



MATERIAL SAFETY DATA SHEET

6PPD N-(1,3-DIMETHYLBUTYL)-N' -PHENYL-P-PHENYLENEDIAMINE

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier:

Identification on the label/Trade name:	Rubber antioxidant 4020 (6PPD)
Additional identification:	N-1,3-dimethylbutyl-N'-phenyl-p-phenylenediamine
Identification of the product:	CAS# 793-24-8; EC# 212-344-0
Index Number:	Not available
REACH registration No.	Not available

1.2 Relevant identified uses of the substance and uses advised against:

1.2.1 Identified uses:

For natural rubber and synthetic rubber antiozonant and antioxidant, ozone cracking and flex fatigue fatigue protection of good performance, heat, oxygen and copper, manganese and other harmful metals also have better protective effect. For tires, tape and general industrial rubber products. Applicable to nitrile rubber, chlorine in rubber, styrene butadiene rubber, AT; NN, natural rubber.

1.2.2 Uses advised against:

Not available.

SECTION 2 HAZARDS IDENTIFICATION

2.1 Classification of the substance/mixture:

2.1.1 Classification:

The substance is classified as following according to REGULATION (EC) No 1272/2008:



REGULATION (EC) No 1272/2008

Hazard classes/Hazard categories	Hazard codes
Acute Tox. 4	H302
Skin Sens. 1	H317
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

2.2 label elements:

Hazard classes/Hazard categories	
Signal Word(S):	Warning™
Hazard Statement:	H302: Harmful if swallowed H317: May cause an allergic skin reaction H410: Very toxic to aquatic life with long lasting effects
Precautionary statement:	P261: Avoid breathing dust/fume/gas/mist/vapours/spray. P264: Wash hands thoroughly after handling. P270: Do not eat, drink or smoke when using this product. P272: Contaminated work clothing should not be allowed out of the workplace. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection. P301 + P312: IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. P302 + P352: IF ON SKIN: Wash with plenty of water. P330: Rinse mouth. P333 + P313: If skin irritation or rash occurs: Get medical advice/ attention. P362 + P364: Take off contaminated clothing and wash it before reuse. P391: Collect spillage. P501: Dispose of contents/container in accordance with local regulation.



2.3 Other hazards:

Not available.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture: Substance

Ingredient(s):

Chemical Name	Registration No.	CAS No.	EC No.	Concentration
N-1,3-dimethylbutyl-N'-phenyl-p-phenylenediamine	N/A	793-24-8	212-344-0	100%

SECTION 4 FIRST AID MEASURES

4.1 Description of first aid measures:

In all cases of doubt, or when symptoms persist, seek medical attention.

4.1.1 In case of inhalation:

Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

4.1.2 In case of skin contact:

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

4.1.3 In case of eyes contact:

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

4.1.4 In case of ingestion:

Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed:

Harmful if swallowed. May cause an allergic skin reaction.

4.3 Indication of any immediate medical attention and special treatment needed:

If skin irritation or rash occurs, get medical advice/attention.



SECTION 5 FIRE-FIGHTING MEASURES

5.1 Extinguishing media:

Suitable extinguishing media:	In case of fire, use water spray (fog), foam, dry chemical or CO ₂ .
Unsuitable extinguishing media:	Not available.
5.2 Special hazards arising from the substance or mixture	Decomposition products may include the following materials: carbon oxides, nitrogen oxides.
5.3 Advice for firefighters:	Wear self contained breathing apparatus for

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

6.1.1 For non-emergency personnel:	Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Provide adequate ventilation. Put on appropriate personal protective equipment.
6.1.2 For emergency responders:	Wear an appropriate NIOSH/MSHA approved respirator if dust is generated.
6.2 Environmental Precautions:	Do not let product enter drains.
6.3 Methods for Containment and Cleaning up:	Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container.
6.4 Reference to other sections:	See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for information on disposal.

SECTION 7 HANDLING AND STORAGE

7.1 Precautions for safe handling:

7.1.1 Protective measures:	Put on appropriate personal protective equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used.
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7.1.1 Protective measures:	Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous.
7.1.2 Advice on general occupational hygiene:	Do not eat, drink and smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.
7.2 Conditions for safe storage, including any incompatibilities:	Store in accordance with local regulations. Store in a dry place. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. Take precautionary measures against electrostatic discharges.
7.3 Specific end use(s):	Not applicable.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:	
8.1.1 Occupational exposure limits:	Not available.
8.1.2 Additional exposure limits under the conditions of use:	Not available.
8.1.3 DNEL/DMEL and PNEC-Values:	Workers - Hazard via inhalation route-Systemic effects-Long term exposure-DNEL (Derived No Effect Level): 3 mg/m ³ Workers - Hazard via inhalation route-Systemic effects-Acute/short term exposure-DNEL (Derived No Effect Level): 24 mg/m ³ Workers - Hazard via dermal route-Systemic effects-Long term exposure-DNEL (Derived No Effect Level): 0.4 mg/kg bw/day Workers - Hazard via dermal route-Systemic effects-Acute/short term exposure-DNEL (Derived No Effect Level): 3.2 mg/kg bw/day General Population - Hazard via inhalation route-Systemic effects-Long term exposure-DNEL (Derived No Effect Level): 0.7 mg/m ³ General Population - Hazard via inhalation route-Systemic effects- Acute/short term exposure- DNEL (Derived No Effect Level): 5.6 mg/m ³ General Population - Hazard via dermal route-Systemic effects- Long term exposure - DNEL (Derived No Effect Level): 0.2 mg/kg bw/day



General Population - Hazard via dermal route- Systemic effects- Acute/short term exposure- DNEL (Derived No Effect Level): 1.6 mg/kg bw/day
General Population - Hazard via oral route- Systemic effects- Long term exposure-DNEL (Derived No Effect Level): 0.2 mg/kg bw/day
General Population - Hazard via oral route- Systemic effects- Acute/short term exposure- DNEL (Derived No Effect Level): 1.6 mg/kg bw/day
PNEC aqua (freshwater): 0.37 µg/L
PNEC aqua (marine water): 0.037 µg/L
PNEC sediment (freshwater): 0.11 mg/kg sediment dw
PNEC sediment (marine water): 0.011 mg/kg sediment dw
PNEC soil: 1.64 mg/kg soil dw
PNEC oral: 1.33 mg/kg food

8.2 Exposure controls:

8.2.1 Appropriate engineering controls:

Handle in accordance with good industrial hygiene and safety practice. Provide appropriate exhaust ventilation. Wash hands during breaks and at the end of the work. Avoid contact with the eyes and skin. Provide safety shower and cleaning eyes equipments.

8.2.2 Individual protection measures, such as personal protective equipment:

Eye/face protection:

Safety glasses with side-shields.

Hand protection:

Wear PVC, nitrile rubber, Polychloroprene - CR gloves.

Body protection:

Wear protective overalls.

Respiratory protection:

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Thermal hazards:

Wear suitable protective clothing to prevent heat.

8.2.3 Environmental exposure controls:

Avoid discharge into the environment. According to local regulations, Federal and official regulations.



SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance:	Granular solid
Colour:	Purple brown
Odour:	Not available
Odour threshold:	Not available
pH:	Not available
Melting point/range (°C):	49.2 °C
Boiling point/range (°C):	163 - 165 °C
Flash point (°C):	202.5 °C
Evaporation rate:	Not available
Flammability limit - lower (%):	Not available
Flammability (solid, gas):	Not available
Ignition temperature (°C):	Not available
Upper/lower flammability/explosive limits:	Not available
Vapour pressure (25°C):	0 hPa
Vapour density:	Not available
Density:	0.995 g/cm ³ (50 °C)
Bulk density (kg/m³):	Not available
Water solubility (g/l):	ca. 1 mg/L(50 °C)
n-Octanol/Water (log Po/w):	Not available
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity, dynamic (mPa.s):	Not available
Explosive properties:	Not available
Oxidising properties:	Not available
Molecular Formula:	C ₁₈ H ₂₄ N ₂
Molecular Weight:	268.4

9.2. Other information:

Fat solubility(solvent- oil to be specified) etc:	Soluble benzene, acetone, ethyl acetate, dichloroethane, toluene
Surface tension:	Not available
Dissociation constant in water(pKa):	Not available
Oxidation-reduction Potential:	Not available



SECTION 10 STABILITY AND REACTIVITY

10.1 Reactivity:	The substance is stable under normal storage and handling conditions.
10.2 Chemical stability:	Stable at room temperature in closed containers under normal storage and handling conditions.
10.3 Possibility of hazardous reactions:	No dangerous reactions known.
10.4 Conditions to avoid:	Incompatible materials.
10.5 Incompatible materials:	Strong oxidizing agents.
10.6 Hazardous decomposition products:	Carbon oxides, nitrogen oxides.

SECTION 11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

Acute toxicity:	1005 mg/kg bw(male) 893 mg/kg bw(female)
LD50(Oral, Rat):	1005 mg/kg bw(male) 893 mg/kg bw(female)
LD50(Dermal, Rabbit):	> 7940 mg/kg bw
LC50(Inhalation, Rat):	Not available
Skin corrosion/Irritation:	Not classified
Serious eye damage/irritation:	Not classified
Respiratory or skin sensitization:	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

SECTION 12 ECOLOGICAL INFORMATION

12.1 Toxicity:

Acute toxicity		Time	Species	Method	Evaluation	Remarks
LC50	0.028 mg/L	96h	Fish	OECD 203	N/A	N/A
EC50	0.23 mg/L	48h	Daphnia	OECD 202	N/A	N/A
EC50	0.335 mg/L	72h	Algae	OECD 201	N/A	N/A

12.2 Persistence and degradability:	Under test conditions no biodegradation observed.
12.3 Bioaccumulative potential:	BCF: 3.3 - 49
12.4 Mobility in soil:	log Koc :3.76
12.5 Results of PBT&vPvB assessment:	The substance is not PBT / vPvB.
12.6 Other adverse effects:	Very toxic to aquatic life with long lasting effects.



SECTION 13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

The material should be disposed of by incineration in a chemical incinerator in compliance with national and regional requirements.

SECTION 14 TRANSPORT INFORMATION

	Land transport (ADR/RID)	Sea transport (IMDG)	Air transport (ICAO/IATA)
UN-Number	3077	3077	3077
UN Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE,	ENVIRONMENTALLY HAZARDOUS SUBSTANCE,	ENVIRONMENTALLY HAZARDOUS SUBSTANCE,
	SOLID, N.O.S (N-1,3-dimethylbutyl-N'-phenyl-p-phenylenedia mine)	SOLID, N.O.S (N-1,3-dimethylbutyl-N'-phenyl-p-phenylenedia mine)	SOLID, N.O.S (N-1,3-dimethylbutyl-N'-phenyl-p-phenylenedia mine)
Transport hazard Class	9	9	9
Packaging group	III	III	III
Environmental hazards	Yes	Yes	Yes
Special precautions for user	See section 2.2	See section 2.2	See section 2.2
Transport in bulk according to Annex II of Marpol and the IBC Code	IBC08	IBC08	IBC08

SECTION 12 ECOLOGICAL INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

Relevant information regarding authorization: Not applicable.

Relevant information regarding restriction: Not applicable.

Other EU regulations: Employment restrictions concerning young person must be observed. For use only by technically qualified individuals.

Other National regulations: Not applicable



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SECTION 16 OTHER INFORMATION

16.1 Indication of changes:

Version 1.0 Amended by (EU) 2015/830

16.2 Training instructions:

Not applicable.

16.3 Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

16.4 Notice to reader:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

