



SHANDONG SUNSINE CHEMICAL CO., LTD.

MATERIAL SAFETY DATA SHEET

SUNSINE 6PPD

1. PRODUCT AND COMPANY INFORMATION

Product Name: 6PPD
Chemical Name: N-(1,3-Dimethylbutyl)-N'-phenyl-p-phenylenediamine
Manufacturer: SHANDONG SUNSINE CHEMICAL CO., LTD.
Economic Technical Development Area, Shanxian city,
Shandong Province, China
Tel: +86 530 4686360
Fax: +86 530 4681927

Usage: Rubber antioxidant

2. COMPOSITION/INFORMATION ON INGREDIENTS

This product is to be considered as a substance in conformance to EC directives.

Information on hazardous ingredients

Chemical description N-(1,3-Dimethylbutyl)-N'-phenyl-p-phenylenediamine

Composition / information on ingredients

Number	% w/w	CAS-number	Chemical name
1	97	793-24-8	N-1,3-Dimethylbutyl-N'-phenyl-1,4-phenylenediamine
Number	EC-number	Annex-1 number	Symbol(s)
1	212-344-0		N Xi

Other information Formula: C₁₈H₂₄N₂.

3. HAZARDS IDENTIFICATION

May cause sensitization by skin contact.
Hot material causes thermal burns to eyes and skin.

4. FIRST AID MEASURES

If on skin, immediately wash with soap and plenty of water.

5. FIRE-FIGHTING MEASURES

Extinguishing media: waterspray, water mist, foam, dry chemical powder. CO₂
Unsuitable extinguishing media: none known
Special exposure hazards: Emits toxic fumes under fire conditions.
Hazardous decomposition/combustion products: carbon monoxide (CO), nitrous gases (NOx).
Protective equipment: Wear self contained breathing apparatus.
Other information: Do not allow run-off from fire fighting to enter drains or water courses.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: For personal protection see Section 8.
Environmental precautions: Avoid discharge into the environment.
Methods for cleaning up: Collect as much as possible in a clean container for (preferable) reuse or disposal.



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7. HANDLING AND STORAGE

Handling:	Avoid contact with skin. Avoid dust generation.
Fire and explosion prevention:	No specific recommendations.
Storage requirements	Store in a dry and cool place. Keep container tightly closed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls:	Avoid dust generation. Ensure good ventilation and local exhaustion of the working area.
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Exposure limits

Name			
N-1,3-Dimethylbutyl-N'-phenyl-1,4-phenylenediamine	OES-TWA	5.0 mg/m ³	(Respirable dust)

Personal protection:

Respiratory:	Avoid breathing dust. In case of dust formation use dust mask.
Hand:	Wear protective gloves.
Eye:	Wear safety goggles.
Skin and body:	Wear suitable protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Dark purple pastilles. Purple liquid above melting point.
Odor:	Aromatic
pH value:	approx. 7 (10 g/l, Aqueous dispersion)
Specific gravity:	0.986-1.000
Bulk density:	560-580 kg/m ³
Boiling point/range:	227°C @ 4 Torr
Melting point/range:	45-50 °C
Vapour pressure:	0.064 Torr @ 162°C, 0.250 Torr @ 180°C, 1.0 Torr @ 200°C, 4.0 Torr @ 227°C
Relative vapour density (air=1):	not determined
Flash point:	not determined (> 200 °C)
Flammability:	not determined
Autoignition temperature:	not determined (approx. 500 °C)
Explosive properties:	not determined
Explosion limits:	not determined
Oxidizing properties:	not applicable
Solubility in water:	0.0011 kg/m ³ (25 °C)
Solubility in other solvents:	Ethyl acetate, acetone, Methylenechloride
Partition coefficient n-octanol/water:	4.77
Viscosity:	not applicable
Molecular weight:	268.4
Molecular Formula:	C ₁₈ H ₂₄ N ₂

10. STABILITY AND REACTIVITY

Stability:	Stable under recommended storage and handling conditions (see section 7).
Conditions to avoid:	Heating > 100 °C: May catch fire.
Materials to avoid:	Strong oxidising agents.



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Hazardous decomposition Products: Thermal decomposition products: carbon monoxide (CO), nitrous gases (NO_x).

11. TOXICOLOGICAL INFORMATION

Name: N-1,3-Dimethylbutyl-N'-phenyl-1,4-phenylenediamine

Acute toxicity

Oral LD₅₀: rat: 3580 mg/kg.

Dermal LD₅₀: rabbit: > 7940 mg/kg.

Irritation:

Skin: Overall mean EU skin irritation scores:
Redness: 0.0.
Swelling: 0.0.

Eye: Overall mean EU eye irritation scores:
Conjunctival redness: 1.1.
Conjunctival swelling: 0.7.
Iris lesions: 0.0.
Cornea opacity: 0.0.

Sensitization: Prolonged or repeated skin contact (Human experience): Sensitizing (skin)

Genotoxicity: Not mutagenic (in vitro, in vivo)

Other toxicological Information: Oral carcinogenicity test (rat): not carcinogenic.
Oral reprotoxicity test (rat): no adverse treatment related effects.

12. ECOLOGICAL INFORMATION

Name: N-(1,3-Dimethylbutyl)-N'-phenyl-p-phenylenediamine

Ecotoxicity

Fish: 96h-LC₅₀ (Lepomis macrochirus): 0.4 mg/l.
96h-LC₅₀ (Oncorhynchus mykiss): 0.14 mg/l.
96h-LC₅₀ (Pimephales promelas): 0.45 mg/l.

daphnia: 48h-EC₅₀ (Daphnia magna): 0.82 mg/l.

algae: 96 h-EC₅₀ (Cell count): 0.6 mg/l.

Fate:

Degradation Biotic: Shake flask CO₂ evolution assay, CO₂ evolution: 60 %.

Bioaccumulation: Bio Concentration Factor (BCF): 490 (calculated).

13. DISPOSAL CONSIDERATIONS

Product: Avoid discharge into the environment.
Small quantities: According to local regulations.
Large quantities: Consult Flexsys for special advice.

Contaminated packaging: According to local regulations.

14. TRANSPORT INFORMATION

Sea transport (IMDG-code/ IMO)

IMO/IMDG code:	not relevant	Class:	none
Packing group:	not relevant	UN number:	none
EMS:	not relevant	Subsidiary Risk:	not relevant
Marine pollutant:	no		
Proper Shipping Name:	not relevant		



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15. REGULATORY INFORMATION

Chemical description: N-(1,3-Dimethylbutyl)-N'-phenyl-p-phenylenediamine

Labelling according to EC directives

EC-number: See section 2

Classification based on: Tests

Symbol(s): IRRITANT (Xi) DANGEROUS FOR THE ENVIRONMENT (N)

R(isk) phrase(s): R 43 May cause sensitization by skin contact

S(afety) phrase(s): S 22 Do not breathe dust
S 24 Avoid contact with skin
S 37 Wear suitable gloves
S 61 Avoid release to the environment. Refer to special instructions/Safety data sheets

Wassergefährdungsklasse (WGK): 2 (VwVwS Anhang 3, Nr. 6616)

16. OTHER INFORMATION

This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or in any process. The information is to our best present knowledge correct and complete and is given in good faith but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.

R-phrase information

Chemical name

N-1,3-Dimethylbutyl-N'-phenyl-1,4-phenylenediamine