



Material Safety Data Sheet

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: SANTOFLEX® 77PD
MSDS NO. FLXP0037
Chemical Name: N,N'-Bis(1,4-dimethylpentyl)-p-phenylenediamine
Synonyms: Santoflex 77; 77PD; 1,4-Benzenediamine, N,N'-bis(1,4-dimethylpentyl)-
Use: Antidegradant
Manufactured By: Flexsys America L.P. 260 Springside Drive Akron OH 44333-2433 USA

Emergency Telephone: CHEMTREC: 1-800-424-9300 [TOLL FREE - USA and Territories]
703-527-3887 [ELSEWHERE - Collect Calls Accepted]
CANUTEC: 613-996-6666 [Canada]
SETIQ: 91-800-00-214 [Mexico]

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2. HAZARDS IDENTIFICATION

Emergency Overview: WARNING! May irritate the eyes. May irritate the skin.
Eye Contact: Mild Eye Irritation: signs/symptoms can include redness, swelling, pain and tearing. May irritate eyes.
Skin Contact: May cause an allergic skin reaction. Contact with skin causes unsightly stains. Mild Skin Irritation (after prolonged or repeated contact): sign/symptoms can include redness, swelling and itching.
Inhalation: Inhalation of mist will irritate mucous membranes.
Ingestion: Illness may occur after a single swallowing of relatively large quantities of this material.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
N,N'-Bis(1,4-dimethylpentyl)-p-phenylenediamine	3081-14-9	> 97

4. FIRST AID MEASURES

In Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
On Skin: Wash with soap and water. Remove contaminated clothing and launder before reuse. Destroy or properly dispose of contaminated shoes. Get medical attention if irritation persists. NOTE: This material may stain or discolor the skin.
Inhaled: Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get immediate medical attention. If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

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4. FIRST AID MEASURES

Swallowed:	If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person. Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration. Never give fluids or induce vomiting if the victim is unconscious or having convulsions.
Notes To Physician:	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flash Point (°F/C):	360°F / 182°C
Flash Point Method:	Cleveland Open Cup
Autoignition Temp. (°F/C):	Not Determined.
Lower Explosion Limit (LEL):	Not Determined.
Upper Explosion Limit (UEL):	Not Determined.
Extinguishing Media:	Use water fog, carbon dioxide, foam or dry chemical.
Special Exposure Hazards:	Fight fire from a safe distance and from a protected location. Use water spray to cool fire exposed surfaces. Decomposition in fire may produce toxic gases. Do not allow runoff to enter waterways.
Special Protective Equipment:	Fire fighters should wear full impervious protective clothing, including self-contained breathing equipment.
Unusual Fire/Explosion Hazards:	Toxic emissions may result if product is involved in a fire.

6. ACCIDENTAL RELEASE MEASURES

Spill Procedures:	Wear impervious personal protective equipment to protect eyes, skin and clothing. Absorb liquid with inert materials. Scoop, sweep or shovel solids and place in a closed container for proper disposal.
Procedure for Cleaning/Absorption:	Isolate spill and stop leak where safe. Contain liquid spills with sand or other inert materials. Scoop up and remove solids. Do NOT spread spilled product with water. Spilled material may stain and discolor surfaces.
CERCLA Reportable Quantity (RQ):	Not Applicable

7. HANDLING AND STORAGE

Handling:	Avoid contact with skin and eyes. Keep away from food and smoking materials. Good hygienic practices should be observed. Work clothes should be washed separately at the end of each work day. Disposable clothing should be discarded with material. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Do not reuse this container. Reclose containers of unused product. Keep containers tightly closed when not in use.
Storage:	Store closed containers in a cool, dry, well-ventilated area. Store away from strong oxidizing materials. Avoid exposure to direct sunlight. Storage at temperatures above 60° C for extended periods of time is NOT recommended.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Eye Protection:	Wear safety glasses or goggles to protect against exposure. Wear eye protection appropriate to handling activities. Employees should wear appropriate protective (impervious) clothing and gloves when contact with material.
Skin Protection:	Normal work coveralls. Launder contaminated clothing before reuse. Discard contaminated shoes. This material can stain and discolor skin.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Gloves:	Use gloves as a standard industrial handling procedure. Appropriate chemical resistant gloves should be worn. Latex, butyl or nitrile rubber gloves are acceptable. Consult glove manufacturer for best type of glove for specific tasks.
Respiratory Protection:	Appropriate respiratory protection shall be worn when applied engineering controls are not adequate to protect against inhalation exposure.
Ventilation:	General; local exhaust ventilation as necessary to control any air contaminants to within their exposure limits during the use of this product. Use local exhaust to control to recommended P.E.L.
Airborne Exposure Limits:	Not Determined.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Reddish brown oily liquid
Odor:	AROMATIC
pH:	Not Applicable.
Specific Gravity:	0.9 kg/m ³ @ 27°C
Density:	0.9
Bulk Density:	Not Determined
Melting Point (°F/C):	-33°F / -36°C
Boiling Point (°F/C):	361°F / 183°C @ 1mm Hg
Vapor Pressure:	0.06 Torr @ 147°C 0.19 Torr @ 160°C 0.88 Torr @ 180°C 3.2 Torr @ 200°C
Vapor Density (Air=1):	Not Determined
% Volatile by Volume:	Not Determined
Solubility in Water:	<1g/l @ 25°C; 21 ppm at pH 5 @ 22°C, 0.8 ppm at pH 9 @ 22°C
Other Solubility:	Soluble in: Acetone Ethanol Benzene Naphtha
Viscosity:	322 SUS @ 24.5°C 25 SUS @ 100°C
Other Data:	Crystallizing Point 32.4°C.
Molecular Weight:	304.52
Molecular Formula:	C20-H36-N2

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable under normal conditions of handling, use and transportation. Stable if protected from heat and exposure to air.
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	Avoid contact with strong oxidants such as liquid chlorine and concentrated oxygen. Contact with air. Avoid prolonged storage at temperatures above 60° C.
Materials to Avoid:	Strong oxidizers
Hazardous Decomposition Products:	Oxides of nitrogen. Carbon monoxide.
Additional Guidelines:	Not Applicable

11. TOXICOLOGICAL INFORMATION

Acute Oral LD50 (mg/kg):	730 mg/kg (Rat)
Acute Dermal LD50 (mg/kg):	>3160 mg/kg (Rabbit)
Acute Inhalation LC50 (mg/l):	Not Determined. Compound did not volatilize under test conditions.
Target Organs / Principle Routes of Exposure:	Dermal - skin. Inhalation. TARGET ORGANS or SYSTEMS: Blood. Liver.
Ingestion:	Illness may occur after a single swallowing of relatively large quantities of this material.

11. TOXICOLOGICAL INFORMATION

Skin Contact:	May cause an allergic skin reaction. Contact with skin causes unsightly stains. Mild Skin Irritation (after prolonged or repeated contact): sign/symptoms can include redness, swelling and itching.
Inhalation:	Inhalation of mist will irritate mucous membranes.
Eye Contact:	Mild Eye Irritation: signs/symptoms can include redness, swelling, pain and tearing. May irritate eyes.
Aggravated Conditions:	Dermal ailments. Blood disorders. This material or its emissions may cause an allergic or sensitization reaction and thereby aggravate systemic disease. Liver disorders.
Carcinogenicity Comment:	This product, or one of its ingredients present at 0.1% or more, is NOT listed as a carcinogen or suspected carcinogen by NTP, IARC or OSHA.
Other Information:	Decomposition products and fumes from vulcanization and cross-linking may cause eye, skin and respiratory sensitization. May be a skin sensitizer.
Primary Irritation Effect:	Practically non-irritating
Carcinogenicity:	Negative in standard tests using bacteria and/or yeast cells.
Genotoxicity:	Negative for genetic activity - in vitro tests. Negative for genetic activity - in vivo tests.
Reproductive/Developmental Toxicity:	No birth defects observed in several animal studies.

12. ECOLOGICAL INFORMATION

Acute Fish Toxicity:	96Hr LC50 Rainbow Trout: 32 mg/l 96Hr LC50 Bluegill Sunfish: 182 mg/l 96Hr LC50 Fathead Minnow: 0.28 mg/l
Acute Crustaceans Toxicity:	48Hr LC50 Daphnia Magna: 0.37 mg/l
Acute Algae Toxicity:	96Hr EC50 Algae: 52 mg/l
Octanol/Water Coefficient:	5.34 log P
Chemical Fate Information:	Biodegradation (CO2 Evolution): 50% Photolysis: T(1/2) = 2 hours
Other Information:	Rapid degradation via hydrolysis: 97% after 24 hours at pH 7.0 @ 25°C. Tests indicate this material will not bioaccumulate or persist in the environment.

13. DISPOSAL CONSIDERATIONS

Disposal of Waste Method:	This product is not regarded as hazardous waste. Dispose in accordance with local regulations. Incineration recommended in approved incinerator according to federal, state, and local regulations.
Contaminated Packaging:	If empty container retains product residues, all label precautions must be observed. Transport with all closures in place. Return for reuse or dispose according to national or local regulations. Do NOT reuse container.

14. TRANSPORT INFORMATION

DOT:	Not Regulated
DOT Reportable Quantity (lbs):	None
ICAO/IATA:	See DOT
IMDG:	See DOT
Marine Pollutant:	Not Regulated
TDG (Canada):	See DOT
Remarks:	None

15. REGULATORY INFORMATION

Worldwide Inventory Status

USA (TSCA):	Listed
	FLXP0037

15. REGULATORY INFORMATION

Canada (DSL):	Listed
Canada (NDSL):	Not Applicable. Listed on the DSL.
European Union (EINECS/ELINCS):	Listed
Japan (ENCS):	Listed
Korea (ECL):	Listed
Australia (AICS):	Listed
New Zealand (NZ):	Listed
Phillipines (PICCS):	Listed
China (CLECS):	Listed.

US Regulatory Rules

SARA Section 302:	Not Applicable / None
SARA 311/312 Hazard Categories:	Immediate
SARA 313 Chemical:	Not Applicable / None
RCRA Status:	Not a RCRA waste.

Other Regulations:

California Proposition 65:	NONE
New Jersey Right-to-Know List:	Not Applicable.
Pennsylvania Right to Know List:	Listed
Florida Right to Know:	Not Applicable.
Minnesota Right to Know:	Not Applicable
Massachusetts Right to Know Law:	Listed
FDA Status 21 CFR:	Not Regulated For Use in food contact applications under 21 CFR.

Canadian Regulations

WHMIS Hazard Class:	NON-CONTROLLED
NPRI:	Not Applicable [Canada]

16. OTHER INFORMATION

Hazard Rating Systems:

HMIS Classification:	HEALTH 2, FLAMMABILITY 1, REACTIVITY 0
NFPA Rating:	HEALTH 1, FLAMMABILITY 1, REACTIVITY 0

The following has been revised since the last issue of this MSDS: New MSDS format.

Additional Information: Not Applicable

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END OF MSDS

FLXP0037