grade Polyethylene and/or Ethene Copolymer Mixture
<b>Chemical Family</b>	Natural Polyethylene Compounds
<b>Common Name</b>	CLPA-2000 NT 1A
<b>Formula</b>	Not Applicable
<b>Synonym</b>	None

**1.2 COMPANY IDENTIFICATION**

Union Carbide Corporation  
39 Old Ridgebury Road  
Danbury, CT 06817-0001

**1.3 EMERGENCY TELEPHONE NUMBER**

**24 hours a day: 1-800-UCC-HELP (1-304-744-3487)**

Number for non-emergency questions concerning MSDS (732) 563-5522

Additional information on this product may be obtained by calling the Union Carbide Corporation Customer Service Center at 1-800-568-4000.

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## 2. COMPOSITION INFORMATION

Component	CAS #	Amount
Polyethylene and/or Ethene Copolymer Mixture		> 99. %

This product may contain one or more of the following: Polyethylene Homopolymer, Polypropylene Homopolymer, Copolymers and Terpolymers of Ethylene and/or Propylene with Butene, Hexene, and/or Octene, Ethylene/Propylene Copolymers

## 3. HAZARDS IDENTIFICATION

### 3.1 EMERGENCY OVERVIEW

**Appearance** 1/8 inch diameter pellets or granules; whitish to light gray color

**Physical State** Pellets or solid granules

**Odor** Negligible or slight characteristic odor

**Hazards of product** CAUTION!, FOR GRANULAR PRODUCTS:  
AIRBORNE DUST PARTICLES MAY FORM EXPLOSIVE AIR-DUST MIXTURE.  
PLASTIC BAG OR LINER, IF PRESENT, MAY CAUSE STATIC IGNITION HAZARD.  
EXPOSURE TO DUST AND PROCESSING FUMES MAY CAUSE IRRITATION OF SKIN, EYES, AND RESPIRATORY TRACT.

FOR PELLETTED PRODUCTS:  
PLASTIC BAG OR LINER MAY CAUSE STATIC IGNITION HAZARD.  
EXPOSURE TO DUST AND PROCESSING FUMES MAY CAUSE IRRITATION OF SKIN, EYES, AND RESPIRATORY TRACT.

### 3.2 POTENTIAL HEALTH EFFECTS

#### General Health Hazards

Treat fines and dust as nuisance particulates. Avoid breathing dust and processing fumes. Dust causes eye irritation, experienced as stinging and discomfort or pain. Polyolefin pellets or granules are abrasive and may cause mechanical skin irritation. Molten or hot polymer will cause thermal burns.

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## Effects of Single Acute Overexposure

**Inhalation** See General Health Hazards.

**Eye Contact** See General Health Hazards.

**Skin Contact** See General Health Hazards.

**Skin Absorption** No evidence of harmful effects from available information.

**Swallowing** No evidence of harmful effects from available information.

## Chronic, Prolonged or Repeated Overexposure

**Effects of Repeated Overexposure** No adverse effects anticipated from available information.

**Other Effects of Overexposure** None currently known.

## Medical Conditions Aggravated by Exposure

A knowledge of the available toxicology information and of the physical and chemical properties of the material suggests that overexposure is unlikely to aggravate existing medical conditions.

## **3.3 POTENTIAL ENVIRONMENTAL EFFECTS**

See Section 12 for Ecological Information.

# **4. FIRST AID PROCEDURES**

## **4.1 INHALATION**

If inhaled, remove to fresh air.

## **4.2 EYE CONTACT**

In case of dust contact with eye(s), flush eyes thoroughly with water for several minutes. Remove contact lenses, if worn. Seek medical advice if irritation persists. For thermal eye burns, immediately flush eyes with water and continue washing for several minutes. DO NOT remove contact lenses, if worn. Obtain medical attention without delay, preferably from an ophthalmologist.

## **4.3 SKIN CONTACT**

For thermal skin burns, remove clothing, any jewelry, and gross debris from the burned area. Leave blisters intact. Wash the area thoroughly with room temperature tap water. Do not use ice. Cover the wounded area with gauze dressing moistened with cool water; keep the dressing moist. Seek medical attention.

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## 4.4 SWALLOWING

No emergency care anticipated.

## 4.5 NOTES TO PHYSICIAN

There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

## 5. FIRE FIGHTING MEASURES

### 5.1 FLAMMABLE PROPERTIES

**Flash Point - Closed Cup:** *Not determined.*

**Flash Point - Open Cup:** *Not determined.*

**Autoignition Temperature:** Generally 500 - 770 Deg. F. (260 - 410 Deg. C.) depending on individual product composition.

### Flammable Limits In Air:

Lower *Not determined.*

Upper *Not determined.*

### 5.2 EXTINGUISHING MEDIA

Apply alcohol-type or all purpose-type foams by manufacturer's recommended techniques for large fire. Use carbon dioxide or dry chemical media for small fires.

### 5.3 EXTINGUISHING MEDIA TO AVOID

No information currently available.

### 5.4 SPECIAL FIRE FIGHTING PROCEDURES

Do not direct a solid stream of water or foam into burning molten material; this may cause spattering and spread the fire.

### 5.5 SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Use self-contained breathing apparatus and protective clothing.

### 5.6 UNUSUAL FIRE AND EXPLOSION HAZARDS

Avoid dispersion of dust in air to reduce potential for dust ignition/explosions.  
See Section 8.3 - Engineering Controls

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## 5.7 HAZARDOUS COMBUSTION PRODUCTS

See Section 10.1 - Thermal Decomposition

## 6. ACCIDENTAL RELEASE MEASURES

### Steps to be taken if Material is Released or Spilled:

Sweep up and collect in suitable container for disposal. To prevent littering, avoid releases to surface waters.  
**CAUTION:** Polyethylene pellets on floors are slippery and can cause falls.

**Personal Precautions:** Wear suitable protective equipment. See Section 8.2 - Personal Protection.

**Environmental Precautions:** To prevent littering, avoid releases to surface waters.

## 7. HANDLING AND STORAGE

### 7.1 HANDLING

#### General Handling

FOR GRANULAR PRODUCTS:

Prevent accumulation of dust particles.

Maintain proper grounding at all times.

Do not handle or empty bag or liner in presence of flammable vapor.

Avoid breathing dust and process fumes.

Use with adequate ventilation.

FOR INDUSTRY USE ONLY.

FOR PELLETED PRODUCTS:

Do not handle or empty bag or liner in presence of flammable vapor.

Avoid breathing dust and process fumes.

Use with adequate ventilation.

FOR INDUSTRY USE ONLY.

#### Ventilation

Local exhaust ventilation is recommended for control of airborne dust, fumes, and vapor, particularly in confined areas.

#### Other Precautions

The polyethylene fines and dust particles contained in all polyethylene resins are Class St-1 (lowest severity) deflagration hazards under National Fire Protection Association NFPA 68. Your facilities should conform to NFPA-654. Read and understand Union Carbide's "Polyethylene Handling and Storage Guide" which summarizes the appropriate NFPA standards.

### 7.2 STORAGE

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No information currently available.

## **8. EXPOSURE CONTROLS AND PERSONAL PROTECTION**

### **8.1 EXPOSURE LIMITS**

<b>Component</b>	<b>Exposure Limits</b>	<b>Skin</b>	<b>IH State</b>
Nuisance Dust	10 mg/m3 TWA8 ACGIH 3 mg/m3 TWA8 ACGIH 5 mg/m3 TWA8 OSHA 15 mg/m3 TWA8 OSHA		Inhalable Particulate Respirable fraction Respirable fraction Total dust

There are no established exposure limits for polyethylene, however, Union Carbide treats polyethylene dust as a nuisance particulate

### **8.2 PERSONAL PROTECTION**

**Respiratory Protection:** Use NIOSH-approved respirator if unable to control airborne dust, fumes, and vapor.

**Ventilation:** Local exhaust ventilation is recommended for control of airborne dust, fumes, and vapor, particularly in confined areas.

**Other Protective Equipment:** Wear gloves and suitable eye protection.

### **8.3 ENGINEERING CONTROLS**

Physical handling and processing of this product such as through pneumatic conveying and grinding, etc., can generate fines and dust particles that can, under certain conditions, pose an explosion hazard. We recommend that the systems used be: (1) equipped with filters of adequate size, (2) operated and maintained in a manner to ensure that no leaks develop and (3) adequately grounded. We further recommend good housekeeping be practiced throughout the facility.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

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**Physical State:** Pellets or solid granules

**Appearance:** 1/8 inch diameter pellets or granules; whitish to light gray color

**pH:** *Not currently available.*

**Solubility in Water (by weight):** *Not determined.*

**Odor:** Negligible or slight characteristic odor

**Boiling Point (760 mmHg):** *Not determined.*

**Freezing Point:** *Not determined.*

**Specific Gravity (H<sub>2</sub>O = 1):** *Not determined.*

**Vapor Pressure at 20°C:** *Not determined.*

**Vapor Density (air = 1):** *Not determined.*

**Melting Point:** *Not determined.*

## **10. STABILITY AND REACTIVITY**

### **10.1 STABILITY/INSTABILITY** Stable

**Conditions to Avoid:** Some polyethylene products, using certain catalyst systems, will generate trace amounts of benzene during fabrication processes. The amount of benzene generated can increase with increasing processing temperatures. Avoid temperatures over 260 Deg. C. (500 Deg. F.) Prolonged exposure to temperatures over 250 Deg. C. (482 Deg. F.) may cause resin decomposition.

**Thermal Decomposition:** Carbon monoxide is highly toxic if inhaled; carbon dioxide in sufficient concentrations can act as an asphyxiant. Aldehydes are known irritants. In addition, some aldehydes are skin sensitizers and/or probable carcinogens. Acute overexposure to the decomposition products may result in headache, nausea and irritation of the eyes, skin and respiratory tract. Benzene is a known human carcinogen which may cause various blood disorders including anemia and leukemia. Effects of chronic exposure may be delayed. Benzene is included in the IARC, NTP and OSHA lists of carcinogens. Benzene has been shown to cause embryofetal toxicity and birth defects in laboratory animals, but only at doses which also cause maternal toxicity. There is no information available with respect to possible developmental effects in humans. Local exhaust ventilation is recommended for control of airborne dust, fumes and vapor.

#### Thermal Decomposition Products

Carbon monoxide  
Carbon dioxide



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Aldehydes  
Benzene  
Other Organic Vapor

**10.2 HAZARDOUS POLYMERIZATION** Will Not Occur.

**10.3 INHIBITORS/STABILIZERS** Not applicable.

## **11. TOXICOLOGICAL INFORMATION**

The following information is based on published toxicity data for associated base polymers (ethene homopolymer, 1-butene polymer with ethene, and 1-hexene polymer with ethene). These data were not produced by Union Carbide Corporation.

### **ACUTE TOXICITY**

**Peroral: rat Lethal Dose > 7.95 g/kg no effects**

**Peroral: mouse Lethal Dose > 7.0 g/kg**

**Inhalation: Variable Dust Concentration Studies Exposure Time 0.5 h**  
**mouse LC50 12000 mg/m3**

### **Skin:**

Pellets or granules may cause abrasion or other mechanical irritation.

### **Eye:**

May cause irritation.

### **REPEATED EXPOSURE**

Inclusion of 1-butene polymer with ethene in the diet of rats for 90 days at 5% or less caused no adverse effects.

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## **SENSITIZATION (ANIMAL AND HUMAN STUDIES)**

Polyethylene is not considered to be a skin sensitizer.

## **CHRONIC TOXICITY AND CARCINOGENICITY**

According to published data, inclusion of polyethylene in the diet of rats at 8 g/kg/day did not result in treatment-related effects. Polyethylene implanted into rats and mice has reportedly caused local tumorigenic activity at doses of 33 to 2120 mg/kg, but the relevance to human exposure is not certain. There has been extensive use of polyethylene in industry and medicine.

## **12. ECOLOGICAL INFORMATION**

### **12.1 ENVIRONMENTAL FATE**

Degradation of this polyethylene product is not anticipated under environmental exposure conditions.

### **12.2 ECOTOXICITY**

Partial information may be available, call Union Carbide.

### **12.3 FURTHER INFORMATION**

None.

## **13. DISPOSAL CONSIDERATIONS**

### **13.1 WASTE DISPOSAL METHOD**

Dispose in accordance with all applicable Federal, State, Provincial, and local environmental regulations. Empty containers should be recycled or disposed of through an approved waste management facility.

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## **13.2 DISPOSAL CONSIDERATIONS**

When disposed of, this product is not considered a RCRA hazardous waste.

Disposal methods identified are for the product as sold. For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options permissible under applicable rules, regulations and/or laws governing your location.

## **14. TRANSPORT INFORMATION**

### **14.1 U.S. D.O.T.**

#### **NON-BULK**

**Proper Shipping Name : NOT REGULATED**

#### **BULK**

**Proper Shipping Name : NOT REGULATED**

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through your UCC sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

## **15. REGULATORY INFORMATION**

### **15.1 FEDERAL/NATIONAL**

#### **CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 SECTION 103)**

The following components of this product are specifically listed as hazardous substances in 40 CFR 302.4 (unlisted hazardous substances are not identified) and are present at levels which could require reporting:

Because no constituents of the polyethylene resin are released to the environment under normal conditions of use and processing, the resin and its constituents are not subject to the emergency release reporting provisions of Section 103 or CERCLA (of Section 304 of SARA Title III).

#### **SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) TITLE III SECTIONS 302 AND 304**

The following components of this product are listed as extremely hazardous substances in 40 CFR Part 355 and are present at levels which could require reporting and emergency planning:

None.

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## SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) TITLE III SECTION 313

The following components of this product are listed as toxic chemicals in 40 CFR 372.65 and are present at levels which could require reporting and customer notification under Section 313 and 40 CFR Part 372:

This product does not contain toxic chemicals at levels which require reporting under the statute

## SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) TITLE III SECTIONS 311 AND 312

**Delayed Hazard : No**  
**Fire Hazard : No**  
**Immediate Health Hazard : No**  
**Reactive Hazard : No**  
**Sudden Release of Pressure Hazard : No**

## TOXIC SUBSTANCES CONTROL ACT (TSCA)

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.

## 15.2 STATE/LOCAL

### PENNSYLVANIA (WORKER AND COMMUNITY RIGHT-TO-KNOW ACT)

This product is subject to the Worker and Community Right-to-Know Act. The following components of this product are at levels which could require identification in the MSDS:

None.

### MASSACHUSETTS (HAZARDOUS SUBSTANCES DISCLOSURE BY EMPLOYERS)

The following components of this product appear on the Massachusetts Substance List and are present at levels which could require identification in the MSDS:

None.

### CALIFORNIA PROPOSITION 65 (SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986)

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

This section provides selected regulatory information on this product including its components. This is not intended to include all regulations. It is the responsibility of the user to know and comply with all applicable rules, regulations and laws relating to the product being used.

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## **16. OTHER INFORMATION**

### **16.1 AVAILABLE LITERATURE AND BROCHURES**

Additional information on this product may be obtained by calling the Union Carbide Corporation Customer Service Center at 1-800-568-4000.

Read and understand Union Carbide's "Polyethylene Handling and Storage Guide" prior to handling.

### **16.2 SPECIFIC HAZARD RATING SYSTEM**

Additional information on this product may be obtained by calling the Union Carbide Corporation Customer Service Center at 1-800-568-4000.

### **16.3 RECOMMENDED USES AND RESTRICTIONS**

#### **FOR INDUSTRY USE ONLY**

**NOTICE:** This product is not FDA, CPSC, or NSF compliant. It is unsuitable for use in applications such as direct or indirect food contact, toys, medical device or pharmaceutical applications or for potable water applications.

### **16.4 REVISION**

Version: 1.

Revision: 09/11/1998

Most recent revision(s) are highlighted throughout this document.

The opinions expressed herein are those of qualified experts within Union Carbide. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and the conditions of the use of the product are not under the control of Union Carbide, it is the user's obligation to determine conditions of safe use of the product.