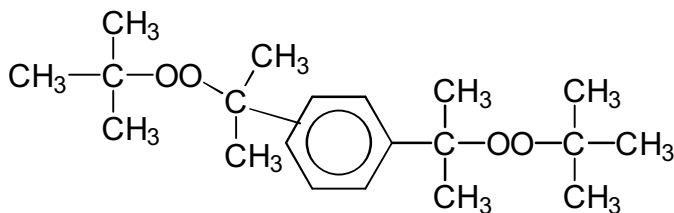


Chemical Name And Structure

meta/para-di(t-butylperoxy)diisopropylbenzene(s)



Introduction

Vul-Cup® 40C-SP2 is a Scorch Protected is a room temperature stable Dialkyl class organic peroxide. It is a free-flowing powder on inert calcium carbonate and a proprietary scorch protected package.

Properties

% Active Oxygen:	3.78%
% Assay:	40%
CAS No.	25155-25-3
Color:	Off-White free flowing powder
Flashpoint, SETA CC:	212 °F (100 °C) (Data is for peroxide component.)
Freezing Point:	n/a
Molecular Formula:	C ₂₀ H ₃₄ O ₄
Molecular Weight:	338.48 g/mole
Density:	1.6 kg/m ³
Self-Accelerating Decomposition Temperature (SADT):	158 °F (70 °C) Expressed as pure peroxide
Maximum Storage Temperature to Maintain % Assay for 12 months:	37.7°C (100.0°F)

Half-Life Time versus Temperature Data

Time	Degrees Celsius	Degrees Fahrenheit
100 hrs	101.0	213.8
10 hrs	119.3	246.7
1 hr	139.4	282.8
6 mins	161.6	323.0
1 min	180.7	357.3
1 sec	231.3	448.3

Benefits of Vul-Cup® 40C-SP2

- Designed for optimum scorch time protection during compounding and crosslinking operations.
- Superior scorch time performance during compounding and crosslinking provides:
 - Complete mold filling for commercial elastomer molding operations.
 - Thinner tear-trim and equal to lower % compression set, due to the significant scorch protection resulting in lower elastomer compound viscosity during mold filling.
 - Better adhesion of rubber to fillers, fibers and metal belting. This is due to the improved wet-out of the lower viscosity rubber onto reinforcements during the cure process. The SP2 package prevents critical pre-mature viscosity increase during compounding enabling better penetration into fillers, fibers and belting.
 - Uniform crosslink density for thick and thin walled parts.
 - Vul-Cup® 40C-SP2 can be blended with standard Vul-Cup® 40C to tailor the scorch time performance for your system. Roughly 15 to 20wt% more Vul-Cup® 40C-SP2 is required vs Vul-Cup 40C to provide equivalent crosslinking. However, a 50:50 blend of SP2 and the standard grade provides nearly equal weight cure performance. See next page.).
 - A ~10°C higher compounding “drop temp.” vs standard Vul-Cup 40C (~140°C vs 130°C) is possible. This permits faster mixer rpm to reduce cycle time (greater productivity) or longer mixing cycles to incorporate more filler(s) to reduce compound cost.
- Designed for crosslinking “peroxide curable” type elastomers including but not limited to EVA, EPM, EOM, EPDM, SBR, BR, NBR, HNBR, NR, IR, BIIR, VMQ, FKM, AEM, CPE(CM) and CSM.
- Can be used with and without various monomeric coagents. The “SP2” type peroxides blended with crosslinking coagents often provides synergistic benefits of longer scorch protection, increased cure state with a faster cure time.

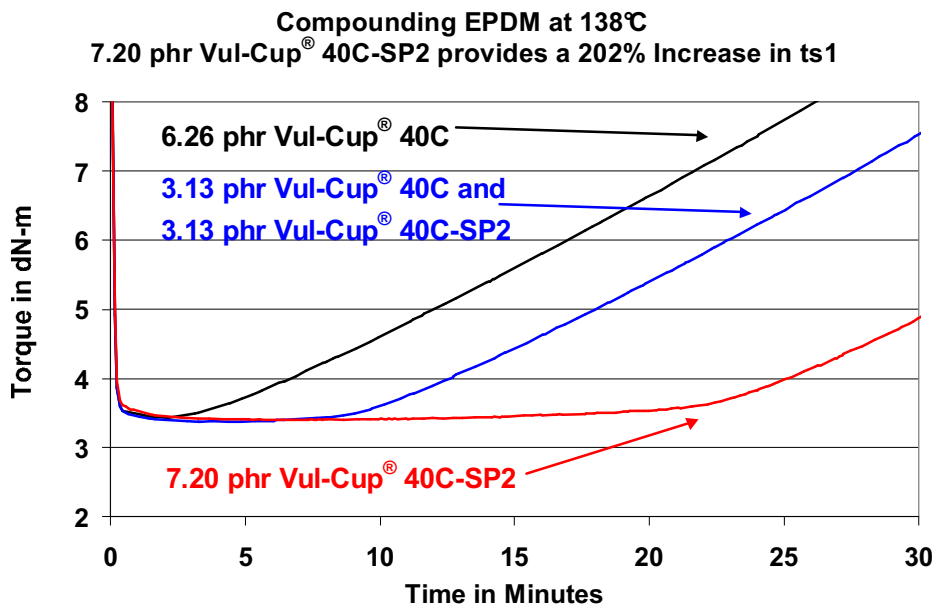
Injection Molded EPDM Formulation

Vistalon® 2504	100.00
Zinc Oxide	5.00
AgeRite® Resin D	1.50
FEF (N-550) C. Black	45.00
Peroxide	as indicated

Crosslinking Vistalon® 2504 EPDM			
Alpha Technologies® RPA: 350°F (177°C) 1°arc, 100cpm			
	6.26 phr Vul-Cup® 40C	A Peroxide Blend: 3.13 phr Vul-Cup® 40C & 3.13 phr Vul-Cup® 40C-SP2 (6.26 phr total)	7.20 phr Vul-Cup® 40C-SP2
MH (dN-m)	69.20	67.13	71.17
ML (dN-m)	2.18	2	2
MH-ML (dN-m)	67.02	65.13	69.17
ts0.4 (min)	0.345	0.41	0.56
ts1 (min)	0.41	0.48	0.63
% Increase in ts1	-----	17%	54%
ts2 (min)	0.495	0.57	0.71
% Increase in ts2	-----	15%	43%
tc50 (min)	2.965	3.03	3.14
tc90 (min)	9.31	9.40	9.33

Compounding EPDM at 138°C
7.20 phr Vul-Cup® 40C-SP2 provides a 202% Increase in ts1

Compounding Vistalon® 2504 EPDM			
Alpha Technologies® RPA: (138°C), 1°arc, 100 cpm			
	6.26 phr Vul-Cup® 40C	A Peroxide Blend: 3.13 phr Vul-Cup® 40C & 3.13 phr Vul-Cup® 40C-SP2 (6.26 phr total)	7.20 phr Vul-Cup® 40C-SP2
M _L (dN-m)	3.44	3.37	3.39
ts0.4 (min)	5.64	11.11	23.7
ts0.6 (min)	6.87	12.38	25.07
ts1 (min)	9.08	14.64	27.46
% Increase in ts1	---	61%	202%
ts2 (min)	14.19	19.85	32.64
% Increase in ts2	---	40%	230%



For additional information, or to place an order or sample request, call 1.800.331.7654.

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