Material Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Polyethylene (High Density, Low Density, Linear Low Density)

COMPANY IDENTIFICATION

Chevron Chemical Co.
Olefins & Derivatives Division
P.O. Box 3766
Houston, TX 77253-3766

EMERGENCY TELEPHONE NUMBERS

HEALTH (24 hr): (800)231-0623 or
(510)231-0623 (International)
TRANSPORTATION (24 hr): CHEMTREC
(800)424-9300 or (202)483-7616

PRODUCT INFORMATION: (713)754-4245, 7:30 a.m. - 4:15 p.m. CST or
(713)754-4260, 7:30 a.m. - 4:15 p.m. CST

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPOSITION COMMENT:
This document is suitable for use with high density, low density, and linear low density polyethylene products. All grades of polyethylene are FDA approved and are not considered hazardous materials under the OSHA Hazard Communication Standard.

The proportion compositions are given to allow for the various ranges of the components present in the whole product and may not equal 100%.

100.0 % Polyethylene (High Density, Low Density, Linear Low Density)

CONTAINING

COMPONENTS	AMOUNT	LIMIT/QTY	AGENCY/TYPE
POLYETHYLENE Chemical Name: ETHENE, HOMOPOLYMER CAS9002884	100.0%		

TLV - Threshold Limit Value TWA - Time Weighted Average

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the Toxicology and Health Risk Assessment Unit, CRTC, P.O. Box 4054, Richmond, CA 94804

X-DOS051 (06-

STEL - Short-term Exposure Limit
RQ - Reportable Quantity
CC - Chevron Chemical Company
TPQ - Threshold Planning Quantity
CPS - CUSA Product Code
CAS - Chemical Abstract Service Number

3. HAZARDS IDENTIFICATION

********** **EMERGENCY OVERVIEW** **********

Translucent, colorless pellets

- A HAZARD WARNING IS NOT REQUIRED FOR THIS PRODUCT UNDER OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200)

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POTENTIAL HEALTH EFFECTS

EYE:
The cool material is not expected to cause eye irritation. However, thermal burns may result from contact with the hot material. The degree of the injury will depend on the amount of material that gets into the eye and the speed and thoroughness of the first aid treatment.

SKIN:
The cool material is not expected to cause skin irritation. However, thermal burns may result from contact with the hot material. The degree of the injury will depend on the amount of material that gets on the skin and the speed and thoroughness of the first aid treatment. If absorbed through the skin, this substance is considered practically non-toxic to internal organs.

INGESTION:
If swallowed, this substance is considered practically non-toxic to internal organs.

INHALATION:
Fumes from the hot material can be unpleasant and may produce nausea and irritation of the upper respiratory tract.

SIGNS AND SYMPTOMS OF EXPOSURE:
EYE: May include pain, tears, swelling, redness, and blurred vision.
SKIN: May include pain, discoloration, and swelling.

4. FIRST AID MEASURES

EYE:
If the hot melted material should splash into the eyes, flush eyes immediately with fresh water for 15 minutes while holding the eyelids open. Remove contact lenses if worn. See a doctor for treatment.

SKIN:
If the hot, melted material gets on skin, quickly cool in water. See a doctor for extensive burns. DO NOT try to peel the solidified material from the skin or use solvents or thinners to dissolve it. The use of vegetable oil or mineral oil is recommended for removal of this material from the skin.

INGESTION:
Not expected to be an ingestion problem, no first aid procedures are required.
INHALATION:
If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES
FLASH POINT: NDA
AUTOIGNITION: NDA
FLAMMABILITY LIMITS (% by volume in air): Lower: NDA Upper: NDA
EXTINGUISHING MEDIA:
NDA
NFPA RATINGS: Health 0; Flammability 1; Reactivity 0.
FIRE FIGHTING INSTRUCTIONS:
For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
COMBUSTION PRODUCTS:
Normal combustion forms carbon dioxide, water vapor and may produce carbon monoxide and/or low molecular weight hydrocarbons.

6. ACCIDENTAL RELEASE MEASURES

CHEMTREC EMERGENCY NUMBER (24 hr): (800)424-9300 or (202)483-7616
ACCIDENTAL RELEASE MEASURES:
If liquid material is spilled, allow it to cool and solidify before proceeding with disposal methods.

7. HANDLING AND STORAGE

HANDLING AND STORAGE:
For manufacturing facilities only: Bulk storage of polyethylene pellets may result in the accumulation of ethylene gas with possible explosion potential. Concentrations of ethylene gas must be kept below the lower explosive limit (LEL) of 2.7%. Avoid breathing vapors or fumes which may be released during thermal processing.

AIRBORNE DUST CONCENTRATIONS ABOVE 20 MG/L MAY CREATE A DUST EXPLOSION HAZARD.

Spilled pellets may create a slipping hazard.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT
EYE/FACE PROTECTION:
If this material is used at elevated temperatures, wear chemical goggles, a face shield, or safety glasses.
SKIN PROTECTION:
If this material is used at elevated temperatures, skin contact can be minimized by wearing protective clothing.
RESPIRATORY PROTECTION:
No special respiratory protection is normally required. However, if operating conditions create high airborne concentrations, the use of an approved respirator is recommended.
ENGINEERING CONTROLS:
No special ventilation is usually necessary. However, if operating conditions create high airborne concentrations of this material, special ventilation may be needed. If thermal processing results in irritating fumes, special ventilation may be needed to ensure that exposure standards are not exceeded. If handling results in dust generation, special ventilation may be needed to ensure that dust exposure does not exceed the OSHA PEL for nuisance dust.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DESCRIPTION:
Translucent, colorless pellets

pH:	NDA
VAPOR PRESSURE:	NDA
VAPOR DENSITY (AIR=1):	NDA
BOILING POINT:	NDA
FREEZING POINT:	NDA
MELTING POINT:	NDA
SOLUBILITY:	Insoluble in water
SPECIFIC GRAVITY:	0.91 - 1.02
DENSITY:	NDA
EVAPORATION RATE:	0
PERCENT VOLATILE (VOL):	0%

10. STABILITY AND REACTIVITY

HAZARDOUS DECOMPOSITION PRODUCTS:
NA.
CHEMICAL STABILITY:
Stable.
CONDITIONS TO AVOID:

No data available.
INCOMPATIBILITY WITH OTHER MATERIALS:
May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
HAZARDOUS POLYMERIZATION:
Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

EYE EFFECTS:
No product toxicology data available. The hazard evaluation was based on data from similar materials.
SKIN EFFECTS:
No product toxicology data available. The hazard evaluation was based on data from similar materials.
ACUTE ORAL EFFECTS:
No product toxicology data available. The hazard evaluation was based on data from similar materials.
ACUTE INHALATION EFFECTS:
No product toxicology data available. The hazard evaluation was based on data from similar materials.
ADDITIONAL TOXICOLOGY INFORMATION:
This product contains polyethylene. During thermal processing, polyethylene like all plastics, can degrade. The three variables which control its degradation are the temperature, the length of time at that temperature, and the amount of oxygen available. Depending on the local processing conditions, a variety of low molecular weight hydrocarbons, alcohols, aldehydes, acids, and ketones can be formed. These materials are respiratory irritants.

12. ECOLOGICAL INFORMATION

ECOTOXICITY:
Fish or birds may eat pellets which may obstruct their digestive tracts.
ENVIRONMENTAL FATE:
No data available.

13. DISPOSAL CONSIDERATIONS

DISPOSAL CONSIDERATIONS:
Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

14. TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT SHIPPING NAME: NOT DESIGNATED AS A HAZARDOUS MATERIAL BY THE FEDERAL DOT
DOT HAZARD CLASS: NOT APPLICABLE
DOT IDENTIFICATION NUMBER: NOT APPLICABLE
DOT PACKING GROUP: NOT APPLICABLE

15. REGULATORY INFORMATION

SARA 311 CATEGORIES:

1. Immediate (Acute) Health Effects: NO
2. Delayed (Chronic) Health Effects: NO
3. Fire Hazard: NO
4. Sudden Release of Pressure Hazard: NO
5. Reactivity Hazard: NO

REGULATORY LISTS SEARCHED:

01=SARA 313	11=NJ RTK	21=TSCA Sect 4(e)
02=MASS RTK	12=CERCLA 302.4	22=TSCA Sect 5(a)(e)(f)
03=NTP Carcinogen	13=MN RTK	23=TSCA Sect 6
04=CA Prop 65-Carcin	14=ACGIH TWA	24=TSCA Sect 12(b)
05=CA Prop 65-Repro Tox	15=ACGIH STEL	25=TSCA Sect 8(a)
06=IARC Group 1	16=ACGIH Calc TLV	26=TSCA Sect 8(d)
07=IARC Group 2A	17=OSHA PEL	28=Canadian WHMIS
08=IARC Group 2B	19=Chevron TWA	29=OSHA CEILING
09=SARA 302/304	20=EPA Carcinogen	30=Chevron STEL
10=PA RTK		

None of the components of this material are found on the regulatory lists indicated.

16. OTHER INFORMATION

NFPA RATINGS: Health 0; Flammability 1; Reactivity 0;
HMIS RATINGS: Health 0; Flammability 1; Reactivity 0;
(Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT:

Revision Number: 9 Revision Date: 06/09/93 MSDS Number: PL0001
NDA - No Data Available NA - Not Applicable

This revision updates Section 2 (Composition) and Section 11 (Toxicological Information).

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The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modification of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

P M S C O N S O L I D A T E D

M A T E R I A L S A F E T Y D A T A S H E E T

PRODUCT NUMBER: BH31305HB

---------- ********** STATEMENT ********** ----------

THIS MATERIAL SAFETY DATA SHEET (MSDS) IS IN COMPLIANCE WITH THE FEDERAL OSHA HAZARDOUS COMMUNICATION STANDARD 29 CFR 1910.1200

THIS PRODUCT IS A MIXTURE OF PURCHASED CHEMICALS. ALL DATA CONTAINED HEREIN IS BASED ON DATA REPORTED BY OUR VENDORS.

---------- ********** DIRECTORY ********** ----------

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" NOTE " N/A = NO APPLICABLE NA = NOT AVAILABLE

MATERIAL SAFETY DATA SHEET PMS NUMBER: SH3180EMB

********** SECTION I PRODUCT * SUPPLIER INFORMATION **********

PRODUCT NAME : MASTERBATCH COLOR : TR AMBER
PHYSICAL FORM :
SUPPLIER : PMS CONSOLIDATED - NEW HAMPSHIRE PHONE : 603-673-5534
STREET : 50 SCARBOROUGH LANE EMERGENCY PHONE : 603-673-5534
CITY, STATE, ZIP : MILFORD, NH 03055
PRINTED DATE : 08/17/94 EFFECTIVE DATE : 11/10/93

********** SECTION II * EMERGENCY AND FIRST AID PROCEDURES **********

INGREDIENT HAZARDOUS STATEMENT

THE OSHA HAZARDOUS COMMUNICATION STANDARD 29 CFR 1910.1200 REQUIRES THAT DATA ON HAZARDOUS COMPOUNDS BE MADE AVAILABLE HOWEVER REMOTE THE HAZARD. UNLESS THIS PRODUCT IS INGESTED OR IS USED IN A MANNER THAT CREATES VAPORS OR NUISANCE DUSTS, THE HAZARDS ASSOCIATED WITH NORMAL EXPOSURE IS CONSIDERED NEOLIGIBLE.

EYE AND SKIN CONTACT: IMMEDIATELY FLUSH EYES WITH WATER TO REMOVE PARTICLES. IF IRRITATION PERSISTS, CONSULT A PHYSICIAN. WASH SKIN WITH SOAP AND WATER.

INHALATION: "REMOVE TO FRESH AIR. IF BREATHING IS DIFFICULT, GIVE OXYGEN." "IF BREATHING HAS STOPPED GIVE CARDIOPULMONARY RESUSCITATION." CALL A PHYSICIAN.

INGESTION: IF SWALLOWED, INDUCE VOMITING IMMEDIATELY AS DIRECTED BY MEDICAL PERSONNEL.
IF ANY OTHER HARMFUL EFFECTS ARE SUSPECTED, A PHYSICIAN SHOULD BE CALLED PROMPTLY TO DETERMINE THE NECESSITY FOR TREATMENT OR OTHER TESTING.

********** SECTION III * PERSONAL PROTECTION EQUIPMENT **********

GLOVES: OPTIONAL, RUBBER OR NEOPRENE GLOVES TO PROTECT HANDS FROM DRYING EFFECT.

EYE PROTECTION: SHIELDED GOGGLES ARE ADVISED FOR PROTECTION FROM DUST PARTICLES.

RESPIRATOR PROTECTION: IF USE OF THIS PRODUCT GENERATES DUSTS, MISTS, OR VAPORS A MSHA/NIOSH APPROVED RESPIRATOR IS RECOMMENDED.

MATERIAL SAFETY DATA SHEET PMS NUMBER: 8H31805MB

********** SECTION IV * SPECIAL PRECAUTIONS **********

IN DUSTY CONDITIONS, USE OF A DUST RESPIRATOR CERTIFIED BY NIOSH IS RECOMMENDED. WASH HANDS AND FACE THOROUGHLY AFTER HANDLING AND BEFORE EATING, DRINKING OR USING TOBACCO PRODUCTS.
VENTILATION: LOCAL EXHAUST IS RECOMMENDED TO CONTROL EXPOSURE TO WITHIN OSHA LIMITATIONS.

********** SECTION V * FIRE AND EXPLOSION DATA **********

FLASH POINT: NA AUTO IGNITION: NA LEL: NA UEL: NA

NFPA HAZARD CLASSIFICATION

FLAMMABLE: 1 HEALTH 0 REACTIVITY 0

EXTINGUISHING MEDIA : CO2 OR DR. CHEMICAL

SPECIAL FIRE FIGHTING PROCEDURES: WEAR SELF CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE & EXPLOSION HAZARDS: NONE

********** SECTION VI * REACTIVITY DATA **********

POLYMERIZATION CONDITIONS TO AVOID : NONE

STABILITY : STABLE

CONDITIONS TO AVOID : TEMPERATURES ABOVE 700 DEG. C.

INCOMPATIBLE MATERIALS TO AVOID : NONE

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS : NONE

********** SECTION VII * PHYSICAL DATA **********

APPEARANCE AND ODOR: ODORLESS
BOILING RANGE : N/A VAPOR PRES (MM HG) : N/A
FREEZING POINT : N/A SOLUBILITY / WATER : NEGLIGIBLE
SPECIFIC GRAVITY : NA % VOLATILE : N/A

* * * * * SECTION VIII * HANDLING AND DISPOSAL INFORMATION * * * * *
CONTINUED ON NEXT PAGE

MATERIAL SAFETY DATA SHEET PMS NUMBER: SH31805MB

EPA WASTE NO: NA DOT CLASSIFICATION: NOT CLASSIFIED

HANDLING & SPILL PROCEDURES

IN ACCORDANCE WITH GOOD INDUSTRIAL PRACTICE. HANDLE WITH CARE AND AVOID PERSONAL CONTACT. AVOID BREATHING DUST, MISTS OR VAPORS. CONTAIN SPILLAGE AND SCOOP OR VACUUM. PLACE IN CLOSED CONTAINER FOR DISPOSAL. WEAR SPECIFIED PROTECTIVE EQUIPMENT IF DUST IS PRESENT OR PRODUCT IS IN LIQUID FORM.

WASTE DISPOSAL: DISPOSE IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

********** SECTION IX * INGREDIENT INFORMATION **********

THE FOLLOWING INGREDIENTS ARE LISTED IN OSHA'S Z TABLES. FOR OTHER REGULATORY INFORMATION SEE SECTION XI.

--INGREDIENT--	CPA LIST	PEL MG/M3 OSHA	TLV MG/M3 ACGIH

INGREDIENTS NOT LISTED IN THIS PRODUCT ARE AT DE MINIMIS LEVELS OR CONSIDERED NON-HAZARDOUS.

********** SECTION X * INGREDIENT HEALTH HAZARD DATA **********

CARCINOGENICITY

NTP: NO IARC: NO OSHA: NO

CHRONIC HEALTH HAZARDS: REFER TO ROUTES OF ENTRY AND EFFECTS OF OVEREXPOSURE.

ROUTES OF ENTRY

INHALATION: YES SKIN: YES INGESTION: YES EYES: YES

EFFECTS OF OVEREXPOSURE

INHALATION : MAY CAUSE IRRITATION TO UPPER RESPIRATORY TRACT.

SKIN : MAY CAUSE IRRITATION AND ALLERGIC REACTION.

INGESTION : MAY CAUSE IRRITATION TO THE GASTROINTESTINAL TRACT.

CONTINUED ON NEXT PAGE

MATERIAL SAFETY DATA SHEET PMS NUMBER: EH3120FMB

EYES : MAY CAUSE IRRITATION.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NONE

********** SECTION XI - OTHER REGULATORY INFORMATION **********

TSCA INVENTORY STATUS: UNLESS SPECIFIED, ALL CHEMICAL COMPONENTS ARE LISTED IN THE TSCA INVENTORY.

CONTAINS CHEMICALS ON CALIFORNIA'S PROPOSITION 65 LIST: NO

SARA TITLE III, SECTION 313 AND 40 CFR 372 NOTIFICATION

CHEMICAL NAME	CHEMICAL CAS NO.	HIGHEST % BY.WT.	ENVIRONMENTAL POLLUTANT
ZINC COMPOUND	557-05-1	1%	NO

ALL OTHER CHEMICALS CONTAINED IN THIS PRODUCT ARE NOT SUBJECT TO SARA 313 REGULATIONS

STATE AND COMMUNITY RIGHT-TO-KNOW: SEE ABOVE.

THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED UPON DATA SUPPLIED TO US BY OUR SUPPLIERS AND IS BELIEVED TO BE CORRECT. NO GUARANTEE OR WARRANTY OF ANY KIND EXPRESSED OR IMPLIED IS MADE WITH RESPECT TO ANY OTHER INFORMATION CONTAINED HEREIN.

FOR FURTHER INFORMATION, PLEASE CONTACT:

all Pat

February 15, 1993

USA and WORLDWIDE

Material Safety Data Sheet

MARLEX® POLYPROPYLENES (All Grades)

PHILLIPS 66 COMPANY
A Division of Phillips Petroleum Company
Bartlesville, Oklahoma 74004

PHONE NUMBERS
Emergency: (918) 661-8118
General MSDS Information: (918) 661-8327
For Additional MSDSs: (918) 661-5952
Product Information: 1-800-231-1212

A. Product Identification

Synonyms:	Plastic
Chemical Name:	Propylene Polymers and Copolymers plus Additives
Chemical Family:	Olefin Polymers and Copolymers plus Additives
Chemical Formula:	Mixture
CAS Reg. No.:	Mixture-See Section B for ingredient CAS Reg. No.
Product No.:	Marlex HGL, HGN, HGX, HGY, HGZ, HLM, HLN, HLV, HNS, HNZ, HXV, RGX, RLX, RMN, RMX, BP, CP, DP, GP Series

Product and/or Components Entered on EPA's TSCA Inventory: Yes

This product is in U.S. commerce, and is listed in the Toxic Substances Control Act (TSCA) Inventory of Chemicals; hence, it may be subject to applicable TSCA provisions and restrictions.

B. Components

This product, as shipped by Phillips 66 Company, does not meet the definition of a hazardous material as given in 29 CFR Part 1910.1200 (OSHA). Information on this form is furnished as a customer service.

Ingredients	CAS Number	% By Wt.	OSHA PEL*	ACGIH TLV*
Polypropylene	9003-07-0	approx 99	NE	NE
or				
Propylene Ethylene Copolymer	9010-79-1	approx 99	NE	NE
Additives	Various	approx 1	NE	NE

* Also see Section F, Other Health Effects

NA - Not Applicable NE - Not Established

C. Personal Protection Information

Ventilation: Use adequate ventilation to control concentration below recommended exposure limits. During molding and extruding processes, local exhaust may be needed to control offgases.

Respiratory Protection: Not generally required unless needed to prevent respiratory irritation from dust or offgases. If necessary during molding and extruding processes, use NIOSH/MSHA approved air purifying respirator equipped with an organic vapor cartridge and face mask. If concentrations of dust are high, use NIOSH/MSHA approved single-use dust respirator.

Eye Protection: Not generally required. Use chemical goggles if needed to prevent irritation from dust or offgases.

Skin Protection: No special garments required. Use heat resistant gloves when handling hot or molten material. When cleaning thermal decomposition offgas condensate from equipment, use full-body, long-sleeved garments to prevent skin contact.

NOTE: Personal protection information shown in Section C is based upon general information as to normal uses and conditions. Where special or unusual uses or conditions exist, it is suggested that the expert assistance of an industrial hygienist or other qualified professional be sought.

D. Handling and Storage Precautions

Wear protective equipment and/or garments described in Section C if exposure conditions warrant. Avoid breathing dust. Wash thoroughly after handling. Launder contaminated clothing before reuse.

Moving pellets may generate static electric charge. Bond and ground during transfer.

Process only with adequate ventilation. Avoid breathing vapors from thermal processing offgases. Avoid eye or skin contact with thermal processing offgases. Thermal decomposition processing offgas condensate may form on surrounding equipment.

E. Reactivity Data

Stability: Stable
Conditions to Avoid: Not Applicable
Incompatibility (Materials to Avoid): Oxidants

Hazardous Polymerization: Will Not Occur
Conditions to Avoid: Not Applicable
Hazardous Decomposition Products: Carbon oxides and various hydrocarbon gases. Also, see Section F.

F. Health Hazard Data

Recommended Exposure Limits:

	OSHA PEL	ACGIH TLV
Control as a nuisance dust:		
Respirable	5 mg/m3	NE
Total Dust	15 mg/m3	10 mg/m3

Acute Effects of Overexposure:

Eye: Dust may cause mechanical irritation. Processing offgas vapors may cause irritation.

Skin: Essentially non-irritating.

Inhalation: Dust may produce mechanical irritation to the mucous membranes of the nose, throat and upper respiratory tract. Processing offgas vapors may cause irritation to the mucous membranes of the upper respiratory tract.

Ingestion: Essentially non-toxic and inert.

Subchronic and Chronic Effects of Overexposure:

Subchronic animal feeding studies have demonstrated no adverse effects with diets containing 5% or less polymer.

Other Health Effects:

Long term exposure to high dust concentrations may cause non-debilitating lung changes.

At extrusion temperatures (>350F), polypropylene can release vapors and gases which are irritating to the mucous membranes of the eyes, nose, mouth, throat, and lungs. C1 to C8 saturated hydrocarbons, C1 to C5 unsaturated hydrocarbons, aldehydes, ketones, alcohols, and carboxylic acids have been reported in the temperature range between 122F and 392F. Irritant effects are all transitory and can be eliminated with adequate ventilation.

Molten polymer may cause severe thermal burns. The interior of molten masses may remain hot for some time because of low thermal conductivity of the polymer. Use care when disposing of or handling such masses.

Health Hazard Categories:

	Animal	Human		Animal	Human
Known Carcinogen	___	___	Toxic	___	___
Suspect Carcinogen	___	___	Corrosive	___	___
Mutagen	___	___	Irritant	___	___
Teratogen	___	___	Target Organ Toxin	___	___
Allergic Sensitizer	___	___	Specify - No known applicable information		
Highly Toxic	___	___			

First Aid and Emergency Procedures:

NOTE: For thermal burns, cool quickly with water and seek immediate medical attention. Do not peel off solidified material.

Eye: Flush eyes with running water. If irritation or adverse symptoms develop, seek medical attention.

Skin: Wash skin with soap and water. If irritation or adverse symptoms develop, seek medical attention.

Inhalation: Remove from exposure. If illness or adverse symptoms develop, seek medical attention.

Ingestion: If illness or adverse symptoms develop, seek medical attention.

G. Physical Data

Appearance:	Opaque, translucent waxy pellets or fluff.
Odor:	Mild
Boiling Point:	Not Applicable
Vapor Pressure:	Not Applicable
Vapor Density (Air = 1):	Not Applicable
Solubility in Water:	Negligible
Specific Gravity (H2O = 1):	Density is 0.90-0.92 g/cm3
Percent Volatile by Volume:	Negligible
Evaporation Rate (Butyl Acetate=1):	Not Applicable
Viscosity:	Not Applicable

H. Fire and Explosion Data

Flash Point (Method Used):	650F (343C) (ASTM D1929)
Flammable Limits (% by Volume in Air):	LEL - Not Applicable UEL - Not Applicable
Fire Extinguishing Media:	Dry chemical, foam or carbon dioxide (CO2)
Special Fire Fighting Procedures:	Evacuate area of all unnecessary personnel. Wear appropriate safety equipment for fire conditions including NIOSH/MSHA self-contained breathing apparatus (SCBA) and other protective equipment and/or garments as described in Section C if exposure conditions warrant. Use water fog or spray to cool exposed equipment and containers.
Fire and Explosion Hazards:	Carbon oxides and various hydrocarbons may be released when burned.

I. Spill, Leak and Disposal Procedures

Precautions Required if Material is Released or Spilled:
Wear protective equipment and/or garments described in Section C if exposure conditions warrant. If concentrations of product dust in air is high, eliminate all possible ignition sources. Control dusts by wetting down with water spray. Spilled pellets may create slipping hazard. Sweep or vacuum up spill and place in drums for recovery or disposal. Keep out of water sources and sewers.

Waste Disposal (Insure Conformity with all Applicable Disposal Regulations):
Recover for reuse, recycle, incinerate for energy or place in a waste management facility.

J. DOT Transportation

Shipping Name:	Not Applicable
Hazard Class:	Not Applicable
ID Number:	Not Applicable
Packing Group:	Not Applicable
Marking:	Not Applicable
Label:	Not Applicable
Placard:	Not Applicable
Hazardous Substance/RQ:	Not Applicable
Shipping Description:	Not Applicable
Packaging References:	Not Applicable

K. RCRA Classification - Unadulterated Product as a Waste

Prior to disposal, consult your environmental contact to determine if the TCLP (Toxicity Characteristic Leaching Procedure, EPA Test Method 1311) is required. Reference 40 CFR Part 261.

L. Protection Required for Work on Contaminated Equipment

Contact immediate supervisor for specific instructions before work is initiated. Wear protective equipment and/or garments described in Section C if exposure conditions warrant.

M. Hazard Classification

___ This product meets the following hazard definition(s) as defined by the Occupational Safety and Health Hazard Communication Standard (29 CFR Section 1910.1200):

___ Combustible Liquid	___ Flammable Aerosol	___ Oxidizer
___ Compressed Gas	___ Explosive	___ Pyrophoric
___ Flammable Gas	___ Health Hazard (Section F)	___ Unstable
___ Flammable Liquid	___ Organic Peroxide	___ Water Reactive
___ Flammable Solid		

_X_ Based on information presently available, this product does not meet any of the hazard definitions of 29 CFR Section 1910.1200.

N. Additional Comments

SARA 313

As of the preparation date, this product did not contain a chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Phillips Petroleum Company (references to Phillips Petroleum Company or Phillips include it's divisions, affiliates and subsidiaries) believes that the information contained herein (including data and statements) is accurate as of the date hereof. NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE AS CONCERNS THE INFORMATION HEREIN PROVIDED. The information provided herein relates only to the specific product designated and may not be valid where such product is used in combination with any other materials or in any process. Further, since the conditions and methods of use of the product and information referred to herein are beyond the control of Phillips, Phillips expressly disclaims any and all liability as to any results obtained or arising from any use of the product or such information. No statement made herein shall be construed as a permission or recommendation for the use of any product in a manner that might infringe existing patents.

All Pak Caps & Veals

MATERIAL SAFETY DATA SHEET

POLYPROPYLENE COPOLYMER

MSDS No. HCR000007

Rev. Date 02/15/90

LYONDELL POLYMERS CORPORATION
A SUBSIDIARY OF LYONDELL PETROCHEMICAL COMPAN
1221 MCKINNEY AVENUE, SUITE 1600
P.O. BOX 3646
HOUSTON, TEXAS 77253-3646

IMPORTANT: Read this MSDS before handling and disposing of this product and pass this information on to employees, customers, and users of this product
This product is covered by the OSHA Hazard Communication Rule and this document has been prepared in accord with the MSDS requirements of the rule.

I. General

Trade Name	POLYPROPYLENE COPOLYMER
Other Names	POLYPROPYLENE-POLYETHYLENE COPOLYMER POLYPROPENE-POLYETHENE COPOLYMER
Telephone Numbers	EMERGENCY 800/424-9300 CHEMTREC 318/882-0273 HOT LINE CUSTOMER SERVICE 318/882-0273 INFO ONLY
Chemical Family	OLEFINIC COPOLYMER
DOT Hazardous Materials Proper Shipping Name	NOT A D.O.T. "HAZARDOUS MATERIAL"
Generic Name	COPOLYMER OF 1-PROPENE WITH ETHENE
DOT Hazard Class	NOT REGULATED
CAS No.	9010-79-1
Company ID No.	0009010791
UN/NA ID No.	NOT REGULATED

II. CAUTION Summary of Hazards

SLIGHTLY COMBUSTIBLE! POTENTIAL DUST EXPLOSION HAZARD!
AVOID STATIC SHOCK OR OTHER SOURCES OF IGNITION.

PELLETS CAN BE ABRASIVE TO SKIN!
MOLTEN OR HEATED MATERIAL CAN CAUSE SERIOUS SKIN BURNS!

DUST PARTICLES MAY BE SLIGHTLY IRRITATING TO EYES AND RESPIRATORY TRACT!
AT ELEVATED TEMPERATURES, VAPORS MAY BE FORMED WHICH ARE ALSO IRRITATING TO THE EYES AND RESPIRATORY TRACT.

III. Fire and Explosion

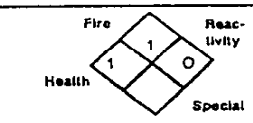
Flash Point (Method)	Autoignition Temperature (Method)	Flammable Limits (% Vol. in Air)
GT 650°F (EST.) SEE FIRE & EXPLOSION HAZARDS	1058°F (E-659)	Lower N/DA Upper N/DA

Fire and Explosion Hazards
WHEN MIXED WITH AIR AND EXPOSED TO AN IGNITION SOURCE, SUFFICIENT FLAMMABLE DUST MAY EXIST TO BURN IN OPEN OR EXPLODE IF CONFINED. AVOID RENDERING DUST AIRBORNE BY USING GOOD HOUSEKEEPING PRACTICES. FLAMMABLE VAPORS MAY ALSO BE PRESENT FROM OVER-HEATING, MELTING, OR DECOMPOSITION. THESE VAPORS MAY CAUSE FIRE OR EXPLOSION HAZARDS IN THE PRESENCE OF AN IGNITION SOURCE.

Extinguishing Media
CO2
FOAM
DRY CHEMICAL
WATER FOG
WATERSPRAY

HAZARD RATING:
4 - Extreme
3 - High
2 - Moderate
1 - Slight
0 - Insignificant

Fire 1 Reactivity 0 Health 1 Special



Special Firefighting Procedures
DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. FIGHT THE FIRE FROM A SAFE DISTANCE IN A PROTECTED LOCATION IF POSSIBLE. CONTACT WITH WALKING SURFACES CREATES SLIPPING OR FALLING HAZARDS. FOR LARGE FIRES, USE PLENTY OF WATER. OPEN ANY SOLID MASSES WITH A WATER STREAM TO PREVENT REIGNITION DUE TO SMOLDERING. COOL SURFACE WITH SPRAY OR FOG. MOLTEN MATERIAL FORMS FLAMMING DROPLETS IF IGNITED.
NOTIFY AUTHORITIES IF LIQUID MATERIAL ENTERS SEWERS OR PUBLIC WATERS.

IV. Health Hazards

Summary of Acute Hazards	DUST CAN IRRITATE THE EYES AND RESPIRATORY TRACT.

ROUTE OF EXPOSURE	SIGNS AND SYMPTOMS	Primary Route(s)
Inhalation	DUST FROM THIS PRODUCT MAY CAUSE RESPIRATORY IRRITATION FOLLOWING AN EXCESSIVE INHALATION EXPOSURE. FOLLOW EXPOSURE LIMITS GIVEN IN SECTION VI.	[x]
Eye Contact	MECHANICAL IRRITATION MAY RESULT FROM AN ACCUMULATION OF DUST PARTICLES IN THE EYE.	[x]
Skin Absorption	NO SIGNIFICANT ADVERSE HEALTH EFFECTS ARE EXPECTED TO OCCUR UPON SHORT-TERM EXPOSURE.	[ ]
Skin Irritation	AT AMBIENT TEMPERATURES THE PELLETS CAN BE ABRASIVE TO SKIN. MOLTEN OR HEATED MATERIAL CAN CAUSE SERIOUS BURNS.	[x]
Ingestion	NO SIGNIFICANT SIGNS OR SYMPTOMS OF ANY ADVERSE HEALTH HAZARD ARE EXPECTED TO OCCUR.	[ ]

Summary of Chronic Hazards and Special Health Effects	NO INFORMATION IS AVAILABLE ON THE CHRONIC EFFECTS OF THIS MATERIAL. IF THIS MATERIAL IS MELTED OR HEATED, SEVERE BURNS CAN RESULT FROM SKIN CONTACT. VAPORS FORMED MAY IRRITATE EYES AND RESPIRATORY TRACT. PERSONNEL WITH PRE-EXISTING CHRONIC RESPIRATORY DISEASES SHOULD AVOID EXPOSURE TO THIS MATERIAL.

V. Protective Equipment and Other Control Measures

Respiratory	WITH ADEQUATE VENTILATION, NONE IS NEEDED. IF EXPOSURE EXCEEDS THE CONTROL LIMITS (SEE SECTION VI.), RESPIRATORY PROTECTIVE EQUIPMENT WHICH MEETS ALL APPLICABLE REGULATIONS AND IS NIOSH/MSHA APPROVED FOR DUST MUST BE WORN.
Eye	SAFETY GLASSES WITH SIDE SHIELDS OR CHEMICAL-TYPE GOGGLES SHOULD BE WORN TO PREVENT INJURY IF FLYING PARTICLES OR HIGH DUST/PARTICULATE CONCENTRATIONS ARE PRESENT. CONTACT LENSES SHOULD NOT BE WORN.
Skin	WHEN SKIN CONTACT RESULTS FROM NORMAL USE, PRACTICE GOOD PERSONAL HYGIENE. WASH HANDS AND OTHER EXPOSED AREAS WITH SOAP AND WATER BEFORE EATING, DRINKING, AND SMOKING.
Engineering Controls	IF HANDLING RESULTS IN DUST GENERATION OR HIGH TEMPERATURES, LOCAL EXHAUST VENTILATION SHOULD BE PROVIDED TO INSURE THAT EXPOSURE TO DUST OR DECOMPOSITION PRODUCTS DOES NOT EXCEED THE PEL/TLV RECOMMENDED LEVELS.
Other Hygienic and Work Practices	PROMPTLY REMOVE SOILED CLOTHING AND WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING PLENTY OF SOAP AND WATER. MATERIAL SPILLED ON HARD SURFACES CAN CREATE A SERIOUS SLIPPING OR FALLING HAZARD. USE CARE IN WALKING ON SPILLED MATERIAL. SPREAD COURSE, INERT GRANULAR COVER SUCH AS SAND, ON ANY AFFECTED WALKING SURFACES.

VI. Occupational Exposure Limits

Substance	Source	Date	Type	Value/Units	Time
NUISANCE PARTICULATES	ACGIH	1989	TLV	10 MG/M3	8 HRS
NUISANCE DUST, TOTAL	OSHA	1989	PEL	15 MG/M3	8 HRS
NUISANCE DUST, RESPIRABLE	OSHA	1989	PEL	5 MG/M3	8 HRS

VII. Emergency and First Aid

Inhalation	IMMEDIATELY MOVE PERSONNEL TO AREA OF FRESH AIR. FOR RESPIRATORY DISTRESS, GIVE AIR, OXYGEN, OR ADMINISTER CPR (CARDIOPULMONARY RESUSCITATION). IF NECESSARY. OBTAIN MEDICAL ATTENTION IF BREATHING DIFFICULTIES CONTINUE.
Eye Contact	IMMEDIATELY FLUSH EYES WITH CLEAN, LOW-PRESSURE WATER FOR AT LEAST 15 MINUTES. IF PAIN OR REDNESS PERSISTS AFTER FLUSHING, OBTAIN MEDICAL ATTENTION.
Skin Contact	NOT EXPECTED TO PRESENT A SIGNIFICANT SKIN HAZARD AT AMBIENT TEMPERATURES. HOWEVER, WHEN HOT OR MELTED MATERIAL CONTACTS SKIN, IMMEDIATELY IMMERSE IN OR FLUSH THE AFFECTED AREA WITH LARGE AMOUNTS OF COLD OR CHILLED WATER.
Ingestion	EVEN IF SWALLOWED, IT IS NOT EXPECTED TO BE A PROBLEM. OBTAIN MEDICAL ATTENTION, IF UNCOMFORTABLE.
Emergency Medical Treatment Procedures	FOR PERSISTANT EYE IRRITATION, IF PAIN, BLINKING, TEARS, OR REDNESS CONTINUE, THE PATIENT SHOULD OBTAIN AN OPTHALMOLOGIST'S SERVICES.

VIII. Spill and Disposal

Precautions if Material Spilled or Released	AN EXTREMELY DANGEROUS SLIPPING HAZARD IS CREATED ON ANY HARD SURFACE. THE MATERIAL IS LIKE BALL BEARINGS ON WALKING SURFACES MAKING IT IMPOSSIBLE TO MAINTAIN SURE FOOTING. SPREAD GRANULAR COVER ON WALKWAYS OR PROVIDE OPEN GRATING FLOORING (OR EQUIVALENT). AVOID POTENTIAL DUST EXPLOSION HAZARD BY AIRBORNE RELEASE. EVACUATE/LIMIT ACCESS TO THE AREA. EXTINGUISH IGNITION SOURCES AND STOP THE RELEASE. EQUIP RESPONDERS WITH PROPER PROTECTION. ON LAND, SWEEP/SHOVEL INTO SUITABLE DISPOSAL CONTAINERS. ON WATER, IT FLOATS AND CAN BE COLLECTED OR CONTAINED AS ANY INSOLUBLE SOLID MATERIAL. SPILLS MAY NEED TO BE REPORTED TO APPROPRIATE EMERGENCY RESPONSE AGENCIES.
Waste Disposal Methods	LANDFILL SOLIDS AT PERMITTED SITES. USE REGISTERED TRANSPORTERS AND COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS FOR SOLID WASTES DISPOSAL. SOLIDS MAY BE BURNED IF FIRED WITH SUPPLEMENTAL FUEL. AVOID FLAMEOUTS. ASSURE THAT EMISSIONS COMPLY WITH APPLICABLE REGULATIONS. CONTAMINATED PRODUCT, SOIL, OR WATER SHOULD BE DESIGNATED AS RCRA HAZARDOUS WASTE.

IX. Components

(This may not be a complete list of components)

Component Name	CAS No.	Carcinogen##		Composition amount (Wt.) (See Qualification on Page 4)
1-PROPENE, POLYMER WITH ETHENE	9010-79-1	N/AP	EQ	100 PERCENT
WHICH CONTAINS:		N/AP		
POLYPROPYLENE	9003-07-0	N/AP	AP	25 TO 75 PERCENT
POLYETHYLENE	9002-88-4	N/AP	AP	25 TO 75 PERCENT

##Listed By: 1 = NTP, 2 = IARC, 3 = OSHA, 4 = Other

Compositions given are typical values, not specifications.

X. Physical and Chemical Data

Boiling Point N/AP	Viscosity Units, Temp. (Method) N/AP		Dry Point N/AP
Freezing Point N/AP	Vapor Pressure N/AP		Volatile Characteristics SLIGHT
Specific Gravity (H,O = 1 at 39.2°F) AP 0.89 TO 1.05	Vapor Sp. Gr. (Air = 1.0 at 60°-90°F) N/AP	Solubility in Water NEGLIGIBLE	pH N/AP
Hazardous Polymerization NOT EXPECTED TO OCCUR	Other Chemical Reactivity SOFTENED BY HYDROCARBONS		Stability STABLE

Other Physical and Chemical Properties	MELTING POINT = AP 293°F. (145°C.) TO 327°F. (164°C.).
Appearance and Odor	TRANSLUSCENT SOLID PELLETS; FAINT, MILD ODOR.
Conditions to Avoid	HEAT OR OPEN FLAME.
Materials to Avoid	STRONG OXIDIZING AGENTS SUCH AS OXYGEN (GAS OR LIQUID) OR CHLORINE AND OTHER HALOGENS.
Hazardous Decomposition Products	PROCESSING AT TEMPERATURES ABOVE 200°C (392°F.) WILL GENERATE HAZARDOUS DECOMPOSITION PRODUCTS SUCH AS CARBON MONOXIDE, ALDEHYDES, ACETIC ACID, AND OTHER TOXIC VAPORS. LOCAL EXHAUST VENTILATION IS RECOMMENDED FOR THEIR REMOVAL.

XI. Additional Precautions

Handling, Storage and Decontamination Procedures	DUE TO THE EXTREMELY SLIPPERY NATURE OF THIS MATERIAL, MORE CARE THAN USUAL MUST BE EXERCISED IN MATERIAL HANDLING PRACTICES TO KEEP OFF ALL WALKING SURFACES. THE HAZARD ASSOCIATED WITH UNAVOIDABLE SPILLAGE CAN BE REDUCED BY COVERING WALKING SURFACES WITH OPEN GRATING WHICH ALLOWS THE MATERIAL TO FALL INTO THE OPEN SPACES BETWEEN THE GRATING BARS FOR LATER RECOVERY. WHEN UNLOADING BULK VEHICLES, DO NOT USE METAL SAMPLING DEVICES SUCH AS A GRAIN THIEF DUE TO RISK OF STATIC SHOCK AND IGNITION HAZARDS. ISOLATE, VENT, DRAIN, WASH AND PURGE SYSTEMS OR EQUIPMENT BEFORE ANY REPAIR OR MAINTENANCE. REMOVE ALL IGNITION SOURCES. CHECK ATMOSPHERE FOR OXYGEN DEFICIENCES AND EXPLOSIVITY. USE ADEQUATE PERSONAL PROTECTIVE EQUIPMENT (SEE SECTION V.) AND OBSERVE PRECAUTIONS PERTAINING TO CONFINED SPACE ENTRY.
General Comments	AS SHIPPED, THIS PRODUCT IS IN THE PELLET FORM. THESE PELLETS SHOULD NOT CONTAIN SUFFICIENT DUST TO BE AN EXPLOSION HAZARD; HOWEVER, DUST COULD BE FORMED AS A RESULT OF PELLET DEGRADATION FROM IMPACT OR ABRASION DURING HANDLING OR CONVEYING OPERATIONS. THEREFORE, THIS PRODUCT SHOULD ONLY BE TRANSFERRED IN PROPERLY GROUNDED CONVEYING EQUIPMENT. ADEQUATE VENTILATION, ELECTRICAL CODE CONFORMANCE, NITROGEN PURGING, AND OTHER PRECAUTIONS SHOULD BE CONSIDERED DURING GRINDING OR OTHER OPERATIONS THAT COULD CAUSE DUSTING. BULK STORAGE OF POLYPROPYLENE-POLYETHYLENE COPOLYMER PELLETS MAY RESULT IN AN ACCUMULATION OF FLAMMABLE VAPORS WITH POSSIBLE EXPLOSION POTENTIAL. CONCENTRATIONS OF THESE VAPORS MUST BE KEPT BELOW THE LOWER EXPLOSIVE LIMIT (LEL) OF 2.0% IN AIR. REFLECTING SOMEWHAT VARIABLE OPERATING CONDITIONS, SOME OF THE INFORMATION/ CONCLUSIONS HEREIN MAY BE FROM SOURCES OTHER THAN TEST DATA ON THE PRODUCT.

- - - Note - - - Qualifications:

EQ = Equal	AP = Approximately	N/P = No Applicable Information Found
LT = Less Than	UK = Unknown	N/AP = Not Applicable
GT = Greater Than	TR = Trace	N/DA = No Data Available

Disclaimer of Liability

The information in this MSDS was obtained from sources which we believe are reliable. HOWEVER, THE INFORMATION IS PROVIDED **WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.**

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. **FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.**

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

XII. Regulatory Information

SUPERFUND AMENDMENTS AND REAUTHORIAZATION ACT OF 1986 (SARA), TITLE III

SECTION 311/312 HAZARD CATEGORIES
NONE KNOWN TO APPLY

SECTION 313
NO CHEMICALS IN THIS PRODUCT EXCEED THE DE MINIMUS REPORTING LEVEL ESTABLISHED BY SARA TITLE III, SECTION 313 AND 40 CFR 372.

TOXIC SUBSTANCES CONTROL ACT (TSCA)

ALL COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY.

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT (CERCLA)

NO CHEMICALS IN THIS PRODUCT ARE SUBJECT TO THE REPORTING REQUIREMENTS OF CERCLA.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 - PROPOSITION 65

BASED ON INFORMATION CURRENTLY AVAILABLE, THIS PRODUCT IS NOT KNOWN TO CONTAIN ANY CHEMICALS CURRENTLY LISTED AS CARCINOGENS OR REPRODUCTIVE TOXINS UNDER CALIFORNIA PROPOSITION 65 AT LEVELS WHICH WOULD BE SUBJECT TO THE PROPOSITION. IF YOU REFORMULATE OR FURTHER PROCESS THIS PRODUCT, YOU SHOULD FURTHER EVALUATE THIS PRODUCT BASED UPON SUCH REFORMULATION OR PROCESSING, AS WELL AS UPON ITS FINAL COMPOSITION AND USE.

XIII. Label Information

Manufacturer:
LYONDELL POLYMERS CORPORATION
A SUBSIDIARY OF LYONDELL PETROCHEMICAL COMPAN
1221 MCKINNEY AVENUE, SUITE 1600
P.O. BOX 3646
HOUSTON, TEXAS 77253-3646

Telephone Numbers
EMERGENCY
800/424-9300 CHEMTREC
318/882-0273 HOT LINE
CUSTOMER SERVICE
318/882-0273 INFO ONLY

Use Statement:
FOR INDUSTRIAL USE ONLY
KEEP OUT OF REACH OF CHILDREN

Signal Word:
CAUTION

Physical Hazards:

POTENTIAL DUST EXPLOSION HAZARD

Health Hazards:

INHALATION HAZARD - PARTICULATES/DUST
EYE IRRITANT-PARTICULATES/DUST

Precautionary Measures:
DO NOT HANDLE NEAR HEAT, SPARKS, OR OPEN FLAME.
AVOID OXIDIZING AGENTS.
DO NOT STORE NEAR COMBUSTIBLE MATERIALS.
AVOID ACCUMULATION OF DUST IN ENCLOSED SPACE.
AVOID CONTACT WITH EYES.
AVOID PROLONGED OR REPEATED BREATHING OF DUST.
USE ONLY WITH ADEQUATE VENTILATION/PERSONAL PROTECTION.
DO NOT TASTE/SWALLOW.
REMOVE SPILLAGE IMMEDIATELY FROM HARD, SMOOTH WALKING AREAS.

DOT Information:
UN/NA ID Number- NOT REGULATED .
Hazard Class- NOT REGULATED
Proper Shipping- NOT A D.O.T. "HAZARDOUS MATERIAL"

Instructions:
In case of fire, use- CO2 WATERSPRAY
FOAM
DRY CHEMICAL

First Aid
-Inhalation: IMMEDIATELY MOVE PERSONNEL TO AREA OF FRESH AIR. FOR RESPIRATORY DISTRESS, GIVE AIR, OXYGEN, OR ADMINISTER CPR (CARDIOPULMONARY RESUSCITATION), IF NECESSARY. OBTAIN MEDICAL ATTENTION IF BREATHING DIFFICULTIES CONTINUE.
-Eye Contact: IMMEDIATELY FLUSH EYES WITH CLEAN, LOW-PRESSURE WATER FOR AT LEAST 15 MINUTES. IF PAIN OR REDNESS PERSISTS AFTER FLUSHING, OBTAIN MEDICAL ATTENTION.
-Skin Contact: NOT EXPECTED TO PRESENT A SIGNIFICANT SKIN HAZARD AT AMBIENT TEMPERATURES. HOWEVER, WHEN HOT OR MELTED MATERIAL CONTACTS SKIN, IMMEDIATELY IMMERSE IN OR FLUSH THE AFFECTED AREA WITH LARGE AMOUNTS OF COLD OR CHILLED WATER.
-Ingestion: EVEN IF SWALLOWED, IT IS NOT EXPECTED TO BE A PROBLEM. OBTAIN MEDICAL ATTENTION, IF UNCOMFORTABLE.

In case of spill,
AN EXTREMELY DANGEROUS SLIPPING HAZARD IS CREATED ON ANY HARD SURFACE. THE MATERIAL IS LIKE BALL BEARINGS ON WALKING SURFACES MAKING IT IMPOSSIBLE TO MAINTAIN SURE FOOTING. SPREAD GRANULAR COVER ON WALKWAYS OR PROVIDE OPEN GRATING FLOORING (OR EQUIVALENT). AVOID POTENTIAL DUST EXPLOSION HAZARD BY AIRBORNE RELEASE. EVACUATE/LIMIT ACCESS TO THE AREA. EXTINGUISH IGNITION SOURCES AND STOP THE RELEASE. EQUIP RESPONDERS WITH PROPER PROTECTION. ON LAND, SWEEP/SHOVEL INTO SUITABLE DISPOSAL CONTAINERS. ON WATER, IT FLOATS AND CAN BE COLLECTED OR CONTAINED AS ANY INSOLUBLE SOLID MATERIAL. SPILLS MAY NEED TO BE REPORTED TO APPROPRIATE EMERGENCY RESPONSE AGENCIES.

Protective Equipment:
-Respiratory: WITH ADEQUATE VENTILATION, NONE IS NEEDED. IF EXPOSURE EXCEEDS THE CONTROL LIMITS (SEE SECTION VI.), RESPIRATORY PROTECTIVE EQUIPMENT WHICH MEETS ALL
-Eye: SAFETY GLASSES WITH SIDE SHIELDS OR CHEMICAL-TYPE GOGGLES SHOULD BE WORN TO PREVENT INJURY IF FLYING PARTICLES OR HIGH DUST/PARTICULATE CONCENTRATIONS
-Skin: WHEN SKIN CONTACT RESULTS FROM NORMAL USE, PRACTICE GOOD PERSONAL HYGIENE. WASH HANDS AND OTHER EXPOSED AREAS WITH SOAP AND WATER BEFORE EATING.

AllPak

MATERIAL SAFETY DATA SHEET

HMIS Code
H - 0
F - 1
R - 0

****
* AMPACET CORPORATION *
****

Issued: 05/19/86
Revised: 01/01/95

SECTION I IDENTIFICATION

Manufacturer's Name:
AMPACET Corporation
660 White Plains Road
Tarrytown, New York 10591-5130

Emergency Telephone No.
(914) 631-6600 Days
(318) 463-6001 Nights

PRODUCT NAME: 11447 WHITE PE MB
TRADE NAME AND SYNONYMS: Polyolefin compounds and concentrates
CHEMICAL FAMILY: COLOR CONCENTRATE FORMULA: PROPRIETARY FORMULATION

SECTION II HAZARDOUS INGREDIENTS

The following ingredients are listed as hazardous materials according to 29CFR1910.1200 (Hazard Communication Standard-USA) and as controlled substances under WHMIS (Workplace Hazardous Materials Information System-Canada)

PIGMENTS: NOT APPLICABLE
VEHICLE: NOT APPLICABLE
ADDITIVES: NOT APPLICABLE

A more detailed disclosure will be provided to appropriate medical or industrial hygiene personnel as privileged information upon request in case of need for specific treatment.
For details regarding CAS content, see Sect. X of this document.

SECTION III PHYSICAL DATA

SOLUBILITY IN WATER: NONE SPECIFIC GRAVITY: 1.58
APPEARANCE AND ODOR: WHITE OPAQUE PELLETS WITH NO ODOR.

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT/AUTO-IGNITION TEMPERATURE: > 600 DEGREES F.

FLAMMABLE LIMITS: NOT APPLICABLE
EXTINGUISHING MEDIA: WATER SPRAY, WATER FOG, FOAM, CO2, DRY CHEMICALS.

SPECIAL FIRE FIGHTING PROCEDURES: NONE
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE.

AMPACET CORPORATION MATERIAL SAFETY DATA SHEET
PRODUCT NAME: 11447 WHITE PE MB

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: NOT APPLICABLE

EFFECTS OF OVEREXPOSURE: NOT APPLICABLE

EMERGENCY FIRST AID PROCEDURES: NOT APPLICABLE

SECTION VI REACTIVITY DATA

STABILITY: [X] STABLE [ ] UNSTABLE
CONDITIONS TO AVOID: NONE.

INCOMPATIBILITY: NONE.

HAZARDOUS DECOMPOSITION PRODUCTS: NONE.

HAZARDOUS POLYMERIZATION: [ ] MAY OCCUR [X] WILL NOT OCCUR
CONDITIONS TO AVOID: NONE.

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
STOP SOURCE OF SPILL.
IF MATERIAL ENTERS A SEWER OR WATERWAY, NOTIFY
RESPONSIBLE AUTHORITIES OF NON-TOXIC PLASTIC PELLETS.

WASTE DISPOSAL METHOD:
SWEEP UP SPILLED MATERIAL AND PLACE IN SUITABLE
CONTAINER FOR RECYCLE OR DISPOSAL. CONSULT AN
EXPERT ON DISPOSAL OF RECOVERED MATERIAL AND ENSURE
CONFORMITY TO LOCAL DISPOSAL REGULATIONS.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:
NOT NEEDED UNLESS DUST, SMOKE OR FUMES ARE GENERATED IN PROCESSING OR HANDLING. THE PELLET FORM OF THIS PRODUCT AND LOW SOLUBILITY OF THE POLYOLEFIN CARRIER PRECLUDE SIGNIFICANT INHALATION EXPOSURE TO SOLID INGREDIENTS DURING ORDINARY HANDLING.

VENTILATION:

LOCAL EXHAUST:	NOT NEEDED IN OPEN AREAS.
SPECIAL:	NOT APPLICABLE
MECHANICAL:	IF DUSTING CONDITIONS EXIST, PROVIDE VENTILATION EQUAL TO OUTDOORS.

PROTECTIVE GLOVES: NOT NEEDED.

EYE PROTECTION: NOT NEEDED.

OTHER PROTECTIVE EQUIPMENT: NOT NEEDED.

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
DO NOT STORE NEAR HEAT, FLAME, NOR STRONG OXIDANTS.

OTHER PRECAUTIONS: NOT APPLICABLE

SECTION X

TOXIC SUBSTANCES CONTROL ACT (TSCA)
This Act requires that ALL chemicals imported, produced or used in U.S. manufacture be registered in the Chemical Substance Inventory. This product contains the following chemicals therein registered:

CAS#	Chemical Name
557-05-1	OCTADECANOIC ACID, ZINC SALT C18H3602.1/2ZN
9002-88-4	POLYETHYLENE HOMOPOLYMER
13463-67-7	C.I. PW6 (77891)

SUPER FUND AMENDMENT REAUTHORIZATION ACT (SARA TITLE III, SECTION 313)
SUPPLIER NOTIFICATION

This product contains the following chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and 40 CFR 372:

CAS#	Chemical Name	Approx.Pct. By Weight
557-05-1	OCTADECANOIC ACID, ZINC SALT C18H3602.1/2ZN	8.1

This information must be included in all MSDSs that are copied and distributed for this material.

OZONE DEPLETING SUBSTANCES
This product is not formulated with, nor does the process utilize any known Class I or Class II Ozone Depleting Substances regulated by the EPA Clean Air Act (40CFR Part 82)

HAZARD DATA CONTAINED HEREIN WAS OBTAINED FROM RAW MATERIAL SUPPLIERS

PREPARED BY: DENISE R. HOLL, MANAGER-ENVIROMENTAL (914) 631-6600

MATERIAL SAFETY DATA SHEET

H , Code
H - 0
F - 1
R - 0

****
* AMPACET CORPORATION *
****

Issued: 05/19/86
Revised: 02/04/94

SECTION I IDENTIFICATION

Manufacturer's Name:
AMPACET Corporation
660 White Plains Road
Tarrytown, New York 10591-5130

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The following ingredients are listed as hazardous materials according to 29CFR1910.1200 (Hazard Communication Standard-USA) and as controlled substances under WHMIS (Workplace Hazardous Materials Information System-Canada)

PIGMENTS: NOT APPLICABLE
VEHICLE: NOT APPLICABLE
ADDITIVES: NOT APPLICABLE

A more detailed disclosure will be provided to appropriate medical or industrial hygiene personnel as privileged information upon request in case of need for specific treatment.
For details regarding CAS content, see Sect. X of this document.

SECTION III PHYSICAL DATA

SOLUBILITY IN WATER: NONE SPECIFIC GRAVITY: 1.58
APPEARANCE AND ODOR: WHITE OPAQUE PELLETS WITH NO ODOR.

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT/AUTO-IGNITION TEMPERATURE: > 600 DEGREES F.

FLAMMABLE LIMITS: NOT APPLICABLE
EXTINGUISHING MEDIA: WATER SPRAY, WATER FOG, FOAM, CO2, DRY CHEMICALS.

SPECIAL FIRE FIGHTING PROCEDURES: NONE
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE.

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: NOT APPLICABLE

EFFECTS OF OVEREXPOSURE: NOT APPLICABLE

EMERGENCY FIRST AID PROCEDURES: NOT APPLICABLE

SECTION VI REACTIVITY DATA

STABILITY: [X] STABLE [ ] UNSTABLE
CONDITIONS TO AVOID: NONE.

INCOMPATIBILITY: NONE.

HAZARDOUS DECOMPOSITION PRODUCTS: NONE.

HAZARDOUS POLYMERIZATION: [ ] MAY OCCUR [X] WILL NOT OCCUR
CONDITIONS TO AVOID: NONE.

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
STOP SOURCE OF SPILL.
IF MATERIAL ENTERS A SEWER OR WATERWAY, NOTIFY RESPONSIBLE AUTHORITIES OF NON-TOXIC PLASTIC PELLETS.

WASTE DISPOSAL METHOD:
SWEEP UP SPILLED MATERIAL AND PLACE IN SUITABLE CONTAINER FOR RECYCLE OR DISPOSAL. CONSULT AN EXPERT ON DISPOSAL OF RECOVERED MATERIAL AND ENSURE CONFORMITY TO LOCAL DISPOSAL REGULATIONS.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:
NOT NEEDED UNLESS DUST, SMOKE OR FUMES ARE GENERATED IN PROCESSING OR HANDLING. THE PELLET FORM OF THIS PRODUCT AND LOW SOLUBILITY OF THE POLYOLEFIN CARRIER PRECLUDE SIGNIFICANT INHALATION EXPOSURE TO SOLID INGREDIENTS DURING ORDINARY HANDLING.

VENTILATION:

LOCAL EXHAUST:	NOT NEEDED IN OPEN AREAS.
SPECIAL:	NOT APPLICABLE
MECHANICAL:	IF DUSTING CONDITIONS EXIST, PROVIDE VENTILATION EQUAL TO OUTDOORS.

PROTECTIVE GLOVES: NOT NEEDED.

EYE PROTECTION: NOT NEEDED.

OTHER PROTECTIVE EQUIPMENT: NOT NEEDED.

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
DO NOT STORE NEAR HEAT, FLAME, NOR STRONG OXIDANTS.

OTHER PRECAUTIONS: NOT APPLICABLE

SECTION X

TOXIC SUBSTANCES CONTROL ACT (TSCA)
This Act requires that ALL chemicals imported, produced or used in U.S. manufacture be registered in the Chemical Substance Inventory. This product contains the following chemicals therein registered:

CAS#	Chemical Name
557-05-1	OCTADECANOIC ACID, ZINC SALT C18H3602.1/2ZN
9002-88-4	POLYETHYLENE HOMOPOLYMER
13463-67-7	C.I. PW6 (77891)

SUPER FUND AMENDMENT REAUTHORIZATION ACT (SARA TITLE III, SECTION 313)
SUPPLIER NOTIFICATION

This product contains the following chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and 40 CFR 372:

CAS#	Chemical Name	Approx.Pct. By Weight
557-05-1	OCTADECANOIC ACID, ZINC SALT C18H3602.1/2ZN	8.1

This information must be included in all MSDSs that are copied and distributed for this material.

OZONE DEPLETING SUBSTANCES
This product is not formulated with, nor does the process utilize any known Class I or Class II Ozone Depleting Substances regulated by the EPA Clean Air Act (40CFR Part 82)

HAZARD DATA CONTAINED HEREIN WAS OBTAINED FROM RAW MATERIAL SUPPLIERS

PREPARED BY: DENISE R. HOLL, ENVIRONMENTAL COORDINATOR (914) 631-6600

794714

QUANTUM CHEMICAL COMPANY

MATERIAL SAFETY DATA SHEET

PETROTHENE (TM)

MSDS No. HDPE 2/LR734000
Issue Date JAN 18, 1994

EMERGENCY NUMBERS:
QUANTUM (713) 479-2873
CHEMTREC (800) 424-9300

PRODUCT INFORMATION:
PRODUCT APPLICATIONS (800) 525-3627
REGULATORY (MSDS) (513) 530-4051

SECTION I - IDENTIFICATION

PRODUCT: Petrothene (TM) LR734000

SYNONYMS: High Density Polyethylene; HDPE

FORMULA: CH3 - (CH2)n - CH3

CHEMICAL FAMILY: Polyolefin

CAS RN: 25087-34-7

SECTION II - INGREDIENTS

COMPOSITION	NOMINAL %	PEL/TLV
Polyethylene	100	None

This product is not a hazardous chemical as defined in 29 CFR 1910.1200; however, Quantum has chosen to supply this Material Safety Data Sheet to you to transmit important product safety information. Please review this information with those who will use the product.

SECTION III - HEALTH INFORMATION

SWALLOWING: Acute oral doses of 7.95 g/kg fed to rats showed no evidence of adverse effects. Dietary levels of 1.25, 2.5, or 5 percent polyethylene for 90 days produced no adverse effects in rats.

SKIN CONTACT: The pellets can be abrasive. Molten or heated material can cause serious burns to unprotected skin.

EYE CONTACT: The pellets can be abrasive. Particulates and fines may cause mechanical irritation to the eyes.

INHALATION: Dust can be caused by handling and some operations. Fumes may be generated in operations using heated polyethylene.

SECTION IV - OCCUPATIONAL EXPOSURE LIMITS

PEL/TWA (OSHA Permissible Exposure Limit/Time-Weighted Average): No OSHA PEL for this mixture. For particulates not otherwise regulated (dust): 15 mg/m3 for total dust and 5 mg/m3 for respirable dust. See also Section II for components.

TLV/TWA (ACGIH Threshold Limit Value/Time-Weighted Average): No ACGIH TLV for this mixture. For particulates not otherwise classified (dust): 10 mg/m3 for total dust. See also Section II for components.

SECTION V - EMERGENCY FIRST AID PROCEDURE

FOR OVEREXPOSURE BY:

SWALLOWING: This product is not believed to be harmful by oral ingestion, but a physician or Poison Control Center should be called whenever any foreign object is swallowed.

SKIN CONTACT: If contacted by molten polymer, immediately flush area with large amounts of water. GET MEDICAL ATTENTION PROMPTLY.

EYE CONTACT: Immediately flush eyes with plenty of cool water for at least 15 minutes. Do not permit victim to rub eyes.

INHALATION: Immediately remove victim to fresh air. If victim has stopped breathing give artificial respiration, preferably mouth-to-mouth. GET MEDICAL ATTENTION IMMEDIATELY.

SECTION VI - PHYSICAL DATA

BOILING POINT:	Does not apply.
MELTING POINT:	Crystalline, 257-284 F (125-140 C), (ASTM D 2117)
VAPOR PRESSURE:	Does not apply.
SPECIFIC GRAVITY:	0.940 to 0.965 g/cc, (ASTM D 792)
VAPOR DENSITY (AIR=1):	Does not apply.
SOLUBILITY IN WATER:	Insoluble
APPEARANCE AND ODOR:	Approximately 3/8" white to opaque solid odorless pellets.

SECTION VII - FIRE AND EXPLOSION HAZARDS

FLASH POINT & METHOD USED: Does not apply.
AUTO-IGNITION TEMPERATURE: Approx. 645 Deg F (ASTM D 1929)
FLAMMABLE LIMITS IN AIR, % BY VOL. LOWER: Does not apply.
UPPER: Does not apply.
NFPA RATING: HEALTH (1) FLAMMABILITY (1) REACTIVITY (0)
(Does not apply to exposure hazards other than during a fire.)

FIRE FIGHTING PROCEDURES: (Note - Individuals should perform only those fire-fighting procedures for which they have been trained.) Use water spray, dry chemical, foam, or carbon dioxide. If possible, water should be applied as a spray from a fogging nozzle since polyethylene is a surface burning material.

UNUSUAL FIRE & EXPLOSION HAZARDS: Fire fighters should wear self-contained breathing apparatus in the positive pressure mode with a full facepiece when there is a possibility of exposure to smoke, fumes or hazardous decomposition products. The application of high velocity water will spread the burning surface layer.

SECTION VIII - REACTIVITY

STABILTY: Generally stable.

HAZARDOUS POLYMERIZATION: Not likely.

CONDITIONS & MATERIALS TO AVOID: May burn or react violently with fluorine/ oxygen mixtures with 50 to 100% fluorine. May be decomposed by strong oxidizing agents such as nitric and sulfuric acids, halogens, hydrogen peroxide and chlorinating agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition products may include C, CO, CO2, H2O, acrolein, formaldehyde and other organic vapors.

SECTION IX - EMPLOYEE PROTECTION

CONTROL MEASURES: Engineering controls should be used whenever feasible to maintain concentrations below dust exposure limits (Section IV), including but not limited to enclosures, local ventilation and dilution ventilation. Provide adequate mechanical ventilation at the points of extrusion where polymer is at elevated temperatures coming from extruder into dies, mold, etc.

RESPIRATORY PROTECTION: Where engineering controls are not feasible or sufficient to achieve full conformance with dust exposure limits (Section IV), use NIOSH/MSHA approved respiratory protection equipment. Respirators should be selected based on the form and concentration of contaminant in air and in accordance with OSHA (29 CFR 1910.134).

PROTECTIVE CLOTHING: No need anticipated. Wear heat protective gloves and clothing if there is potential for contact with heated material.

EYE PROTECTION: Wear safety glasses meeting the specifications of ANSI Standard Z87.1

SECTION X - ENVIRONMENTAL PROTECTION

ENVIRONMENTAL PRECAUTIONS: Avoid uncontrolled releases of this material. Where spills are possible, a comprehensive spill release response plan should be developed and implemented. Plastic pellets are listed as "significant materials" by US EPA (40CFR 122.26 (b)(12)) and may need to be discussed in an application for a storm water discharge permit.

SPILL OR LEAK PROCEDURES: Use good housekeeping practices since spilled pellets may be a slipping hazard. Wear appropriate respiratory protection and protective clothing as described in Section IX. Contain spilled material. Transfer to secure containers. In the event of an uncontrolled release of this material, the user should determine if the release is reportable under applicable laws and regulations.

WASTE DISPOSAL: All recovered material should be packaged, labeled, transported and disposed of or reclaimed in conformance with applicable laws and regulations and in conformance with good engineering practices. Reclaim where possible. This product, if disposed in its pure state, is not a RCRA hazardous waste.

SECTION XI - REGULATORY CONTROLS

DEPARTMENT OF TRANSPORTATION:

DOT CLASSIFICATION:	Non-regulated commodity
DOT PROPER SHIPPING NAME:	Non-regulated commodity
OTHER DOT INFORMATION:	Non-regulated commodity

OTHER REGULATORY REQUIREMENTS:

Toxic Substance Control Act:

This product is (or if a mixture, the components of this product are) listed in the TSCA Inventory of Chemical Substances.

SARA Title III (Sections 311/312) Hazard Categories:

This product does not meet the criteria of any SARA hazard categories.

SECTION XII - PRECAUTIONS: HANDLING, STORAGE AND USAGE

The handling of pellets in both loading and unloading operations as well as fabrication may cause dust to be formed, and necessary precautions for personal protection (see Section IX) should be used.

The information presented herein is believed to be factual as it has been derived from the works and opinions of persons believed to be qualified experts; however, nothing contained in this information is to be taken as a warranty or representation for which Quantum Chemical Company bears legal responsibility. The user should review any recommendations in the specific context of the intended use to determine whether they are appropriate.

PREPARED BY: DGH

ISSUE DATE: JAN 18, 1994 SUPERSEDES: MAY 01, 1990

Regulatory Affairs Group
Quantum Chemical Company
11500 Northlake Drive
P. O. Box 429550
Cincinnati, OH 45249

P M S C O N S O L I D A T E D

M A T E R I A L S A F E T Y D A T A S H E E T

PRODUCT NUMBER: SH31805MB

********** .STATEMENT **********

THIS MATERIAL SAFETY DATA SHEET (MSDS) IS IN COMPLIANCE WITH THE FEDERAL OSHA HAZARDOUS COMMUNICATION STANDARD 29 CFR 1910.1200
THIS PRODUCT IS A MIXTURE OF PURCHASED CHEMICALS. ALL DATA CONTAINED HEREIN IS BASED ON DATA REPORTED BY OUR VENDORS.

********** DIRECTORY **********

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* NOTE * N/A = NOT APPLICABLE NA = NOT AVAILABLE

MATERIAL SAFETY DATA SHEET

PMS NUMBER: 8H31805MB

********** SECTION I PRODUCT * SUPPLIER INFORMATION **********

PRODUCT NAME : MASTERBATCH
PHYSICAL FORM :
SUPPLIER : PMS CONSOLIDATED - NEW HAMPSHIRE
STREET : 50 SCARBOROUGH LANE
CITY, STATE, ZIP : MILFORD, NH 03055
PRINTED DATE : 02/24/95

COLOR : TR AMBER

PHONE : 603-673-5534
EMERGENCY PHONE : 603-673-5534

EFFECTIVE DATE : 11/10/93

********** SECTION II * EMERGENCY AND FIRST AID PROCEDURES **********

INGREDIENT HAZARDOUS STATEMENT

THE OSHA HAZARDOUS COMMUNICATION STANDARD 29 CFR 1910.1200 REQUIRES THAT DATA ON HAZARDOUS COMPOUNDS BE MADE AVAILABLE HOWEVER REMOTE THE HAZARD. UNLESS THIS PRODUCT IS INGESTED OR IS USED IN A MANNER THAT CREATES VAPORS OR NUISANCE DUSTS, THE HAZARDS ASSOCIATED WITH NORMAL EXPOSURE IS CONSIDERED NEGLIGIBLE.

EYE AND SKIN CONTACT: IMMEDIATELY FLUSH EYES WITH WATER TO REMOVE PARTICLES. IF IRRITATION PERSISTS, CONSULT A PHYSICIAN. WASH SKIN WITH SOAP AND WATER.

INHALATION: "REMOVE TO FRESH AIR. IF BREATHING IS DIFFICULT, GIVE OXYGEN." "IF BREATHING HAS STOPPED GIVE CARDIOPULMONARY RESUSCITATION." CALL A PHYSICIAN.

INGESTION: IF SWALLOWED, INDUCE VOMITING IMMEDIATELY AS DIRECTED BY MEDICAL PERSONNEL.

IF ANY OTHER HARMFUL EFFECTS ARE SUSPECTED, A PHYSICIAN SHOULD BE CALLED PROMPTLY TO DETERMINE THE NECESSITY FOR TREATMENT OR OTHER TESTING.

********** SECTION III * PERSONAL PROTECTION EQUIPMENT **********

GLOVES: OPTIONAL, RUBBER OR NEOPRENE GLOVES TO PROTECT HANDS FROM DRYING EFFECT.

EYE PROTECTION: SHIELDED GOGGLES ARE ADVISED FOR PROTECTION FROM DUST PARTICLES.

RESPIRATOR PROTECTION: IF USE OF THIS PRODUCT GENERATES DUSTS, MISTS, OR VAPORS A MSHA/NIOSH APPROVED RESPIRATOR IS RECOMMENDED.

MATERIAL SAFETY DATA SHEET PMS NUMBER: SH3180EMB

********** SECTION IV * SPECIAL PRECAUTIONS **********

IN DUSTY CONDITIONS, USE OF A DUST RESPIRATOR CERTIFIED BY NIOSH IS RECOMMENDED. WASH HANDS AND FACE THOROUGHLY AFTER HANDLING AND BEFORE EATING, DRINKING OR USING TOBACCO PRODUCTS.
VENTILATION: LOCAL EXHAUST IS RECOMMENDED TO CONTROL EXPOSURE TO WITHIN OSHA LIMITATIONS.

********** SECTION V * .FIRE AND EXPLOSION DATA **********

FLASH POINT: NA AUTO IGNITION: NA LEL: NA UEL: NA

NFPA HAZARD CLASSIFICATION

FLAMMABLE: 1 HEALTH: 0 REACTIVITY: 0

EXTINGUISHING MEDIA : CO2 OR DRY CHEMICAL

SPECIAL FIRE FIGHTING PROCEDURES: WEAR SELF CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE & EXPLOSION HAZARDS: NONE

********** SECTION VI * REACTIVITY DATA **********

POLYMERIZATION CONDITIONS TO AVOID : NONE

STABILITY : STABLE

CONDITIONS TO AVOID : TEMPERATURES ABOVE 700 DEG. C.

INCOMPATIBLE MATERIALS TO AVOID : NONE

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS : INCOMPLETE BURNING CAN PRODUCE CARBON MONOXIDE, CARBON DIOXIDE, AND OTHER HARMFUL PRODUCTS.

********** SECTION VII * PHYSICAL DATA **********

APPEARANCE AND ODOR: ODORLESS
BOILING RANGE : N/A
FREEZING POINT : N/A
SPECIFIC GRAVITY : NA

VAPOR PRES (MM HG) : N/A
SOLUBILITY / WATER : NEGLIGIBLE
% VOLATILE : N/A

MATERIAL SAFETY DATA SHEET PMS NUMBER: 8H31805MB

* * * * * SECTION VIII * HANDLING AND DISPOSAL INFORMATION * * * * *

EPA WASTE NO: NA DOT CLASSIFICATION: NOT CLASSIFIED

HANDLING & SPILL PROCEDURES

IN ACCORDANCE WITH GOOD INDUSTRIAL PRACTICE, HANDLE WITH CARE AND AVOID PERSONAL CONTACT. AVOID BREATHING DUST, MISTS OR VAPORS. CONTAIN SPILLAGE AND SCOOP OR VACUUM. PLACE IN CLOSED CONTAINER FOR DISPOSAL. WEAR SPECIFIED PROTECTIVE EQUIPMENT IF DUST IS PRESENT OR PRODUCT IS IN LIQUID FORM.

WASTE DISPOSAL: DISPOSE IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

********************* SECTION IX * INGREDIENT INFORMATION *********************

THE FOLLOWING INGREDIENTS ARE LISTED IN OSHA'S Z TABLES.
FOR OTHER REGULATORY INFORMATION SEE SECTION XI.

—INGREDIENT—	EPA LIST	PEL MG/M3 OSHA	TLV MG/M3 ACGIH

INGREDIENTS NOT LISTED IN THIS PRODUCT ARE AT DE MINIMIS LEVELS OR CONSIDERED NON-HAZARDOUS.

******************* SECTION X * INGREDIENT HEALTH HAZARD DATA ******************

CARCINOGENICITY

NTP: NO IARC: NO OSHA: NO

CHRONIC HEALTH HAZARDS: REFER TO ROUTES OF ENTRY AND EFFECTS OF OVEREXPOSURE.

ROUTES OF ENTRY

INHALATION: YES SKIN: YES INGESTION: YES EYES: YES

EFFECTS OF OVEREXPOSURE

INHALATION : MAY CAUSE IRRITATION TO UPPER RESPIRATORY TRACT.

SKIN : MAY CAUSE IRRITATION AND ALLERGIC REACTION.

CONTINUED ON NEXT PAGE

MATERIAL SAFETY DATA SHEET PMS NUMBER: 8H3180SMB

INGESTION : MAY CAUSE IRRITATION TO THE GASTROINTESTINAL TRACT.

EYES : MAY CAUSE IRRITATION.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NONE

********** SECTION XI * OTHER REGULATORY INFORMATION **********

TSCA INVENTORY STATUS: UNLESS SPECIFIED, ALL CHEMICAL COMPONENTS ARE LISTED IN THE TSCA INVENTORY.
CONTAINS CHEMICALS ON CALIFORNIA'S PROPOSITION 65 LIST: NO

SARA TITLE III, SECTION 313 AND 40 CFR 372 NOTIFICATION

CHEMICAL NAME	CHEMICAL CAS NO.	HIGHEST % BY.WT.	ENVIRONMENTAL POLLUTANT
ZINC COMPOUND	557-05-1	10	NO

ALL OTHER CHEMICALS CONTAINED IN THIS PRODUCT ARE NOT SUBJECT TO SARA 313 REGULATIONS

STATE AND COMMUNITY RIGHT-TO-KNOW: SEE ABOVE.

THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED UPON DATA SUPPLIED TO US BY OUR SUPPLIERS AND IS BELIEVED TO BE CORRECT. NO GUARANTEE OR WARRANTY OF ANY KIND EXPRESSED OR IMPLIED IS MADE WITH RESPECT TO ANY OTHER INFORMATION CONTAINED HEREIN.

FOR FURTHER INFORMATION, PLEASE CONTACT: LAB MGR