



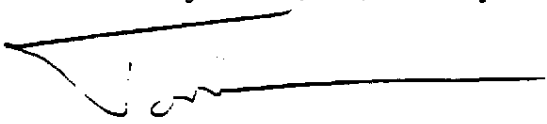
James Reader

Interoffice Communication

To Distribution
From Tom Grumbles
Date September 8, 1981
Subject HDPE MATERIAL SAFETY DATA SHEETS

Enclosed are the final drafts for the HDPE Material Safety Data Sheets. These sheets will have the Conoco Chemicals product name, plant address and telephone numbers added when they are available.

Very few changes were made on the first draft of the sheets. Please return any further comments you may have to me by September 28.


Thomas G. Grumbles

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CCR 000001837

DRAFT

CONOCOConoco Chemicals
5 Greenway Plaza East
P.O. Box 2197
Houston, Texas 77001**MATERIAL SAFETY DATA SHEET****I. PRODUCT IDENTIFICATION**

MANUFACTURER'S NAME	Conoco Chemicals	REGULAR TELEPHONE NO.	
		EMERGENCY TELEPHONE NO.	
ADDRESS	P. O. Box 2197 - Houston, TX 77001		
TRADE NAME	Conoco 1150		
SYNONYMS	High Density Polyethylene		

II. HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	%	HAZARD DATA

III. PHYSICAL DATA

BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O = 1)	0.957g/cm ³
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR = 1)	N/A	EVAPORATION RATE (_____ = 1)	N/A
SOLUBILITY IN WATER	N/A	MELTING POINT	133° C
APPEARANCE AND ODOR	Translucent Odorless Pellets		

IV. FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD)	N/A	AUTOIGNITION TEMPERATURE	N/A
EXTINGUISHING MEDIA	Water spray on dry chemical (Ammonium Phosphate Base)		
SPECIAL FIRE FIGHTING PROCEDURES	Cool exposed resins with water spray to prevent melting and dripping. Incomplete combustion can lead to formation of carbon monoxide, irritating fumes and smoke. Self-contained breathing apparatus should be worn if enter		

UNUSUAL FIRE
AND EXPLOSION

CCR 000001838

V

HEALTH HAZARD INFORMATION

FIRST AID

EYES: If dust enters the eye, flush with large amounts of water.

SKIN: N/A

INHALATION: N/A

INGESTION: Seek Medical Aid

NATURE OF HAZARD

EYES: This material is not expected to present a hazard to the eyes.

SKIN: This material is not expected to present a hazard to the intact skin.
Molten resins will produce thermal burns.

INHALATION: This material is not expected to present an inhalation hazard under normal use.

INGESTION: This material is not expected to present an ingestion hazard.

EFFECTS OF OVEREXPOSURE:

ACUTE OVEREXPOSURE:

CHRONIC OVEREXPOSURE:

No adverse health effects are expected to occur with exposure to this material. Irritation to the upper respiratory tract may occur with exposure to fumes or smokes produced when heating or burning polyethylene.

THRESHOLD LIMIT VALUE (TLV)

ACGIH: 10 mg/m³ nuisance dust

TOXICITY DATA

SKIN CONTACT: N/A

EYE CONTACT: N/A

INHALATION: N/A

INGESTION: N/A

CCR 000001839

VI**REACTIVITY DATA****CONDITIONS CONTRIBUTING TO INSTABILITY****INCOMPATIBILITY**

Can be affected by oxidizing acids and some chlorinated hydrocarbon solvents.

HAZARDOUS DECOMPOSITION PRODUCTS

Burning or heating to high temperatures may release irritating low molecular weight composition products.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

Will not occur.

VII**SPILL OR LEAK PROCEDURES****STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED**

Sweep up pellets and place in suitable containers for recycle or disposal.
Pellets on walking surfaces may be a slipping hazard.

NEUTRALIZING CHEMICALS N/A

WASTE DISPOSAL METHOD

May be disposed of in landfill in accordance with local, state or federal regulations.

VIII**SPECIAL PROTECTION INFORMATION****VENTILATION REQUIREMENTS**

General ventilation for thermal processing and nuisance dust control.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY (SPECIFY IN DETAIL): If dust is produced during handling of material an approved air-purifying respirator should be used.

EYE: Standard safety glasses or chemical goggles.

GLOVES: Generally not required unless handling hot or molten resins.

OTHER CLOTHING AND EQUIPMENT: N/A

IX SPECIAL PRECAUTIONS	
HAZARD CLASSIFICATION INFORMATION	
IMCO HAZARD CLASS AND NUMBER N/A	US DOT CLASSIFICATION N/A
UN NUMBER N/A	EEC DANGEROUS SUBSTANCE CLASSIFICATION
ADR CLASS NUMBER	EEC SPECIAL RISKS AND SAFETY ADVICE
CAS NUMBER 9002-88-4	
TRANSPORTATION AND STORAGE	
USUAL SHIPPING CONTAINERS	ELECTROSTATIC ACCUMULATION HAZARD
	STORAGE/TRANSPORT PRESSURE
STORAGE TRANSPORT TEMPERATURE	LOADING/UNLOADING TEMPERATURE
	VISCOSITY AT LOADING/UNLOADING TEMPERATURE
HANDLING AND STORAGE MATERIALS AND COATINGS	
SUITABLE	UNSUITABLE

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DRAFT



Conoco Chemicals
5 Greenway Plaza East
P.O. Box 2197
Houston, Texas 77001

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION	
NAME Conoco Chemicals	REGULAR TELEPHONE NO. EMERGENCY TELEPHONE NO.
ADDRESS P. O. Box 2197 - Houston, TX 77001	
TRADE NAME Conoco 1070	
SYNONYMS High Density Polyethylene	

II. HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA

III. PHYSICAL DATA			
BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O = 1)	0.953g/cm ³
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR = 1)	N/A	EVAPORATION RATE (_____ = 1)	N/A
SOLUBILITY IN WATER	N/A	MELTING POINT	132° C
APPEARANCE AND ODOR	Translucent Odorless Pellets		

IV. FIRE AND EXPLOSION DATA				
FLASH POINT (TEST METHOD)	N/A	AUTOIGNITION TEMPERATURE	N/A	
FLAMMABLE LIMITS IN AIR, % BY VOL.	LOWER	N/A	UPPER	N/A
EXTINGUISHING MEDIA	Water spray on dry chemical (Ammonium Phosphate Base)			
SPECIAL FIRE FIGHTING PROCEDURES	Cool exposed resins with water spray to prevent melting and dripping. Incomplete combustion can lead to formation of carbon monoxide, irritating fumes and smoke. Self-contained breathing apparatus should be worn if entering confined space.			
UNUSUAL FIRE AND EXPLOSION				

CCR 000001842

V

HEALTH HAZARD INFORMATION

FIRST AID

EYES: If dust enters the eye, flush with large amounts of water.

SKIN: N/A

INHALATION: N/A

INGESTION: Seek Medical Aid

NATURE OF HAZARD

EYES: This material is not expected to present a hazard to the eyes.

SKIN: This material is not expected to present a hazard to the intact skin.
Molten resins will produce thermal burns.

INHALATION: This material is not expected to present an inhalation hazard under normal use.

INGESTION: This material is not expected to present an ingestion hazard.

EFFECTS OF OVEREXPOSURE:

ACUTE OVEREXPOSURE:

CHRONIC OVEREXPOSURE:

No adverse health effects are expected to occur with exposure to this material. Irritation to the upper respiratory tract may occur with exposure to fumes or smokes produced when heating or burning polyethylene.

THRESHOLD LIMIT VALUE (TLV)

ACGIH: 10 mg/m³ nuisance dust

TOXICITY DATA

SKIN CONTACT: N/A

EYE CONTACT: N/A

INHALATION: N/A

INGESTION: N/A

CCR 000001843

VI**REACTIVITY DATA****CONDITIONS CONTRIBUTING TO INSTABILITY****INCOMPATIBILITY**

Can be affected by oxidizing acids and some chlorinated hydrocarbon solvents.

HAZARDOUS DECOMPOSITION PRODUCTS

Burning or heating to high temperatures may release irritating low molecular weight composition products.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

Will not occur.

VII**SPILL OR LEAK PROCEDURES****STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED**

Sweep up pellets and place in suitable containers for recycle or disposal. Pellets on walking surfaces may be a slipping hazard.

NEUTRALIZING CHEMICALS N/A

WASTE DISPOSAL METHOD

May be disposed of in landfill in accordance with local, state or federal regulations.

VIII**SPECIAL PROTECTION INFORMATION****VENTILATION REQUIREMENTS**

General ventilation for thermal processing and nuisance dust control.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY (SPECIFY IN DETAIL): If dust is produced during handling of material an approved air-purifying respirator should be used.

EYE: Standard safety glasses or chemical goggles.

GLOVES: Generally not required unless handling hot or molten resins.

OTHER CLOTHING AND EQUIPMENT: N/A

IX	SPECIAL PRECAUTIONS
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HAZARD CLASSIFICATION INFORMATION
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IMCO HAZARD CLASS AND NUMBER N/A	US DOT CLASSIFICATION N/A
UN NUMBER N/A	EEC DANGEROUS SUBSTANCE CLASSIFICATION
ADR CLASS NUMBER	EEC SPECIAL RISKS AND SAFETY ADVICE
CAS NUMBER 9002-88-4	

TRANSPORTATION AND STORAGE

USUAL SHIPPING CONTAINERS	ELECTROSTATIC ACCUMULATION HAZARD
	STORAGE/TRANSPORT PRESSURE
STORAGE TRANSPORT TEMPERATURE	LOADING/UNLOADING TEMPERATURE
	VISCOSITY AT LOADING/UNLOADING TEMPERATURE

HANDLING AND STORAGE MATERIALS AND COATINGS
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SUITABLE	UNSUITABLE

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DRAFT



Conoco Chemicals
5 Greenway Plaza East
P.O. Box 2197
Houston, Texas 77001

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION	
MANUFACTURER'S NAME	Conoco Chemicals
REGULAR TELEPHONE NO.	EMERGENCY TELEPHONE NO.
ADDRESS	P. O. Box 2197 - Houston, TX 77001
TRADE NAME	Conoco DR 721
SYNONYMS	High Density Polyethylene

II. HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA

III. PHYSICAL DATA			
BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O = 1)	0.964g/cm ³
VAPOR PRESURE (mm. Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR = 1)	N/A	EVAPORATION RATE (_____ = 1)	N/A
SOLUBILITY IN WATER	N/A	MELTING POINT	136° C
ODOR	Scent Odor		

IV. FIRE AND EXPLOSION DATA				
FLASH POINT (TEST METHOD)	N/A	AUTOIGNITION TEMPERATURE	N/A	
FLAMMABLE LIMITS IN AIR, % BY VOL.	LOWER	N/A	UPPER	N/A
EXTINGUISHING MEDIA	Water spray on dry chemical (Ammonium Phosphate Base)			
SPECIAL FIRE FIGHTING PROCEDURES	Cool exposed resins with water spray to prevent melting and dripping. Incomplete combustion can lead to formation of carbon monoxide, irritating fumes and smoke. Self-contained breathing apparatus should be worn if entering confined space.			
UNUSUAL FIRE AND EXPLOSION				

CCR 000001846

V.

HEALTH HAZARD INFORMATION

FIRST AID

EYES: If dust enters the eye, flush with large amounts of water.

SKIN: N/A

INHALATION: N/A

INGESTION: Seek Medical Aid

NATURE OF HAZARD

EYES: This material is not expected to present a hazard to the eyes.

SKIN: This material is not expected to present a hazard to the intact skin.
Molten resins will produce thermal burns.

INHALATION: This material is not expected to present an inhalation hazard under normal use.

INGESTION: This material is not expected to present an ingestion hazard.

EFFECTS OF OVEREXPOSURE:

ACUTE OVEREXPOSURE:

CHRONIC OVEREXPOSURE:

No adverse health effects are expected to occur with exposure to this material. Irritation to the upper respiratory tract may occur with exposure to fumes or smokes produced when heating or burning polyethylene.

THRESHOLD LIMIT VALUE (TLV)

ACGIH: 10 mg/m³ nuisance dust

TOXICITY DATA

SKIN CONTACT: N/A

EYE CONTACT: N/A

INHALATION: N/A

INGESTION: N/A

CCR 000001847

VI**REACTIVITY DATA****CONDITIONS CONTRIBUTING TO INSTABILITY****INCOMPATIBILITY**

Can be affected by oxidizing acids and some chlorinated hydrocarbon solvents.

HAZARDOUS DECOMPOSITION PRODUCTS

Burning or heating to high temperatures may release irritating low molecular weight composition products.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

Will not occur.

VII**SPILL OR LEAK PROCEDURES****STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED**

Sweep up pellets and place in suitable containers for recycle or disposal. Pellets on walking surfaces may be a slipping hazard.

NEUTRALIZING CHEMICALS N/A

WASTE DISPOSAL METHOD

May be disposed of in landfill in accordance with local, state or federal regulations.

VIII**SPECIAL PROTECTION INFORMATION****VENTILATION REQUIREMENTS**

General ventilation for thermal processing and nuisance dust control.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY (SPECIFY IN DETAIL): If dust is produced during handling of material an approved air-purifying respirator should be used.

EYE: Standard safety glasses or chemical goggles.

GLOVES: Generally not required unless handling hot or molten resins.

OTHER CLOTHING AND EQUIPMENT: N/A

CCR 000001848

SPECIAL PRECAUTIONS	
HAZARD CLASSIFICATION INFORMATION	
IMCO HAZARD CLASS AND NUMBER N/A	US DOT CLASSIFICATION N/A
UN NUMBER N/A	EEC DANGEROUS SUBSTANCE CLASSIFICATION
AQR CLASS NUMBER	EEC SPECIAL RISKS AND SAFETY ADVICE
CAS NUMBER 9002-88-4	
TRANSPORTATION AND STORAGE	
USUAL SHIPPING CONTAINERS	ELECTROSTATIC ACCUMULATION HAZARD
	STORAGE/TRANSPORT PRESSURE
STORAGE TRANSPORT TEMPERATURE	LOADING/UNLOADING TEMPERATURE
	VISCOSITY AT LOADING/UNLOADING TEMPERATURE
HANDLING AND STORAGE MATERIALS AND COATINGS	
SUITABLE	UNSUITABLE

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DRAFT



Conoco Chemicals
5 Greenway Plaza East
P.O. Box 2197
Houston, Texas 77001

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION	
MANUFACTURER'S NAME	Conoco Chemicals
REGULAR TELEPHONE NO. EMERGENCY TELEPHONE NO.	
ADDRESS P. O. Box 2197 - Houston, TX 77001	
TRADE NAME	Conoco 1010
SYNONYMS	High Density Polyethylene

II. HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA

III. PHYSICAL DATA			
BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O = 1)	0.950g/cm ³
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR = 1)	N/A	EVAPORATION RATE (_____ = 1)	N/A
SOLUBILITY IN WATER	N/A	MELTING POINT	130° C
APPEARANCE AND ODOR	Translucent Odorless Pellets		

IV. FIRE AND EXPLOSION DATA				
FLASH POINT (TEST METHOD)	N/A	AUTOIGNITION TEMPERATURE	N/A	
FLAMMABLE LIMITS IN AIR, % BY VOL.	LOWER	N/A	UPPER	N/A
EXTINGUISHING MEDIA	Water spray on dry chemical (Ammonium Phosphate Base)			
SPECIAL FIRE FIGHTING PROCEDURES	Cool exposed resins with water spray to prevent melting and dripping. Incomplete combustion can lead to formation of carbon monoxide, irritating fumes and smoke. Self-contained breathing apparatus should be worn if entering confined space.			
UNUSUAL FIRE AND EXPLOSION				

CCR 000001850

V

HEALTH HAZARD INFORMATION

FIRST AID

EYES: If dust enters the eye, flush with large amounts of water.

SKIN: N/A

INHALATION: N/A

INGESTION: Seek Medical Aid

NATURE OF HAZARD

EYES: This material is not expected to present a hazard to the eyes.

SKIN: This material is not expected to present a hazard to the intact skin.
Molten resins will produce thermal burns.

INHALATION: This material is not expected to present an inhalation hazard under normal use.

INGESTION: This material is not expected to present an ingestion hazard.

EFFECTS OF OVEREXPOSURE:

ACUTE OVEREXPOSURE:

CHRONIC OVEREXPOSURE:

No adverse health effects are expected to occur with exposure to this material. Irritation to the upper respiratory tract may occur with exposure to fumes or smokes produced when heating or burning polyethylene.

THRESHOLD LIMIT VALUE (TLV)

ACGIH: 10 mg/m³ nuisance dust

TOXICITY DATA

SKIN CONTACT: N/A

EYE CONTACT: N/A

INHALATION: N/A

INGESTION: N/A

CCR 000001851

VI**REACTIVITY DATA****CONDITIONS CONTRIBUTING TO INSTABILITY****INCOMPATIBILITY**

Can be affected by oxidizing acids and some chlorinated hydrocarbon solvents.

HAZARDOUS DECOMPOSITION PRODUCTS

Burning or heating to high temperatures may release irritating low molecular weight composition products.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

Will not occur.

VII**SPILL OR LEAK PROCEDURES****STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED**

Sweep up pellets and place in suitable containers for recycle or disposal.
Pellets on walking surfaces may be a slipping hazard.

NEUTRALIZING CHEMICALS N/A

WASTE DISPOSAL METHOD

May be disposed of in landfill in accordance with local, state or federal regulations.

VIII**SPECIAL PROTECTION INFORMATION****VENTILATION REQUIREMENTS**

General ventilation for thermal processing and nuisance dust control.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY (SPECIFY IN DETAIL): If dust is produced during handling of material an approved air-purifying respirator should be used.

EYE: Standard safety glasses or chemical goggles.

GLOVES: Generally not required unless handling hot or molten resins.

OTHER CLOTHING AND EQUIPMENT: N/A

CCR 000001852

IX SPECIAL PRECAUTIONS	
HAZARD CLASSIFICATION INFORMATION	
IMCO HAZARD CLASS AND NUMBER N/A	US DOT CLASSIFICATION N/A
UN NUMBER N/A	EEC DANGEROUS SUBSTANCE CLASSIFICATION
ADR CLASS NUMBER	EEC SPECIAL RISKS AND SAFETY ADVICE
CAS NUMBER 9002-88-4	
TRANSPORTATION AND STORAGE	
USUAL SHIPPING CONTAINERS	ELECTROSTATIC ACCUMULATION HAZARD
	STORAGE/TRANSPORT PRESSURE
STORAGE TRANSPORT TEMPERATURE	LOADING/UNLOADING TEMPERATURE
	VISCOSITY AT LOADING/UNLOADING TEMPERATURE
HANDLING AND STORAGE MATERIALS AND COATINGS	
SUITABLE	UNSUITABLE

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DRAFT



Conoco Chemicals
5 Greenway Plaza East
P.O. Box 2197
Houston, Texas 77001

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION	
MANUFACTURER'S NAME	Conoco Chemicals
REGULAR TELEPHONE NO.	EMERGENCY TELEPHONE NO.
ADDRESS	P. O. Box 2197 - Houston, TX 77001
TRADE NAME	Conoco 2010
SYNONYMS	High Density Polyethylene

II. HAZARDOUS INGREDIENTS	

III. PHYSICAL DATA			
BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O = 1)	0.960g/cm ³
			N/A
VAPOR DENSITY (AIR = 1)	N/A	EVAPORATION RATE (_____ = 1)	N/A
SOLUBILITY IN WATER	N/A	MELTING POINT	134° C
APPEARANCE AND ODOR	Translucent Odorless Pellets		

IV. FIRE AND EXPLOSION DATA				
FLASH POINT (TEST METHOD)	N/A	AUTOIGNITION TEMPERATURE	N/A	
FLAMMABLE LIMITS IN AIR, % BY VOL.	LOWER	N/A	UPPER	N/A
EXTINGUISHING MEDIA	Water spray on dry chemical (Ammonium Phosphate Base)			
SPECIAL FIRE FIGHTING PROCEDURES	Cool exposed resins with water spray to prevent melting and dripping. Incomplete combustion can lead to formation of carbon monoxide, irritating fumes and smoke. Self-contained breathing apparatus should be worn if entering confined space.			
UNUSUAL FIRE AND EXPLOSION				

CCR 000001854

V.**HEALTH HAZARD INFORMATION****FIRST AID**

EYES: If dust enters the eye, flush with large amounts of water.

SKIN: N/A

INHALATION: N/A

INGESTION: Seek Medical Aid

NATURE OF HAZARD

EYES: This material is not expected to present a hazard to the eyes.

SKIN: This material is not expected to present a hazard to the intact skin.
Molten resins will produce thermal burns.

INHALATION: This material is not expected to present an inhalation hazard under normal use.

INGESTION: This material is not expected to present an ingestion hazard.

EFFECTS OF OVEREXPOSURE: No adverse health effects are expected to occur with exposure to this material. Irritation to the upper respiratory tract may occur with exposure to fumes or smokes produced when heating or burning polyethylene.

ACUTE OVEREXPOSURE:

CHRONIC OVEREXPOSURE:

THRESHOLD LIMIT VALUE (TLV)

ACGIH: 10 mg/m³ nuisance dust

TOXICITY DATA

SKIN CONTACT: N/A

EYE CONTACT: N/A

INHALATION: N/A

INGESTION: N/A

CCR 000001855

VI**REACTIVITY DATA****CONDITIONS CONTRIBUTING TO INSTABILITY****INCOMPATIBILITY**

Can be affected by oxidizing acids and some chlorinated hydrocarbon solvents.

HAZARDOUS DECOMPOSITION PRODUCTS

Burning or heating to high temperatures may release irritating low molecular weight composition products.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

Will not occur.

VII**SPILL OR LEAK PROCEDURES****STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED**

Sweep up pellets and place in suitable containers for recycle or disposal. Pellets on walking surfaces may be a slipping hazard.

NEUTRALIZING CHEMICALS N/A

WASTE DISPOSAL METHOD

May be disposed of in landfill in accordance with local, state or federal regulations.

VIII**SPECIAL PROTECTION INFORMATION****VENTILATION REQUIREMENTS**

General ventilation for thermal processing and nuisance dust control.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY (SPECIFY IN DETAIL): If dust is produced during handling of material an approved air-purifying respirator should be used.

EYE: Standard safety glasses or chemical goggles.

GLOVES: Generally not required unless handling hot or molten resins.

OTHER CLOTHING AND EQUIPMENT: N/A

IXC SPECIAL PRECAUTIONS	
HAZARD CLASSIFICATION INFORMATION	
IMCO HAZARD CLASS AND NUMBER N/A	US DOT CLASSIFICATION N/A
UN NUMBER N/A	EEC DANGEROUS SUBSTANCE CLASSIFICATION
ADR CLASS NUMBER	EEC SPECIAL RISKS AND SAFETY ADVICE
CAS NUMBER 9002-88-4	
TRANSPORTATION AND STORAGE	
USUAL SHIPPING CONTAINERS	ELECTROSTATIC ACCUMULATION HAZARD
	STORAGE/TRANSPORT PRESSURE
STORAGE TRANSPORT TEMPERATURE	LOADING/UNLOADING TEMPERATURE
	VISCOSITY AT LOADING/UNLOADING TEMPERATURE
HANDLING AND STORAGE MATERIALS AND COATINGS	
SUITABLE	UNSUITABLE

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CCR 000001857

DRAFT



Conoco Chemicals
5 Greenway Plaza East
P.O. Box 2197
Houston, Texas 77001

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION	
MANUFACTURER'S NAME Conoco Chemi	REGULAR TELEPHONE NO. EMERGENCY TELEPHONE NO.
ADDRESS P. O. Box 2197 - Houston, TX 77001	
TRADE NAME Conoco 3003	
SYNONYMS High Density Polyethylene	

II. HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA

III. PHYSICAL DATA			
BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O = 1)	0.954g/cm ³
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR = 1)	N/A	EVAPORATION RATE (_____ = 1)	N/A
SOLUBILITY IN WATER			
APPEARANCE AND ODOR	Translucent Odorless Pellets		

IV. FIRE AND EXPLOSION DATA				
FLASH POINT (TEST METHOD)	N/A	AUTOIGNITION TEMPERATURE	N/A	
FLAMMABLE LIMITS IN AIR, % BY VOL.	LOWER	N/A	UPPER	N/A
EXTINGUISHING MEDIA	Water spray on dry chemical (Ammonium Phosphate Base)			
SPECIAL FIRE FIGHTING PROCEDURES	Cool exposed resins with water spray to prevent melting and dripping. Incomplete combustion can lead to formation of carbon monoxide, irritating fumes and smoke. Self-contained breathing apparatus should be worn if entering confined space.			
UNUSUAL FIRE AND EXPLOSION				

CCR 000001858

V.**HEALTH HAZARD INFORMATION****FIRST AID**

EYES: If dust enters the eye, flush with large amounts of water.

SKIN: N/A

INHALATION: N/A

INGESTION: Seek Medical Aid

NATURE OF HAZARD

EYES: This material is not expected to present a hazard to the eyes.

SKIN: This material is not expected to present a hazard to the intact skin.
Molten resins will produce thermal burns.

INHALATION: This material is not expected to present an inhalation hazard under normal use.

INGESTION: This material is not expected to present an ingestion hazard.

EFFECTS OF OVEREXPOSURE:**ACUTE OVEREXPOSURE:****CHRONIC OVEREXPOSURE:**

No adverse health effects are expected to occur with exposure to this material. Irritation to the upper respiratory tract may occur with exposure to fumes or smokes produced when heating or burning polyethylenes.

THRESHOLD LIMIT VALUE (TLV)

ACGIH: 10 mg/m³ nuisance dust

TOXICITY DATA

SKIN CONTACT: N/A

EYE CONTACT: N/A

INHALATION: N/A

INGESTION: N/A

CCR 000001859

SPECIAL PRECAUTIONS:

VI**REACTIVITY DATA****CONDITIONS CONTRIBUTING TO INSTABILITY****INCOMPATIBILITY**

Can be affected by oxidizing acids and some chlorinated hydrocarbon solvents.

HAZARDOUS DECOMPOSITION PRODUCTS

Burning or heating to high temperatures may release irritating low molecular weight composition products.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

Will not occur.

VII**SPILL OR LEAK PROCEDURES****STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED**

Sweep up pellets and place in suitable containers for recycle or disposal.
Pellets on walking surfaces may be a slipping hazard.

NEUTRALIZING CHEMICALS N/A

WASTE DISPOSAL METHOD

May be disposed of in landfill in accordance with local, state or federal regulations.

VIII**SPECIAL PROTECTION INFORMATION****VENTILATION REQUIREMENTS**

General ventilation for thermal processing and nuisance dust control.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY (SPECIFY IN DETAIL): If dust is produced during handling of material an approved air-purifying respirator should be used.

EYE: Standard safety glasses or chemical goggles.

GLOVES: Generally not required unless handling hot or molten resins.

OTHER CLOTHING AND EQUIPMENT: N/A

IXC SPECIAL PRECAUTIONS	
HAZARD CLASSIFICATION INFORMATION	
IMCO HAZARD CLASS AND NUMBER N/A	US DOT CLASSIFICATION N/A
UN NUMBER N/A	EEC DANGEROUS SUBSTANCE CLASSIFICATION
ADR CLASS NUMBER	EEC SPECIAL RISKS AND SAFETY ADVICE
CAS NUMBER 9002-88-4	
TRANSPORTATION AND STORAGE	
USUAL SHIPPING CONTAINERS	ELECTROSTATIC ACCUMULATION HAZARD
	STORAGE/TRANSPORT PRESSURE
STORAGE TRANSPORT TEMPERATURE	LOADING/UNLOADING TEMPERATURE
	VISCOSITY AT LOADING/UNLOADING TEMPERATURE
HANDLING AND STORAGE MATERIALS AND COATINGS	
SUITABLE	UNSUITABLE

The above data is based on tests and experience which Conoco believes reliable and are supplied for informational purposes only. Conoco disclaims any liability for damage or injury which results from the use of the above data and nothing contained therein shall constitute a guarantee, WARRANTY OF MERCHANTABILITY, or representation (including freedom from patent liability) by Conoco with respect to the data, the product described, or their use for any specific purpose, even if that purpose is known to Conoco.

CCR 000001861

DRAFT



Conoco Chemicals
5 Greenway Plaza East
P.O. Box 2197
Houston, Texas 77001

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION	
MANUFACTURER'S NAME Conoco Chemicals	REGULAR TELEPHONE NO. EMERGENCY TELEPHONE NO.
ADDRESS P. O. Box 2197 - Houston, TX 77001	
TRADE NAME Conoco 2003	
SYNONYMS High Density Polyethylene	

II. HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA

III. PHYSICAL DATA			
BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O = 1)	0.957g/cm ³
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR = 1)	N/A	EVAPORATION RATE (_____ = 1)	N/A
SOLUBILITY IN WATER	N/A	MELTING POINT	134° C
APPEARANCE AND ODOR	Translucent Odorless Pellets		

IV. FIRE AND EXPLOSION DATA				
	N/A			
EXTINGUISHING MEDIA	Water spray on dry chemical (Ammonium Phosphate Base)			
SPECIAL FIRE FIGHTING PROCEDURES	Cool exposed resins with water spray to prevent melting and dripping. Incomplete combustion can lead to formation of carbon monoxide, irritating fumes and smoke. Self-contained breathing apparatus should be worn if entering confined space.			
UNUSUAL FIRE AND EXPLOSION				

CCR 000001862

V

HEALTH HAZARD INFORMATION

FIRST AID

EYES: If dust enters the eye, flush with large amounts of water.

SKIN: N/A

INHALATION: N/A

INGESTION: Seek Medical Aid

NATURE OF HAZARD

EYES: This material is not expected to present a hazard to the eyes.

SKIN: This material is not expected to present a hazard to the intact skin.
Molten resins will produce thermal burns.

INHALATION: This material is not expected to present an inhalation hazard under normal use.

INGESTION: This material is not expected to present an ingestion hazard.

EFFECTS OF OVEREXPOSURE: No adverse health effects are expected to occur with exposure to this material. Irritation to the upper respiratory tract may occur with exposure to fumes or smokes produced when heating or burning polyethylene.

ACUTE OVEREXPOSURE:

CHRONIC OVEREXPOSURE:

THRESHOLD LIMIT VALUE (TLV)

ACGIH: 10 mg/m³ nuisance dust

TOXICITY DATA

SKIN CONTACT: N/A

EYE CONTACT: N/A

INHALATION: N/A

INGESTION: N/A

CCR 000001863

SPECIAL PRECAUTIONS:

VI**REACTIVITY DATA****CONDITIONS CONTRIBUTING TO INSTABILITY****INCOMPATIBILITY**

Can be affected by oxidizing acids and some chlorinated hydrocarbon solvents.

HAZARDOUS DECOMPOSITION PRODUCTS

Burning or heating to high temperatures may release irritating low molecular weight composition products.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

Will not occur.

VII**SPILL OR LEAK PROCEDURES****STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED**

Sweep up pellets and place in suitable containers for recycle or disposal. Pellets on walking surfaces may be a slipping hazard.

NEUTRALIZING CHEMICALS N/A

WASTE DISPOSAL METHOD

May be disposed of in landfill in accordance with local, state or federal regulations.

VIII**SPECIAL PROTECTION INFORMATION****VENTILATION REQUIREMENTS**

General ventilation for thermal processing and nuisance dust control.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY (SPECIFY IN DETAIL): If dust is produced during handling of material an approved air-purifying respirator should be used.

EYE: Standard safety glasses or chemical goggles.

GLOVES: Generally not required unless handling hot or molten resins.

OTHER CLOTHING AND EQUIPMENT: N/A

SPECIAL PRECAUTIONS	
HAZARD CLASSIFICATION INFORMATION	
IMCO HAZARD CLASS AND NUMBER N/A	US DOT CLASSIFICATION N/A
UN NUMBER N/A	EEC DANGEROUS SUBSTANCE CLASSIFICATION
ADR CLASS NUMBER	EEC SPECIAL RISKS AND SAFETY ADVICE
CAS NUMBER 9002-88-4	
TRANSPORTATION AND STORAGE	
USUAL SHIPPING CONTAINERS	ELECTROSTATIC ACCUMULATION HAZARD
	STORAGE/TRANSPORT PRESSURE
STORAGE TRANSPORT TEMPERATURE	LOADING/UNLOADING TEMPERATURE
	VISCOSITY AT LOADING/UNLOADING TEMPERATURE
HANDLING AND STORAGE MATERIALS AND COATINGS	
SUITABLE	UNSUITABLE

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DRAFT



Conoco Chemicals
5 Greenway Plaza East
P.O. Box 2197
Houston, Texas 77001

MATERIAL SAFETY DATA SHEET

PRODUCT IDENTIFICATION

MANUFACTURER'S NAME Conoco Chemicals

REGULAR TELEPHONE NO.
EMERGENCY TELEPHONE NO.

ADDRESS P. O. Box 2197 - Houston, TX 77001

TRADE NAME Conoco 3001

SYNONYMS High Density Polyethylene

HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	%	HAZARD DATA

PHYSICAL DATA

BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O = 1)	0.950g/cm ³
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR = 1)	N/A	EVAPORATION RATE (_____ = 1)	N/A
SOLUBILITY IN WATER	N/A	MELTING POINT	130° C
APPEARANCE AND ODOR	Translucent Odorless Pellets		

FLAMMABLE LIMITS

FLASH POINT (TEST METHOD)	N/A	AUTOIGNITION- TEMPERATURE	N/A	
FLAMMABLE LIMITS IN AIR, % BY VOL.	LOWER	N/A	UPPER	N/A
EXTINGUISHING MEDIA	Water spray on dry chemical (Ammonium Phosphate Base)			
SPECIAL FIRE FIGHTING PROCEDURES	Cool exposed resins with water spray to prevent melting and dripping. Incomplete combustion can lead to formation of carbon monoxide, irritating fumes and smoke. Self-contained breathing apparatus should be			

V

HEALTH HAZARD INFORMATION

FIRST AID

EYES: If dust enters the eye, flush with large amounts of water.

SKIN: N/A

INHALATION: N/A

INGESTION: Seek Medical Aid

NATURE OF HAZARD

EYES: This material is not expected to present a hazard to the eyes.

SKIN: This material is not expected to present a hazard to the intact skin.
Molten resins will produce thermal burns.

INHALATION: This material is not expected to present an inhalation hazard under normal use.

INGESTION: This material is not expected to present an ingestion hazard.

EFFECTS OF OVEREXPOSURE:

ACUTE OVEREXPOSURE:

CHRONIC OVEREXPOSURE:

No adverse health effects are expected to occur with exposure to this material. Irritation to the upper respiratory tract may occur with exposure to fumes or smokes produced when heating or burning polyethylene

THRESHOLD LIMIT VALUE (TLV)

ACGIH: 10 mg/m^3 nuisance dust

TOXICITY DATA

SKIN CONTACT: N/A

EYE CONTACT: N/A

INHALATION: N/A

INGESTION: N/A

CCR 000001867

VI**REACTIVITY DATA****CONDITIONS CONTRIBUTING TO INSTABILITY****INCOMPATIBILITY**

Can be affected by oxidizing acids and some chlorinated hydrocarbon solvents.

HAZARDOUS DECOMPOSITION PRODUCTS

Burning or heating to high temperatures may release irritating low molecular weight composition products.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

Will not occur.

VII**SPILE OR LEAK PROCEDURES****STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED**

Sweep up pellets and place in suitable containers for recycle or disposal.
Pellets on walking surfaces may be a slipping hazard.

NEUTRALIZING CHEMICALS N/A

WASTE DISPOSAL METHOD

May be disposed of in landfill in accordance with local, state or federal regulations.

VIII**SPECIAL PROTECTION INFORMATION****VENTILATION REQUIREMENTS**

General ventilation for thermal processing and nuisance dust control.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY (SPECIFY IN DETAIL): If dust is produced during handling of material an approved air-purifying respirator should be used.

EYE: Standard safety glasses or chemical goggles.

GLOVES: Generally not required unless handling hot or molten resins.

OTHER CLOTHING AND EQUIPMENT: N/A

CCR 000001868

IX

SPECIAL PRECAUTIONS

HAZARD CLASSIFICATION INFORMATION

IMCO HAZARD CLASS AND NUMBER N/A	US DOT CLASSIFICATION N/A
UN NUMBER N/A	EEC DANGEROUS SUBSTANCE CLASSIFICATION
ADR CLASS NUMBER	EEC SPECIAL RISKS AND SAFETY ADVICE
CAS NUMBER 9002-88-4	

TRANSPORTATION AND STORAGE

USUAL SHIPPING CONTAINERS	ELECTROSTATIC ACCUMULATION HAZARD
	STORAGE/TRANSPORT PRESSURE
STORAGE TRANSPORT TEMPERATURE	LOADING/UNLOADING TEMPERATURE
	VISCOSITY AT LOADING/UNLOADING TEMPERATURE

HANDLING AND STORAGE MATERIALS AND COATINGS

SUITABLE	UNSUITABLE

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