HDT-S(M)

1. Description

Special Antioxidant HDT-S(M) is used for long term heat aging color development and HDT-stabilizer application in high temperature of thermo plastics as metal deactivator with **Flame Retandants, Glass fiber, LFT, Talc, Carbon Black, Tio2, Wallastonite, Zinc Sulfide, CNT, aluminium silver pearls, metal pigments colors.**
HDT-S(M) is using with 1st antioxidant as like hinder phenyl and amine**, HDT-S(M)** is **peroxide decomposer** of Inorganic Metal materials and Organic materials as like Flame Retardants.
HDT-S(M)is composition of organic phosphorous salt and phosphoric acid coated with fatty acid for good dispersion.
HDT-S(M) is **HDT stabilizer enhancer** in high temperature of Transparent PC,PMMA, PBT, PET, PCT, and PC/ABS, PC/PBT, PC/PET, PP, PE, PA,PPA, PPS, PPE/PA, PVC with 0.1%-0.15% dosage. In case of PBT, PET,PCT, PP, PA6,66, PPA, PPS, PPE with 0.5%- 1% dosage for raising HDT temperature from 3C to 40C.
HDT-S(M) improves recycled polymers without gas release.

2. Advantages

1) Peroxide Decomposer
2) High thermal stability, HDT stabilizer improvement (3C-40C)
3) Transparent application (PC Transmittance 89-90%)
4) Superior color stability and excellent surface (Gas Release reduction)
5) Prevention of yellowing and brittle (aging test 130C 2000hours)
6) High melt flow Processing stability
7) Free-flowing solid slip agent of GF, Talc, carbon black, TiO2, flame retardants etc
8) Halogen and Non-halogen material FR application (UL 746C F1 TEST PASS CERTIFICATION)
9) Impact strength (flexible, tensile) synergist.
10) Recommend dosage is different

3. Real Application

1) Recycled PC, Recycled PET, Recycled PBT, Recycled PA - Recycled polymer Alloy
2) Transparent PCT Battery Power Supply Cable, PCT LED Reflector
3) PC/PBT & PET/PBT Light Bezel, PBT connector, PBT electrical charger
4) Polymers + Glass Fiber + Flame Retardants
5) PET, PLA,PP, PE Food Tray and Package,
6) PC/ABS/BDP/ TALC
7) PA /GF Housing, PPA non-halogen Automotive parts, PPA alloys,
8) PP/GF, PP/TALC, PP/CNT, PP/GF

*Fillers: Glass Fiber, Talc, LFT, CFFR, CNT, Wallastonite.
*Colors: TiO2, Carbon Black, Zinc Sulfide, Inorganic & Organic colors, Aluminium pearl, Metal Colors
*Flame Retardants: Halogen and Non-halogen Materials.

AMG CO., LTD
Tel:043-715-3225 /Fax:043-715-3227/ E-mail:amg@amg330.com

HDT-S(M)

4-1 Color Test Polycarbonte resin SC-1220R (UV stabilizer) Lotte chemical

Dosage	Illubinant Name	L	a	b	C	DL	Da	Db	DE	Strength
PC base	D65 10 Deg	96.00	-0.01	0.27	0.27	-	-	-	-	92.88
0.1%	D65 10 Deg	95.70	0.01	0.03	0.03	-0.30	0.02	-0.24	0.38	97.74
0.2%	D65 10 Deg	95.52	0.01	0.02	0.02	-0.48	0.03	-0.25	0.54	101.64

4.2 CO2 Gas Release Reduction of Recycled polymers reaction with HDT-SM 0.1% Dosage.

GAS CONTENTS %	RESIN	TIME	1min	2min	3min	4min	5min	6min	7min
	RE-PC/ABS (290C)	Without HDT-SM	20%	30%	40%	52%	56%	58%	60%
		With HDT-SM	18%	19%	20%	20%	21%	21%	21%-
	RE-PC/PBT (250C)	Without HDT-SM	20%	29%	42%	56%	59%	60%	70%
		With HDT-SM	16%	17%	19%	20%	21%	22%	22%

5. HDT increase up, Flexible Tensile Strength Test Result for PP+talc, PET+GF, PCT+GF

1) PP+TALC 20%

Crystalline resin's HDT increase up 6C against competitive products (A,B), Flexible strength and Tensile strength is increased.

		HDT	MI	IMP/ST	Fl/St(kgf/cm2)	Fl/M(kgf/cm2)	Te/St(kgf/cm2)	Te/En(%)	Density
COMP	0.2%	135	29	7.8	415	23451	241	26	1.03
HDT-S	0.2%	141	28.5	7.8	445	24520	250	33	1.03

2) PET+GF 10%

Crystalline resin's HDT increase up 20%, impact strength values increase up with fillers Impact modifiers.

		HDT	Flex/St(kgf/cm2)	Fl/Modulus(kgf/cm2)	Tensile/St(kgf/cm2)	Te/Enlogation (%)	Impact/St(kg.cm/cm
HDT-S	0.5%	180	760	62,036	401	0.5	6
HDT-S	1%	220	963	70,110	472	0.76	7.5

(3) PCT+GF10%

	Flex/St(kgf/cm2)	Fl/Modulus(kgf/cm2)	Tensile/St(kgf/cm2)	Te/Enlogation (%)	Impact/St(kg.cm/cm)	HDT (c)
HDT-S 0.3%	863	64,048	471	0.6	6.5	190
HDT-S 1%	1,062	72,115	543	0.87	8	23

AMG CO., LTD

Tel:043-715-3225 /Fax:043-715-3227/ E-mail:amg@amg330.com

HDT-S(M)

6. HDT stability, Flexible, Tensile strength Test Result for PC/ABS/BDP/ TALC & PC

1) PC75%+ABS10%+BDP15% without Talc, GF (Thickness 1.5mm UL94 V0)

Armophous resin's HDT increase up 10%, Flame Retardant Effectiveness and impact strength values increase with fillers, flame retardants. Best dosage is 0.5%.

		HDT	Tensile/St($_{kgf/cm2}$)	Te/Enlogation (%)	N/ Impact	MI	FR
HDT-S	0.1%	71	549	30	53	14	V0
HDT-S	0.5%	78	613	30	44	14.4	V0
HDT-S	1%	74	588	30	34	15.2	V0

2) PC70%+ABS15%+BDP15% (Thickness 1.5mm UL94 V0)

Armophous resins's HDT increase up with 0.2% dosage, and Flexible strength, Tensile strength is increased.

		HDT	Fl/St	Fl/m	Te/St($_{kgf/cm2}$)	Te/En(%)	N/Imp	MI	FR
HDT-S	0%	88.9	1034	27438	613	36	12.5	32.6	V0
HDT-S	0.2%	89.9	1050	28850	623	38	12.9	33.6	V0

3) PC HDT-S (Thickness 1.5mm UL94 V0)

Armophous resins's HDT increase up with 0.2% dosage, and Flexible strength, Tensile strength is increased.

		HDT	Fl/St	Fl/m	Te/St($_{kgf/cm2}$)	Te/En(%)	N/Imp	MI	FR
HDT-S	0%	88.9	1034	27438	613	36	12.5	32.6	V0
HDT-S	0.2%	89.9	1050	28850	623	38	12.9	33.6	V0

For Sampling or Technical Inquiries, Please contact to below information

AMG CO., LTD

Tel:043-715-3225 /Fax:043-715-3227/ E-mail:amg@amg330.com