

Rubber (51)

FIRESTONE SYNTHETIC RUBBER & LATEX CO.
MATERIAL SAFETY DATA SHEET

Date: 03/03/92

To: MONSANTO

Attention: VARARIE PATRICK
FAX 413-730-2997

Section I - Product Identity

Product: STERION 730A

Chemical name: Poly(butadiene-co-styrene) CAS No.: 9003-55-8

Manufacturer: Firestone Synthetic Rubber & Latex Co.
A Division of Bridgestone/Firestone Inc.

Address: 381 W. Wilbeth Rd. Akron, OH 44301

Phone: For Information - (216) 379-6018

Emergency - (800) 424-9300

Section II - Hazardous Ingredients/Identity

Hazardous Components
None

Pct. OSHA PEL ACGIH TLV

Comments: As defined by 29CFR1910.1200

Section III - Health Hazard Data

Routes of entry: Inhalation () skin () Ingestion () NA

Acute health hazards: None

Chronic health hazards: None

Carcinogenicity: NTP () IARC () OSHA () NA

Signs and symptoms of exposure: NA

Medical conditions generally aggravated by exposure: NA

Emergency and first aid procedures: NA

Comments: None

Section IV - Control Measures

Respiratory protection: None required.

Recommended ventilation: local exhaust () mechanical/general ()
special () other/comments: NA

Protective gloves: NA

Eye protection: NA

Other protective clothing or equipment: NA

Work/hygienic practices: at the end of each work period and before
eating, wash, with soap and water, areas of the body coming in contact
with this product.

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STEREON 730A

Section V - Physical and Chemical Properties

Appearance and odor: Amber, rubbery solid; little, if any, odor.
Specific Gravity: >0.93 Solubility in water: Nil
Melting Point: NA Evaporation rate: NA
Boiling Point: NA Vapor density: NA

Section VI - Fire and Explosion Data

Flash point: NA Method: NA
Flammable limits: LEL: NA UEL: NA
Extinguishing method: Water or foam
Special fire fighting methods: Use self-contained breathing apparatus.
Unusual fire and explosion hazards: None
Combustion byproducts: Oxides of carbon.

Section VII - Reactivity Data

Material is: unstable () stable (x)
Conditions to avoid: NA
Incompatibility (materials to avoid): NA
Hazardous decomposition: NA
Hazardous polymerization: may occur () may not occur (x)
Conditions to avoid: NA

Section VIII - Precautions for Safe Handling and Use

Steps to be taken in case of release or spill: A release or spill of this material would not constitute a safety hazard.
Waste disposal method: In accordance with local regulations for disposal of nonhazardous waste.
Precautions to be taken in handling and storage: Store at temperatures <150o F.
Other precautions: NA

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Section IX - Other Regulatory Information

SARA: This product does not contain any chemicals reportable under
SARA Title III, Section 313.

WHMIS: This product does not meet any of the criteria of a controlled
product, as defined by WHMIS.

DOT: Not regulated as a hazardous material.

Section X - Labeling

No special labeling required.

If special labeling is requested, please call number below.

Section XI - Comments

None

Prepared by: Robert K. Richmond Phone: (216) 379-7150 Date: 7/31/90
Reviewed ()/ Revised (x) Date: 9/23/91

The information contained in this material safety data sheet is based on data and recommendations considered accurate. In some cases, the information has been obtained from other organizations and companies. However, no warranty or representation is expressed or implied that the information is accurate, complete, or representative. Bridgestone/Firestone assumes no responsibility for injury to buyer, the buyer's employees, or any third persons, if reasonable safety procedures are not followed. Additionally, Bridgestone/Firestone assumes no responsibility for injury to buyer, the buyer's employees, or any third persons, if such injury is the result of abnormal use of the material, even if reasonable safety procedures are followed.

Firestone

SYNTHETIC RUBBER & LATEX COMPANY

(51) 187918
Rubber

MATERIAL SAFETY DATA SHEET

PRODUCT IDENTIFICATION : ~~Styron 721~~ 721A CAS No. 9003-55-8

CHEMICAL FAMILY: Poly(butadiene-co-styrene)

SECTION I

Emergency Telephone Number: (800) 424-9300

Telephone Number For Information: (216) 379-6018

Date Prepared: January 14, 1987

SECTION II -- HAZARDOUS INGREDIENTS/IDENTIFY SECTION

Hazardous Components (Chemical and Common Names)	Pct.	OSHA PEL	ACGIH TLV	Other
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None

SECTION III -- PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: NA(Not Applicable) Sp. Gravity(H₂O=1): 0.93

Vapor Pressure(mm Hg): NA

Melting Point: NA

Vapor Density(Air=1): NA

Evaporation Rate: NA

Solubility in Water: Nil

(Butyl acetate = 1)

Appearance and Odor: Rubbery, white solid; slight odor.

SECTION IV -- FIRE AND EXPLOSION HAZARD DATA

Flash Point(Method): NA

Flammable Limits - LEL: NA

UEL: NA

Extinguishing Media: Water or foam.

Special Fire Fighting Procedures: Use self-contained breathing app

Unusual Fire and Explosion Hazards: None

Combustion Byproducts: Oxides of carbon



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SECTION V -- REACTIVITY DATA

Material Is Unstable() Stable(X)

Conditions to Avoid: NA

Incompatibility(Materials to Avoid): NA

Hazardous Decomposition: NA

Hazardous Polymerization May Occur() Will Not Occur(X)

Conditions to Avoid: NA

SECTION VI -- HEALTH HAZARD DATA

Route(s) of Entry: Inhalation() Skin() Ingestion() NA

Health Hazards(Acute and Chronic): None

Carcinogenicity: NTP() IARC Monographs() OSHA Regulated()

Signs and Symptoms of Exposure: NA

Medical Conditions Generally Aggravated by Exposure: NA

Emergency and First Aid Procedures: NA

(S-721)

Firestone

SYNTHETIC RUBBER & LATEX COMPANY

SECTION VII -- PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to Be Taken in Case Material Is Released or Spilled: A release or spill of this material would not constitute a safety hazard.

Waste Disposal Method: In accordance with local regulations, for disposal of nonhazardous waste.

Precautions to Be Taken in Handling and Storage: Store at temperature less than 150 deg. F

Other Precautions: NA

SECTION VIII -- CONTROL MEASURES

Respiratory Protection (Specify Type): None required.

Ventilation - Local Exhaust () Mechanical (General) () Special ()
Other/Comments: NA

Protective Gloves: None required. Eye Protection: None required.

Other Protective Clothing or Equipment: None required.

Work/Hygienic Practices: At the end of each work period and before eating, wash, with soap and water, areas of the body coming in contact with this product.

The information contained herein is based on data considered accurate which has been obtained from other companies and organizations. However, no warranty or representation is expressed or implied that the information is accurate, complete, or representative. Firestone assumes no responsibility for injury to buyer, the buyer's employees, or any third persons, if reasonable safety procedures are not followed. Additionally, Firestone assumes no responsibility for injury to buyer, the buyer's employees, or any third persons caused by abnormal use of the material, even if reasonable safety procedures are followed.

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M A T E R I A L S A F E T Y D A T A S H E E T	
CIBA-GEIGY CORPORATION ADDITIVES DIVISION SEVEN SKYLINE DRIVE HAWTHORNE, NEW YORK 10532 (914) 347-4700	EMERGENCY PHONE NUMBER: (800) 888-8372

SECTION I-IDENTITY INFORMATION

IDENTITY (TRADE NAME): IRGANOX 1076

FAMILY/CHEMICAL NAME:
OCTADECYL 3,5-DI-TERT-BUTYL-4-HYDROXYHYDROCINNAMATE
CAS REG. NO. (2082-79-3)
PRODUCT TYPE:
ANTIOXIDANT.
IMPORTANT:

PLEASE NOTE: REVISION 08 - SECTION IX REVISED.

X THIS MATERIAL WILL NOT BE SOLD FOR USE IN PRODUCTS X
X FOR WHICH PROLONGED CONTACT WITH MUCOUS MEMBRANES OR X
X ABRADED SKIN, OR IMPLANTATION WITHIN THE HUMAN BODY, IS X
X SPECIFICALLY INTENDED. BECAUSE OF THE WIDE RANGE OF X
X SUCH POTENTIAL USES, CIBA-GEIGY CORPORATION IS NOT ABLE X
X TO RECOMMEND THIS MATERIAL AS SAFE AND EFFECTIVE FOR X
X SUCH USES AND ASSUMES NO LIABILITY FOR ANY SUCH USES. X

HAZARD STATEMENT :

X THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN X
X PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD X
X COMMUNICATION STANDARD 29 CFR 1910.1200. X
X THIS PRODUCT IS NOT CONSIDERED TO BE A HAZARDOUS X
X CHEMICAL UNDER THAT STANDARD. X

SECTION II-HAZARDOUS INGREDIENTS

NONE KNOWN.

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SECTION III-PHYSICAL DATA

APPEARANCE:
WHITE TO OFF-WHITE, CRYSTALLINE POWDER.
ODOR:
ODORLESS.
BOILING POINT:
NOT DETERMINED.
MELTING POINT:
50-55C
DECOMPOSITION TEMPERATURE:
>220C.
EVAPORATION RATE:
NOT APPLICABLE.
PERCENT VOLATILE:
<1
VAPOR DENSITY:
NOT APPLICABLE.
VAPOR PRESSURE:
AT 20C, CA. 2×10^{-9} (MM HG)
SOLUBILITY IN WATER:
AT 25C, INSOLUBLE
PH:
NOT APPLICABLE.
SPECIFIC GRAVITY:
CA. 1.02 (H₂O = 1)

SECTION IV-FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:
523F (MARCUSSE)
FLAMMABLE LIMITS IN AIR-LOWER:
NOT DETERMINED.
FLAMMABLE LIMITS IN AIR-UPPER:
NOT DETERMINED.
NFPA CODE:
NONE.
EXTINGUISHING MEDIA:
CARBON DIOXIDE, FOAM, DRY CHEMICAL, WATER SPRAY.
FIRE FIGHTING PROCEDURES-SPECIAL:
USE SELF-CONTAINED BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
THE PRODUCT CAN FORM AN EXPLOSIVE DUST/AIR MIXTURE. AVOID
DUST FORMATION AND CONTROL IGNITION SOURCES; EMPLOY GROUND-
ING, VENTING AND EXPLOSION RELIEF PROVISIONS IN ACCORD WITH
ACCEPTED ENGINEERING PRACTICES IN PROCESS OPERATIONS CAP-
ABLE OF GENERATING DUST AND/OR STATIC ELECTRICITY.

SECTION V-REACTIVITY DATA

STABILITY:
STABLE.

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INCOMPATIBILITY:**STRONG OXIDIZING AGENTS.****HAZARDOUS DECOMPOSITION PRODUCTS:****THERMAL DECOMPOSITION AND BURNING MAY PRODUCE CARBON MONOXIDE AND CARBON DIOXIDE.****HAZARDOUS POLYMERIZATION:****WILL NOT OCCUR.**

SECTION VI-HEALTH HAZARD DATA

PRIMARY ROUTES OF EXPOSURE:**DERMAL, INGESTION, AND INHALATION.****THRESHOLD LIMIT VALUE:****NONE ESTABLISHED.****ORAL LD50:****(RATS) >10,000 MG/KG****INTRAPERITONEAL LD50:****(RATS) >1000 MG/KG****DERMAL LD50:****(RABBITS) >2000 MG/KG****SKIN IRRITATION:****(RABBITS) MINIMAL (DRAIZE SCORE 0.95/8)****PHOTOTOXICITY:****NEGATIVE.****EYE IRRITATION:****(RABBITS) MINIMAL (DRAIZE SCORE 4/110)****SENSITIZATION:****(GUINEA PIGS) CONSIDERED TO POSSESS NO SKIN SENSITIZING POTENTIAL.****RIPT (HUMANS) IN 4 SEPARATE STUDIES, A TOTAL OF 3 OF 183 SUBJECTS EXHIBITED REACTIONS INDICATIVE OF SENSITIZATION; CONCENTRATIONS RANGED FROM 25% IN PETROLATUM (25 SUBJECTS), 0.5% IN DIMETHYL PHTHALATE (58 SUBJECTS), TO NEAT MATERIAL (100 SUBJECTS).****INHALATION LC50:****(RATS) >1.8 MG/L AIR FOR A 4-HOUR DUST EXPOSURE WITH APPROX. 90% OF PARTICLES <7 MICRONS DIAMETER.****TERATOGENICITY:****(RATS) NO TERATOGENIC EFFECT SEEN.****(MICE) NO TERATOGENIC EFFECT SEEN.****MUTAGENICITY:****AMES TEST: NEGATIVE****DOMINANT LETHAL TEST (MOUSE): NO EVIDENCE OF A DOMINANT LETHAL EFFECT.****SIGNS AND SYMPTOMS OF EXPOSURE-ACUTE:****CAUTION!! MAY CAUSE IRRITATION TO SKIN, ESPECIALLY AFTER PROLONGED OR REPEATED EXPOSURE, AND ESPECIALLY IN BODY AREAS OF HEAVY PERSPIRATION, BASED UPON USE EXPERIENCE.****SIGNS AND SYMPTOMS OF EXPOSURE-CHRONIC:****NO IDENTIFIED HEALTH EFFECTS.****MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:****SKIN CONDITIONS.****EMERGENCY AND FIRST AID PROCEDURES-EYES:**

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FLUSH EYES WITH WATER FOR AT LEAST 15 MINUTES.
GET MEDICAL ATTENTION.
EMERGENCY AND FIRST AID PROCEDURES-SKIN:
WASH WITH MILD SOAP AND WATER.
EMERGENCY AND FIRST AID PROCEDURES-INGESTION:
IF CONSCIOUS, GIVE LARGE QUANTITIES OF WATER. GET
MEDICAL ATTENTION.
EMERGENCY AND FIRST AID PROCEDURES-INHALATION:
REMOVE TO FRESH AIR.
EMERGENCY AND FIRST AID PROCEDURES-OTHER:
REMOVE AND WASH CONTAMINATED CLOTHING PRIOR TO REUSE.

SECTION VII-SPILL OR LEAK PROCEDURES

SPILL PROCEDURES:
PREWET MATERIAL WITH WATER TO AVOID DUST FORMATION. SWEEP
OR VACUUM AND PLACE IN CLOSABLE CONTAINER FOR DISPOSAL.
WEAR PROTECTIVE EQUIPMENT SPECIFIED BELOW. FLUSH RESIDUE
WITH WATER.
WASTE DISPOSAL METHODS:
INCINERATE IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTER-
BURNER AND SCRUBBER. FOLLOW ALL FEDERAL, STATE AND LOCAL
REGULATIONS.
EFFLUENT DATA-BOD:
(STURM TEST) PARTIALLY BIODEGRADABLE.
SEWAGE BACTERIAL TOXICITY:
INHIBITORY CONCENTRATION ON RESPIRATION OF AEROBIC WASTE WATER
BACTERIA: IC20, IC50, IC80 >100 PPM
FISH TOXICITY:
BLUEGILL LC 50 (96 HOURS): >100 PPM
RAINBOW TROUT LC 50 (96 HOURS): >100 PPM
INVERTEBRATE TOXICITY:
DAPHNIA MAGNA EC50 (24 HOURS): >100 PPM

SECTION VIII-SPECIAL PROTECTION INFORMATION

VENTILATION:
USE LOCAL EXHAUST. GOOD VENTILATION IS REQUIRED TO
PREVENT DUST BUILDUP WHICH MAY RESULT IN WORKER IRRITATION.
PROTECTIVE GLOVES:
WEAR RUBBER OR PLASTIC GLOVES.
EYE PROTECTION:
WEAR SAFETY GLASSES OR GOGGLES.
RESPIRATORY PROTECTION:
USE NIOSH APPROVED DUST MASK.
OTHER PROTECTIVE EQUIPMENT:
WEAR COVERALLS.

SECTION IX-SPECIAL PRECAUTIONS

HMIS CODE:
HEALTH : 2 FIRE : 1 REACTIVITY : 0
HANDLING PRECAUTIONS:

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AVOID CONTACT WITH EYES AND PROLONGED OR REPEATED SKIN CONTACT. AVOID CONTINUOUS OR REPETITIVE BREATHING OF DUST. GOOD INDUSTRIAL ENGINEERING CONTROLS MUST BE EMPLOYED TO PREVENT EXCESS DUSTING IN THE WORK AREAS. DO NOT HANDLE IN SUCH A MANNER AS TO CAUSE EXCESSIVE DUSTING. USE ONLY WITH ADEQUATE VENTILATION. FOR INDUSTRIAL USE ONLY.

SHIPPING AND STORING PRECAUTIONS:
KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE AND DURING TRANSPORT.

PERSONAL HYGIENE:
WASH THOROUGHLY AFTER HANDLING.

SECTION X- REGULATORY INFORMATION

DOT PROPER SHIPPING NAME:
NOT REGULATED AS A HAZARDOUS MATERIAL BY THE U.S. DEPT. OF TRANSPORTATION (DOT) 49 CFR 172.101 HAZARDOUS MATERIALS TABLE.

DOT CLASS:
NONE.

DOT NUMBER:
NONE.

RCRA STATUS:
NOT A HAZARDOUS WASTE UNDER RCRA (40 CFR 261).

CERCLA STATUS:
NOT LISTED.

SARA/TITLE III - TOXIC CHEMICALS LIST:
THIS PRODUCT DOES NOT CONTAIN A TOXIC CHEMICAL FOR ROUTINE ANNUAL 'TOXIC CHEMICAL RELEASE REPORTING' UNDER SEC. 313 (40 CFR 372).

TSCA INVENTORY STATUS:
CHEMICAL COMPONENTS LISTED ON TSCA INVENTORY.

CALIFORNIA PROPOSITION 65:
THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS CURRENTLY ON THE CALIFORNIA LIST OF KNOWN CARCINOGENS AND REPRODUCTIVE TOXINS.

MASSACHUSETTS RIGHT-TO-KNOW ACT:
CONTAINS NO COMPONENTS ON THE MASSACHUSETTS LIST AT A THRESHOLD LEVEL.

NEW JERSEY RIGHT-TO-KNOW LABELING INFORMATION:
THIS PRODUCT CONTAINS THE FOLLOWING :

CHEMICAL NAME : OCTADECYL 3,5-DI-TERT-BUTYL-4-HYDROXYHYDROCI
NNAMATE
CAS NUMBER : 2082-79-3

PENNSYLVANIA RIGHT-TO-KNOW ACT:
THE FOLLOWING IS REQUIRED COMPOSITION INFORMATION.

CHEMICAL NAME : BENZENEPROPANDIC ACID, 3,5-BIS(1,1-DIMETHYLE
THYL)-4-HYDROXY-, OCTADECYL ESTER
CAS NUMBER : 2082-79-3
COMMON NAME : OCTADECYL 3,5-DI-TERT-BUTYL-4-HYDROXYHYDROCI

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COMMENTS NNAMATE; IRGANOX 1076
 , NOT ON PENNSYLVANIA HAZARDOUS SUBSTANCE LIST.
 * * *

ISSUE DATE: 04/05/90 REVISION: 09C
FOR FURTHER INFORMATION, PLEASE CONTACT: BRUCE SCHWEMMER

THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE
BASED UPON DATA BELIEVED TO BE CORRECT. HOWEVER, NO GUARANTEE
OR WARRANTY OF ANY KIND EXPRESSED OR IMPLIED IS MADE WITH
RESPECT TO THE INFORMATION CONTAINED HEREIN.

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PRODUCT SAFETY DATA SHEET



TRADE NAME ESSO S.A.F. 2, Rue des Martinets 92569 RUEIL MALMAISON CEDEX	Presentation and rules of drafting complying to the standard NF T 01-100 SPECIFIC RISKS
1 IDENTIFICATION 1.1 Commercial name : 1.2 Supplier 1.3 Types of use (for other information, see the technical sheet) 1.4 Other data :	PLASTOL 135 ESSO S.A.F. Telex : 770827 F Tel. : 35.74.70.49 Extender for elastomers and plastics None
2 CHEMICAL CONSTITUTION OF THE PRODUCT (components or impurities contributing to hazard : Other data :	Solvent extracted and hydrogenated paraffinic mineral oil None None
3 PHYSICAL PROPERTIES 3.1 Physical state : 3.2 Characteristic temperature : 3.3 Solubility : 3.4 pH : 3.5 Vapour pressure : 3.6 Density : 3.7 Other data :	Liquid, colourless, odourless Initial boiling point : 330°C Insoluble in water N.A. at 20°C : < 0.1 mbar (10 Pa) 862 kg/m ³ at 15°C Viscosity at 40°C : 25 mm ² /s
4 STORAGE AND HANDLING 4.1 Precautions during storage and handling : 4.2 Materials for packaging or bottling : 4.3 Hazardous reactions with : 4.4 Hazardous decomposition products : 4.5 Individual protective measures : 4.6 Special protective measures : 4.7 Measures after spillage or leakage : 4.8 Other recommendations :	Do not store with flammable products . Keep containers closed when not in use . Take extreme care to avoid contamination by other products and material. Only use hydrocarbon - resistant materials Strong oxidants (liquid chlorine, concentrated oxygen). Product does not decompose at ambient temperature. Wear safety glasses. None Recover by pumping and/or with suitable absorbents and incinerate absorbed material under controlled conditions ensuring conformity with local disposal regulations. Do not use dispersants in case of risk of contamination of the environment

Name of product : PLASTOL 135

2 <u>IGNITION AND EXPLOSION</u> 5.1 Flash point : 5.2 Self-ignition temperature : 5.3 Special fire and explosion hazards : 5.4 Extinguishing media : 5.5 Special fire protective measures : 5.6 Other recommendations :	> 200°C (open cup) > 250°C Carbon dioxide - Carbon monoxide and smoke in the event of incomplete combustion. Foam - carbon dioxide - dry chemical powder. Use supplied - air respiratory protection for fire fighting personnel exposed to fumes or smoke Avoid heat sources, open flames and other sources of ignition.
6 <u>TOXICOLOGICAL INFORMATION</u>	- <u>Inhalation</u> : No hazard in normal industrial use. - <u>Ingestion</u> : No hazard in normal industrial use. - <u>Skin contact</u> : Not considered to be a hazard. - <u>Eye contact</u> : Not considered to be a hazard. - <u>Occupational Exposure Limit</u> : 5 mg/ m3 for oil mist (TWA, 8h - workday) recommended based upon the ACGIH TLV.
7 <u>FIRST AID PROCEDURES</u>	- <u>Inhalation</u> : at ambient / normal handling temperatures (0-35°C) no adverse effects due to inhalation of vapour are expected - <u>Ingestion</u> : No adverse effects due to ingestion are expected. - <u>Skin contact</u> : No adverse effects due to skin contact are expected. - <u>Eye contact</u> : No adverse effects due to eye contact are expected.
8 <u>ECOLOGICAL INFORMATION</u>	- <u>Waste disposal</u> : Incinerate absorbed material under controlled conditions. - <u>General</u> : Must be disposed and ensure conformity with local disposal regulations
9 <u>SPECIAL INFORMATION</u> - Steps in case of Accidental Release	- <u>LAND SPILL</u> : Prevent liquid from entering sewers, water courses or low areas. Shut off source taking normal safety precautions. Advise relevant authorities if material has entered a water course or sewer or has contaminated soil or vegetation. Take measures to minimise the effects on the ground water. Recover by skimming/pumping (use explosion-proof device) or contain spilled liquid with booms/sand or other suitable absorbents and remove mechanically into containers. - <u>WATER SPILL</u> : Warn other shipping. Notify port or other relevant authorities. Confine if possible with booms. Remove from surface by skimming or with suitable absorbents. If allowed by local authorities and environmental agencies, sinking and/or suitable dispersants may be used if non-confined waters.
<i>This sheet completes the technical sheet of use but does not replace it. The information contained in this sheet are based on our knowledge of the product at the date JULY 3 1992.</i> <i>They are given quite sincerely. Moreover the attention of the users is drawn on the risks possibly taken when a product is used for other uses than those for which it is intended.</i>	



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EXXON CHEMICAL COMPANY POLYMERS GROUP • P.O. BOX 3272, HOUSTON, TEXAS 77001
A Division of EXXON CORPORATION

10/20/87

NO. 0W150000

SECTION I PRODUCT IDENTIFICATION & EMERGENCY INFORMATION

PRODUCT NAME**POLYMER MODIFIED ASPHALT****CHEMICAL NAME**

Polymer Modified Petroleum Asphalt

CHEMICAL FAMILY

Petrochemical polymers blended with asphalt

PRODUCT APPEARANCESemi-solid when cold, viscous fluid when hot; black color
Characteristic asphaltic odor**EMERGENCY TELEPHONE NUMBERS:** EXXON CHEMICAL COMPANY
CHEMTREC713-870-6000
800-424-9300

SECTION II HAZARDOUS INGREDIENT INFORMATION

This product is hazardous as defined in CFR1910.1200.

OSHA HAZARD

ACGIH TLV

ACGIH TLV

For additional information see Section III.

SECTION III HEALTH INFORMATION AND PROTECTION

NATURE OF HAZARD

EYE CONTACT:

Exposure to hot material may cause thermal burns.

SKIN CONTACT:

Exposure to hot material may cause thermal burns.

INHALATION:

High vapor concentrations are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects.

Highly toxic at high Hydrogen Sulfide concentrations.

INGESTION:

No hazard in normal industrial use.

FIRST AID

EYE CONTACT:

Immediately flush eyes with large amounts of water for at least 15 minutes. Get prompt medical attention.

SKIN CONTACT:

For hot product, immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention.

For hot product, no attempt should be made to remove material from skin or to remove contaminated clothing, as the damaged flesh can easily be torn.

INHALATION:

Using proper respiratory protection, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest. Call for prompt medical attention.

INGESTION:

THIS INFORMATION RELATES TO THE SPECIFIC MATERIAL DESIGNATED AND MAY NOT BE VALID FOR SUCH MATERIAL
OTHER MATERIALS OR IN ANY PROCESS. SUCH INFORMATION IS TO THE BEST OF OUR KNOWLEDGE AND BELIEF. ACC-
DATE COMPILED. HOWEVER, NO REPRESENTATION, WARRANTY OR GUARANTEE IS MADE AS TO ITS ACCURACY, RELIAB-
THE USER'S RESPONSIBILITY TO SATISFY HIMSELF AS TO THE SUITABILITY AND COMPLETENESS OF SUCH INFORMA-
USE. WE DO NOT ACCEPT LIABILITY FOR ANY LOSS OR DAMAGE THAT MAY OCCUR FROM THE USE OF THIS INFORMATION. WE DO NOT OFFER WARRANTY
AGAINST PATENT INFRINGEMENT.

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POLYMER MODIFIED ASPHALT

NO. 0W150000

WORKPLACE EXPOSURE LIMITS**THE ACGIH RECOMMENDS THE FOLLOWING OCCUPATIONAL EXPOSURE LIMIT:**a TWA of 5 mg/m³ for Asphalt (petroleum) fumes.A TWA of 10 ppm (14 mg/m³), and a STEL of 15 ppm (21 mg/m³) for Hydrogen Sulfide.**PRECAUTIONS****SPECIAL PRECAUTIONS**

Contact with this product at warm or ambient temperatures may cause eye irritation but will not damage eye tissue. First Aid is to flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.

Prolonged or repeated contact with this product at warm or ambient temperatures may cause skin irritation and dermatitis. First Aid is to flush with large amounts of water; use soap if available.

Under certain circumstances sulfur compounds in hot product may form hydrogen sulfide (H₂S) gas. Cooling product may continue to emit traces of H₂S temporarily from entrapped or dissolved gases. H₂S is a colorless, toxic and extremely flammable gas with an odor at low concentrations characteristic of rotten eggs and a sweetish odor at high concentrations. Odor cannot be relied upon as a means of detection because the sense of smell rapidly becomes insensitive to H₂S, and the H₂S odor may be masked by the general odor of hot product. Because H₂S may accumulate in tanks and bulk transport compartments, personnel should stand upwind, keep their faces at least two feet from compartment openings and avoid breathing vapors when opening hatches and dome covers. (In a large number of tests, permissible concentrations in the breathing zone were not exceeded by following this procedure.)

Prolonged breathing of 50 to 100 ppm of H₂S may produce eye and respiratory tract irritation, headache, nervousness and nausea, and only a few breaths of high concentrations (e.g. 700 to 1000 ppm) may lead to unconsciousness and could be fatal.

PERSONAL PROTECTION

For open systems where contact is likely, wear chemical resistant gloves, a chemical suit, rubber boots, and chemical safety goggles plus a face shield.

Where contact may occur, wear long sleeves, chemical resistant gloves, chemical goggles, and a face shield.

Where contact may occur with hot materials, wear thermal resistant gloves, arm protection and a face shield.

Where concentrations in air may exceed the limits given in this Section and engineering, work practice or other means of exposure reduction are not adequate, NIOSH/MSHA approved respirators may be necessary to prevent overexposure by inhalation.

VENTILATION

Local exhaust ventilation of process equipment may be needed to control particulate exposures to below the recommended exposure limit. See personal protection recommendations.

SECTION IV FIRE & EXPLOSION HAZARD**FLASHPOINT:** Greater than 350 DEG F METHOD: COC**FLAMMABLE LIMITS:** Not available**AUTOIGNITION TEMPERATURE:** Greater than 500 DEG FDO 085447
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GENERAL HAZARD

Solid material, may burn at or above the flashpoint, and airborne dust may explode if ignited.
If thermally decomposed, flammable/toxic gases may be released.
Toxic gases will form upon combustion.
Static Discharge, material can accumulate static charges which can cause an incendiary electrical discharge.

FIRE FIGHTING

Use water spray to cool fire exposed surfaces and to protect personnel.
Isolate "fuel" supply from fire.
Respiratory and eye protection required for fire fighting personnel.
Do not use water on fire, due to potential evolution of toxic fumes or dangerous reactions.
Avoid spraying water directly into storage containers due to danger of boilover.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS

Incomplete combustion: fumes, CO, H₂S, sulfur oxides, and aldehydes

SECTION V SPILL CONTROL PROCEDURE**LAND SPILL**

Eliminate sources of ignition. Prevent additional discharge of material, if possible to do so without hazard. For small spills implement cleanup procedures; for large spills implement cleanup procedures and, if in public area, keep public away and advise authorities. Also, if this product is an EPA hazardous substance (See Section X, Page 4) notify the U.S. EPA if appropriate.
Recover spilled material and place in suitable containers for recycle or disposal.
Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

WATER SPILL

Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

SECTION VI NOTES**HOT ASPHALT FLASH WARNING**

Studies have shown that relatively low flash point substances, such as hydrogen sulfide and low-boiling hydrocarbons, may accumulate in the vapor space of hot asphalt tanks and bulk transport compartments. Such vapors may exhibit flammability characteristics of a significantly lower flash point product than would be indicated by the open cup flash test. As a precaution, keep ignition sources away from vents and openings, including prevention of accumulation of pyrophoric iron sulfide. Asphalt Institute Publication IS-180 and American Petroleum Institute Publication 852-20230 contain further information and guidance on the safe storage and handling of hot asphalt.

SECTION VII REGULATORY INFORMATION**TSCA:**

This product is listed on the TSCA Inventory.

CERCLA:

Under the Comprehensive Response, Compensation, and Liability Act, (CERCLA), certain releases to air, land, or water may be reportable to the National Response Center at 800-424-8802. Circumstances surrounding the release and cleanup determine reportability.

This product is not subject to CERCLA reporting requirements.

SARA TITLE III:

Under the provisions of Title III, Sections 311/312 of the Superfund Amendments and Reauthorization Act, this product is classified into the following hazard categories:
Immediate health, Delayed Health.

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SECTION VIII TYPICAL PHYSICAL & CHEMICAL PROPERTIES

SP. GRAVITY 1.00-1.05 @ 60	REF. TEMP., °F	VAPOR PRESSURE, mmHg at °F 0.1 at 68	Less than
SOLUBILITY IN WATER, WT. % at °F Insoluble		VISCOSITY OF LIQUID, cST at °F 6,000 at 375	Maximum
SP. GRAVITY OF VAPOR, at 1 ATM AIR-1 Not Available		FREEZING MELTING POINT/RANGE, °F Not Available	
EVAPORATION RATE, n-BU ACETATE-1 Less than 0.01		BOILING POINT/RANGE, °F 900 Initial Boiling Point	

SECTION IX REACTIVITY DATA

STABILITY? Stable	HAZARDOUS POLYMERIZATION OCCUR? Will not occur
CONDITIONS TO AVOID INSTABILITY Strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite or calcium hypochlorite	CONDITIONS TO AVOID HAZARDOUS POLYMERIZATION Not applicable

MATERIALS AND CONDITIONS TO AVOID INCOMPATIBILITY Hot product in contact with water can cause foaming or sudden evolution of steam which could cause pressure build-up and possible rupture a tank or vessel. H2S from product can react with iron to form pyrophoric products.
HAZARDOUS DECOMPOSITION PRODUCTS H2S and low-boiling hydrocarbons

SECTION X TRANSPORT AND STORAGE

U.S. DOT CLASSIFICATION ORM-C above Flash Point	UN NUMBER
ELECTROSTATIC ACCUMULATION HAZARD Yes, use proper grounding procedure	
STORAGE TEMPERATURE, °F Not available	LOADING/UNLOADING TEMPERATURE, °F Not available
STORAGE/TRANSPORT PRESSURE, mmHg Not available	VISCOSITY AT LOADING/UNLOADING TEMPERATURE, cST Not available

SECTION XI OTHER INFORMATION

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REFERENCE NUMBER MDHA-D-11011	DATE PREPARED JUNE 16, 1988	SUPERCEDES ISSUE DATE OCTOBER 20, 1987
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FOR ADDITIONAL PRODUCT INFORMATION CONTACT YOUR TECHNICAL SALES REPRESENTATIVE
FOR ADDITIONAL HEALTH/SAFETY INFORMATION CALL 713-870-6885