



## SOVEREIGN CHEMICAL COMPANY

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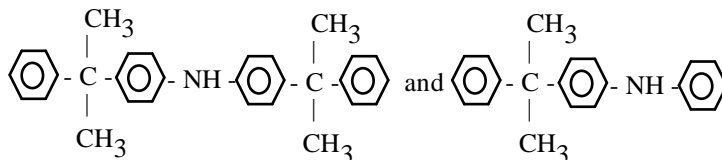
# Oxoflex® DPA Pastilles

**Manufacturer:** Sovereign Chemical Company

**Classification:** Diphenylamine antioxidant and antiflex agent

**Chemical Composition:**

Chemical Structure:



Chemical Name: 90% 4,4'-dicumyldiphenylamine and 10% 4-cumyldiphenylamine

**Physical Data**

**Specification Property**

Specification Property	Value	Test Method
Melting Point	85.0-95.0°C	SCC-108
Heat Loss	0.5% Maximum	SCC-109 at 70°C/3 hour
Acetone Insolubles	0.1% Maximum	SCC-110
Ash Content	0.1% Maximum	SCC-111

**Typical Properties**

Specific gravity	1.14	Typical 20°C
Bulk density	550 kg/m <sup>3</sup>	Typical
Physical Form	Light-violet to gray-violet pastilles	Visual

**Applications**

**Protection:** An alkylated diphenylamine that is a very effective antioxidant that provides long term protection. It also provides protection against flex cracking, metal ion degradation and heat aging. It is a weak antiozonant in neoprene rubber.

**Polymers:** All synthetic and natural rubbers. Especially good in polyisoprene, natural rubber, neoprene, and nitrile rubbers.

**Synergism:** Synergistic with phenolic antioxidants, phosphite antioxidants, p-phenylenediamines, MMBI and microcrystalline/paraffin waxes.

**Staining:** Non-staining and only very slightly dis-coloring in sunlight. Non-staining and non-discoloring upon heat aging.

**Cure Effect:** Non-activating on the cure.

**Product Use:** Especially suited for use in tires, belts, hoses, cables and mechanical rubber goods. Also as a stabilizer for plastics, lubricants and oils.

**Recommended Dosage****As an Anti-flex Agent:**

1.0-2.0 phr

**As an Antioxidant:**

1.0-2.5 phr in a carbon-black filled compound

0.5-1.5 phr in a non-black compound with phenolic antioxidant (1-1.5 phr)

1.0-3.5 phr in CR

**For Heat Resistance:**

1.-4.0 phr in combination with MMBI

**As a Metal Antidegradant:**

1.0-2.0 phr

**As a Polymer Stabilizer:**

In polyamides 0.10-1.00 % weight

In polyolefins 0.05-0.5 weight

In oils 0.10-1.0 % weight

**FDA Regulations**

Adhesive component, indirect food additive 21 CFR 175.105(C)(5)

Antioxidant and/or stabilizer for polymers 21 CFR 178.2010(b)

Food contact surface component 21 CFR 177.1590(b)

Resinous and polymeric coating 21 CFR 175.300(b)(3)

**Packaging and Storage****Packaging:** 25 kg (55.1 lb) 3-layer paper bags.**Shelf Life:** 2 years if stored as indicated below.**Storage:** Store in unopened original packaging in a cool dry place away from foodstuffs, oxidants and acids.

Specification Date: July 16, 2001 (Supersedes: November 30, 1999)