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INITIAL SUBMISSION: MATERIAL SAFETY DATA SHEET ON SANTOFLEX 14 ANTIOZONANT WITH COVER LETTER DATED 01/11/84			
Chemical Category			
SANTOFLEX 14 ANTIOZONANT			

INIT 07/14/94



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Monsanto

#012484(16)

12-447A

MONSANTO POLYMER PRODUCTS CO.
800 N. Lindbergh Boulevard
St. Louis, Missouri 63167
Phone: (314) 694-1000

January 11, 1984

Mr. Martin Greif
Executive Secretary
TSCA Interagency Testing Committee
Environmental Protection Agency (TS-792)
401 "M" Street, SW
Washington, DC 20460

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Dear Sir:

This letter is in response to the ITC listing of N-(1,4-dimethylpentyl)-N'-phenyl-1,4-benzenediamine, CAS #3081-01-4, in the Federal Register of Wednesday, November 9, 1983, page 51520. Monsanto manufacturers this chemical under the trade name SANTOFLEX® 14 antiozonant. The chemical is also called 7PPD and will be so referred to in the following statements.

Acute toxicologic effects have been investigated by Monsanto, and have found to be relatively minor. Specifically, the oral LD₅₀ (Rats) is 2,100 mg/kg, or Slightly Toxic. The acute dermal LD₅₀ (Rabbit) is greater than 5,010 mg/kg, or Practically Nontoxic. Acute eye irritation (Rabbit) for 7PPD is 3.5 on a scale of 110.0 (FHSA), Practically Non-irritating, and the acute skin irritation (Rabbit) is 0.0 on a scale of 8.0 (FHSA), Practically Non-irritating.

In vapor inhalation tests run on rats, 0 out of 4 animals died when exposed to 0.2 mg/l of 7PPD in air for six hours at 76.5°F.

Human patch testing of 87 volunteers with 7PPD produced no positive reactions following initial application, any of 10 alternate day serial applications or on subsequent challenge two weeks later. 7PPD was not considered a primary irritant, a cumulative skin irritant nor a sensitizing agent.

7PPD was evaluated in the L5178TK mouse lymphoma mutation assay and microbial mutagenicity assays. The microbial assays used five Salmonella strains and one Saccharomyces yeast strain. No mutagenic effects were demonstrated.

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Dr. Martin Graif

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January 11, 1984

7PPD is used as a rubber antioxidant and antioxidant primarily for the production of vehicles tires. It is generally understood that antioxidants and antioxidants are chemically changed during their process protecting the rubber matrix during use.

7PPD is used primarily by sophisticated manufacturers who recognize the need for employee personal protective devices and processes designed to protect workers. The cost of 7PPD is high enough to motivate manufacturers to avoid spills and conserve material for process use as much as possible.

To illustrate the extent to which rubber chemical manufacturers are informing workers about safety and handling of 7PPD, enclosed is a Monsanto Material Safety Data Sheet covering this product.

Monsanto will be pleased to provide you with copies of toxicologic test results upon request.

Sincerely,

Bernard J. Hill (na)

Bernard J. Hill
Product Acceptability Manager
Rubber Chemicals

Enclosure

DRAFT

MONSANTO PRODUCT NAME

SANTOFLEX[®] 14 ANTIOZONANT

MONSANTO COMPANY
800 N. LINDBERGH BLVD.
ST. LOUIS, MO 63167
EMERGENCY PHONE NO.
(CALL COLLECT)
314-694-1000

DRAFT

PRODUCT IDENTIFICATION

Synonyms: N-(1,4-Dimethylpentyl) -N'-phenyl-p-phenylenediamine
1,4-Benzenediamine, N-(1,4-dimethylpentyl)-N'-phenyl
CAS No.: 3081-01-4
DOT Proper Shipping Name: Not Applicable
DOT Hazard Class/I.D. No.: Not Applicable
DOT Label: Not Applicable
Hazardous Substance(s)/RQ(s): Not Applicable
U.S. Surface Freight Classification: Rubber Preservative, N.O.I.B.N.

WARNING STATEMENTS

WARNING!
HOT MATERIAL CAUSES THERMAL BURNS TO EYES AND SKIN

PRECAUTIONARY MEASURES

Avoid prolonged contact with skin.
Avoid contact with hot liquid.
Avoid breathing vapor.
Wash thoroughly after handling.

Emptied container retains vapor and product residue. Observe all labelled safeguards until container is cleaned, reconditioned or destroyed.

EMERGENCY AND FIRST AID PROCEDURES

FIRST AID: IF IN EYES, flush eyes with plenty of running water for at least 15 minutes.

IF ON SKIN, wash skin thoroughly with soap and water.

IF SPLASHED by hot material, cool skin quickly with water, use first aid for burns and call a physician.

OCCUPATIONAL CONTROL PROCEDURES

Eye Protection: SANTOFLEX[®] 14 antioxidant does not present significant eye irritation or eye toxicity requiring special protection.

Skin Protection: Wear appropriate impervious gloves and protective clothing to prevent skin contact. Launder contaminated clothing and clean protective equipment before re-use. Wash hands and contaminated skin thoroughly after handling.

Respiratory Protection: Use NIOSH approved equipment when airborne exposure is excessive. Consult respirator manufacturer to determine appropriate type equipment for given application.

Ventilation: Provide sufficient ventilation to minimize exposure. Local exhaust ventilation is preferred.

Airborne Exposure Limits:

Product: N-(1,4-Dimethylpentyl)-N'-phenyl-p-phenylenediamine w.t. % 100

OSHA PEL: None established
ACGIH TLV: None established

FIRE PROTECTION INFORMATION

Flash Point: 386°F

Method: Tag Open Cup

Extinguishing Media: Water spray, foam, dry chemical, CO₂ or any Class B extinguishing agent.

Special Firefighting Procedures: Full protective equipment, including a pressure demand self-contained breathing apparatus, is recommended to protect firefighters. Nitrogen oxides and carbon monoxide are liberated as toxic decomposition products when SANTOFLEX 14 is ignited. If exposed to fire, keep containers cool by spraying with water, to prevent ignition.

REACTIVITY DATA

Thermally stable to 295°C.

Materials to Avoid: Strong oxidizing agents such as chlorine, hydrogen peroxide.

Hazardous Decomposition Products: If strongly heated, this material may catch fire and release toxic nitrogen oxides and carbon monoxide.

Hazardous Polymerization: Does not occur.

SANTOFLEX[®] 14 ANTIOZONANT

MONSANTO MATERIAL SAFETY DATA

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PHYSIOLOGICAL EFFECTS SUMMARY

Oral LD₅₀ (Rat): 2,100 mg/kg, Slightly Toxic
Dermal LD₅₀ (Rabbit): >5,010 mg/kg, Practically Nontoxic
Eye Irritation (Rabbit): (FHSA) 3.5 on a scale of 110.0, Practically Nonirritating
Skin Irritation (Rabbit): (FHSA) 0.0 on a scale of 8.0, Practically Nonirritating
Vapor Inhalation (Rat): 0 out of 4 animals died when exposed to 0.2 mg/l air
SANTOFLEX 14 antiozonant for 6 hours at 76.5°F

Patch testing of 87 human volunteers with SANTOFLEX 14 produced no positive reactions following initial application, any of 10 alternate day serial applications or on subsequent challenge two weeks later. SANTOFLEX 14 is not considered a primary irritant, a cumulative skin irritant or a sensitizing agent.

SANTOFLEX 14 was evaluated in the L5178TK mouse lymphoma mutation assay and in microbial mutagenicity assays. The microbial assays used five Salmonella strains and one Saccharomyces yeast strain. No mutagenic effects were demonstrated.

PHYSICAL DATA

Appearance and Odor: Dark oil, slight aromatic odor (white solid when purified)
Boiling Point @ 0.14 mm Hg: 185.5°C
Viscosity @ 50°C, SUS: 282 sec.
@ 75°C, SUS: 84 sec.
Crystallizing Point: 44-50°C
Solubility in Water: Insoluble
in Acetone: Soluble
Specific Gravity @ 60°C: 0.920

NOTE: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

SPILL, LEAK & DISPOSAL INFORMATION

Waste Disposal: Dispose of this material in a chemical landfill which complies with all applicable local, state and federal laws and regulations.

Spill or Leakage Procedures: Absorb on sawdust, sand or clay. Shovel up or vacuum up and place in clean containers for disposal. Contaminated area should be washed. Keep this material out of sewers, watersheds and water systems.

Containers: Dispose of containers in a chemical landfill which complies with all applicable local, state and federal laws and regulations.

SANTOFLEX[®] 14 ANTIOZONANT

MONSANTO MATERIAL SAFETY DATA

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ADDITIONAL COMMENTS

Do not store this material above 60°C. Use nitrogen blanket when bulk storage at maximum temperature will be greater than one month. Storage area should be dry and protected from excessive heat to prevent product degradation. Keep containers sealed.

Environmental Toxicity Information:

96-hr LC₅₀ Rainbow Trout: 0.49 mg/l, Highly Toxic
96-hr LC₅₀ Bluegill: 0.42 mg/l, Highly Toxic
48-hr LC₅₀ Daphnia: 0.20 mg/l, Highly Toxic

DATE 7/10/81

REVISED 11/83

SUPERSEDES

MSDS NUMBER 003081014

FOR ADDITIONAL NON-EMERGENCY INFORMATION, CONTACT:

Manager, Product Acceptability
Monsanto Polymer Products Company
Rubber Chemicals Division
(314)-694-1000

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This form has been approved by the Occupational Safety and Health Administration as "equivalent to" OSHA Form 20.

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CERTIFICATE OF AUTHENTICITY

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