

SECTION 1: Identification

1.1. Identification

Product form	: Substance
Substance name	: WESTCO 6PPD
Chemical name	: N-1,3-dimethylbutyl-N'-phenyl-p-phenylenediamine
Synonyms	: Antioxidant 6PPD

1.2. Recommended use and restrictions on use

Recommended use	: Manufacture of rubber products
Restrictions on use	: No additional information available

1.3. Supplier

Western Reserve Chemical Corporation
4837 Darrow Road
Stow, OH 44224 - USA
T 330 650 2244 - F 330 650 2255
www.wrchem.com

1.4. Emergency telephone number

Emergency number : CHEMTREC 1 800 424 9300 USA

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS classification

Acute toxicity (oral), Category 4 H302 Harmful if swallowed.
Skin sensitisation, Category 1 H317 May cause an allergic skin reaction.
Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labelling

Hazard pictograms (GHS) :



Signal word (GHS)	: Warning
Hazard statements (GHS)	: H302 - Harmful if swallowed. H317 - May cause an allergic skin reaction.
Precautionary statements (GHS)	: P261 - Avoid breathing dust. P264 - Wash hands, forearms and face thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. P272 - Contaminated work clothing must not be allowed out of the workplace. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell. P302+P352 - If on skin: Wash with plenty of water. P321 - Specific treatment (see supplemental first aid instruction on this label). P330 - Rinse mouth. P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P363 - Wash contaminated clothing before reuse. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS_US)

Not applicable

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SECTION 3: Composition/information on ingredients

3.1. Substances

Name : WESTCO 6PPD

Name	Product identifier	%	GHS classification
N-(1,3-dimethylbutyl)-N'-phenyl-p-phenylenediamine	(CAS-No.) 793-24-8	99	Acute Tox. 4 (Oral), H302 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
N-isopropyl-N'-phenyl-p-phenylenediamine (Impurity)	(CAS-No.) 101-72-4	0.5	Acute Tox. 4 (Oral), H302 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
N-(4-aminophenyl)aniline (Impurity)	(CAS-No.) 101-54-2	0.5	Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Artificial respiration and/or oxygen if necessary. Maintain airway. Symptoms may be delayed.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. Obtain medical attention if pain, blinking or redness persists.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting unless directed to do so by medical personnel. Sip water. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects after inhalation : Irritation of the respiratory tract and the other mucous membranes.
- Symptoms/effects after skin contact : May cause an allergic skin reaction. Redness. Swelling. Itching. Repeated exposure may cause skin dryness or cracking.
- Symptoms/effects after ingestion : Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically. Delayed adverse effects possible. Keep under medical supervision for at least 48 hours.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Foam. Carbon dioxide. Water spray.
- Unsuitable extinguishing media : None known.

5.2. Specific hazards arising from the chemical

- Fire hazard : Burning produces irritating, toxic and noxious fumes.

5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment. Fight fire from safe distance and protected location.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Wear a self contained breathing apparatus. Wear fire/flame resistant/retardant clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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General measures : Avoid creating or spreading dust. Do not breathe dust. Do not get in eyes, on skin, or on clothing.

6.1.1. For non-emergency personnel

Protective equipment : Refer to section 8.2.
Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Refer to section 8.2.
Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Avoid generating dust. Prevent runoff from entering drains, sewers or waterways. Recover the product by vacuuming, shovelling or sweeping. Move containers from spill area.
Methods for cleaning up : On land, sweep or shovel into suitable containers. Minimise generation of dust. Store away from other materials.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Provide adequate ventilation to minimize dust and/or vapour concentrations. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Hygiene measures : Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety procedures. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool well ventilated place.
Incompatible products : Strong oxidizers.
Incompatible materials : Sources of ignition. Direct sunlight.
Storage temperature : < 90 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

WESTCO 6PPD	
No additional information available	
N-isopropyl-N'-phenyl-p-phenylenediamine (101-72-4)	
No additional information available	
N-(4-aminophenyl)aniline (101-54-2)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH TWA (mg/m ³)	0.1 mg/m ³
N-(1,3-dimethylbutyl)-N'-phenyl-p-phenylenediamine (793-24-8)	
No additional information available	

8.2. Appropriate engineering controls

Appropriate engineering controls : Avoid creating or spreading dust. Do not breathe dust. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide local exhaust or general room ventilation to minimize exposure to dust.
Environmental exposure controls : Avoid release to the environment.

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8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Wear suitable gloves resistant to chemical penetration. Butyl rubber gloves

Eye protection:

Safety glasses with side shields. In case of dust production: protective goggles

Respiratory protection:

Industrial and professional. Perform risk assessment prior to use. In case of inadequate ventilation wear respiratory protection. Dust mask. Use air-purifying respirator equipped with particulate filtering cartridges.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: granules.
Colour	: dark brown
Odour	: slight amine
Odour threshold	: No data available
pH	: No data available
Melting point	: 49.2 °C
Freezing point	: No data available
Boiling point	: 163 – 165 °C
Flash point	: 204 °C C.O.C.
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: 0.0000066 hPa @ 25 °C
Relative vapour density at 20 °C	: No data available
Relative density	: 1 @ 22.2 °C
Density	: 0.995 g/ml @ 50 °C
Solubility	: Insoluble.
Log Pow	: No data available
Auto-ignition temperature	: 500 °C
Decomposition temperature	: > 200 °C
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known.

10.2. Chemical stability

Stable under normal conditions. Decomposes on heating.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

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10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. Nitrogen oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Harmful if swallowed.

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

N-isopropyl-N'-phenyl-p-phenylenediamine (101-72-4)	
LD50 oral rat	522 mg/kg
LD50 dermal rabbit	> 7940 mg/kg
ATE (oral)	522 mg/kg bodyweight

N-(4-aminophenyl)aniline (101-54-2)	
LD50 oral rat	370 mg/kg bodyweight
LD50 dermal rabbit	> 5000 mg/kg bodyweight
ATE (oral)	370 mg/kg bodyweight

N-(1,3-dimethylbutyl)-N'-phenyl-p-phenylenediamine (793-24-8)	
LD50 oral rat	893 mg/kg female
LD50 dermal rat	> 7940 mg/kg
ATE (oral)	893 mg/kg bodyweight

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Likely routes of exposure	: Inhalation. Skin and eye contact.
Symptoms/effects after inhalation	: Irritation of the respiratory tract and the other mucous membranes.
Symptoms/effects after skin contact	: May cause an allergic skin reaction. Redness. Swelling. Itching. Repeated exposure may cause skin dryness or cracking.
Symptoms/effects after ingestion	: Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

12.1. Toxicity

N-isopropyl-N'-phenyl-p-phenylenediamine (101-72-4)	
LC50 fish 1	0.41 mg/l 96 h
EC50 crustacea	0.69 mg/l 48 h

N-(4-aminophenyl)aniline (101-54-2)	
LC50 fish 1	1.9 mg/l 96 h
EC50 crustacea	0.29 mg/l 48 h

N-(1,3-dimethylbutyl)-N'-phenyl-p-phenylenediamine (793-24-8)	
LC50 fish 1	0.028 mg/l 96 h
EC50 crustacea	0.23 mg/l 48 h

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12.2. Persistence and degradability

WESTCO 6PPD	
Persistence and degradability	May cause long-term adverse effects in the environment.
N-isopropyl-N'-phenyl-p-phenylenediamine (101-72-4)	
Persistence and degradability	Not readily biodegradable.
Biodegradation	18.9 % 32 d
N-(4-aminophenyl)aniline (101-54-2)	
Persistence and degradability	Not readily biodegradable.
N-(1,3-dimethylbutyl)-N'-phenyl-p-phenylenediamine (793-24-8)	
Persistence and degradability	Not readily biodegradable.

12.3. Bioaccumulative potential

WESTCO 6PPD	
Bioaccumulative potential	Not established.
N-isopropyl-N'-phenyl-p-phenylenediamine (101-72-4)	
Log Pow	2.77
N-(4-aminophenyl)aniline (101-54-2)	
BCF fish 1	0
Bioconcentration factor (BCF REACH)	7
Log Pow	1.82
Bioaccumulative potential	Not expected to bioaccumulate.
N-(1,3-dimethylbutyl)-N'-phenyl-p-phenylenediamine (793-24-8)	
Bioaccumulative potential	Not expected to bioaccumulate.

12.4. Mobility in soil

WESTCO 6PPD	
Ecology - soil	Not established.

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Incinerate at a licensed installation.
Sewage disposal recommendations : Do not dispose of waste into sewer.
Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated

Transport by sea

Transport document description (IMDG) : UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (N-(1,3-dimethylbutyl)-N'-phenyl-p-phenylenediamine), 9, III, MARINE POLLUTANT
UN-No. (IMDG) : 3077
Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Class (IMDG) : 9 - Miscellaneous dangerous substances and articles
Packing group (IMDG) : III - substances presenting low danger
Limited quantities (IMDG) : 5 kg

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Air transport

Transport document description (IATA)	: UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (N-(1,3-dimethylbutyl)-N'-phenyl-p-phenylenediamine), 9, III
UN-No. (IATA)	: 3077
Proper Shipping Name (IATA)	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Class (IATA)	: 9 - Miscellaneous Dangerous Goods
Packing group (IATA)	: III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) 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.

15.2. International regulations

CANADA

N-isopropyl-N'-phenyl-p-phenylenediamine (101-72-4)

Listed on the Canadian DSL (Domestic Substances List) inventory.

N-(4-aminophenyl)aniline (101-54-2)

Listed on the Canadian DSL (Domestic Substances List) inventory.

N-(1,3-dimethylbutyl)-N'-phenyl-p-phenylenediamine (793-24-8)

Listed on the Canadian DSL (Domestic Substances List) inventory.

National regulations

WESTCO 6PPD

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Data sources : European Chemicals Agency (ECHA) C&L Inventory database. Accessed at <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>. European Chemicals Agency (ECHA) Registered Substances list. Accessed at <http://echa.europa.eu/>. GHS Mexico. Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition. Manufacturer Information. National Fire Protection Association. Fire Protection Guide to Hazardous Materials; 10th edition. OSHA 29CFR 1910.1200 Hazard Communication Standard. TSCA Chemical Substance Inventory. Accessed at <http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html>.

Other information : None.

Full text of H-statements:

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Abbreviations and acronyms:

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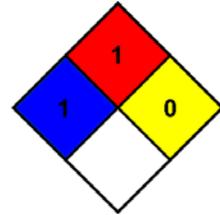
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	ATE: Acute Toxicity Estimate
	CAS (Chemical Abstracts Service) number
	EC50: Environmental Concentration associated with a response by 50% of the test population.
	GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).
	LD50: Lethal Dose for 50% of the test population
	STEL: Short Term Exposure Limits
	TSCA: Toxic Substances Control Act
	TWA: Time Weighted Average

NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and not reactive with water.



Hazard Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability : 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection : J
J - Splash goggles, Gloves, Synthetic apron, Dust & vapor respirator

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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.