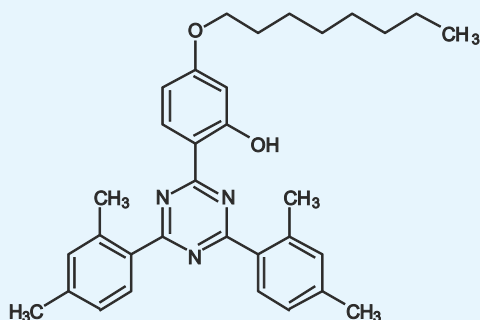


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APPOLO-1164 (M)

1. STRUCTURE



2. PRODUCT NAME & DETAILS

2,4-Bis(2,4-dimethylphenyl)-6-(2-hydroxy-4-n-octyloxyphenyl)-1,3,5-triazine (Appollo-1164 (M))

Product Code	: 010631
CAS No.	: 2725-22-6
HS Code	: 2933.69.90
Molecular formula	: C ₃₃ H ₃₉ N ₃ O ₂
Molecular weight	: 509.68

3. ADDITIONAL ADVANTAGES

- Particle size is less than 800 Micron (90%).
- Increasing surface area.
- Allows faster chemical reaction times.
- Improved performance of final product.
- Accelerate in rate of dissolution.
- UV radiation absorption increases with smaller particles.

4. REGULATORY INFORMATION

Chemical name	Common names and synonyms	CAS number	EC number
2,4-Bis(2,4-dimethylphenyl)-6-(2-hydroxy-4-n-octyloxyphenyl)-1,3,5-triazine	2,4-Bis(2,4-dimethylphenyl)-6-(2-hydroxy-4-n-octyloxyphenyl)-1,3,5-triazine	2725-22-6	412-440-4
European Inventory of Existing Commercial Chemical Substances (EINECS)			Not Listed
EC Inventory			Listed
United States Toxic Substances Control Act (TSCA) Inventory			Listed
China Catalog of Hazardous chemicals 2015			Not Listed
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed
Korea Existing Chemicals List (KECL)			Listed
Canadian Domestic Substance List (DSL)			Listed
Canadian Non-Domestic Substance List (NDSL)			Not Listed
Japanese Existing and New Chemical Substances Inventory (ENCS)			Listed

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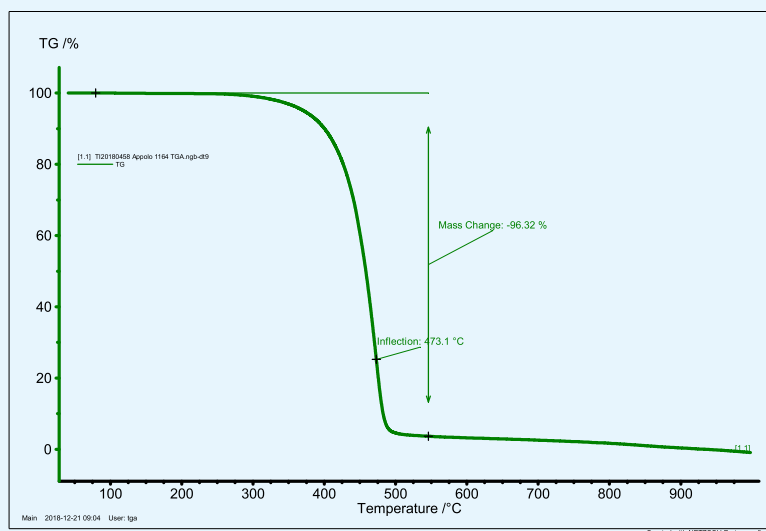
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APPOLO-1164 (M)

5. SPECIFICATION

Physical Appearance	: Yellowish Fine Powder
Identity HPLC	: Identical
Melting Point	: 89.5 to 92.0 °C
Loss On Drying	: NMT 0.50%
Purity By HPLC	: NLT 99.0%
Transmittance (%) 500 NM	: NLT 95.0%
Transmittance (%) 460 NM	: NLT 90.0%
Particle Size	: Less Than 800 Micron (90%)
Apha Colour	: NMT 150

6. TGA CURVE

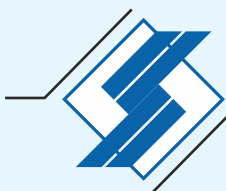


7. APPLICATION

- UV Absorber 1164 is used as a stabilizer for olefin polymers intended for use in contact with food.
- It is also used as UV light absorber and high inherent UV stabilizer in other polymers. Excellent compatibility with other stabilizer chemistries.
- Used in products to protect them from long-term degradation from the effects of UV exposure.

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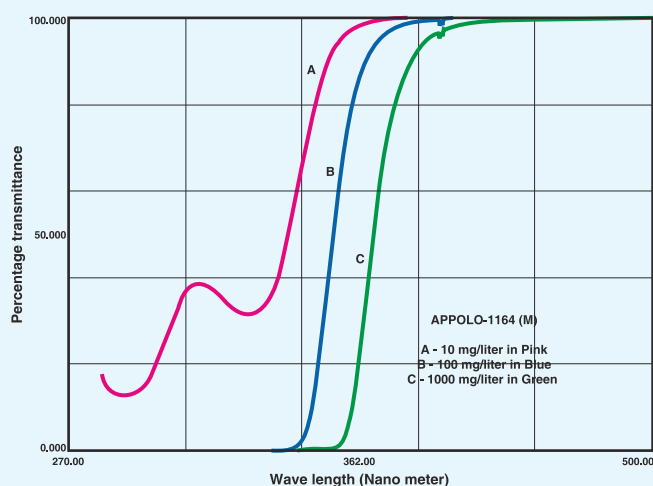
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APPOLO-1164 (M)

7. APPLICATION

- Minimal color contribution. It also show Low interaction with metals.
- Used in rubber products (e.g. tires) and their manufacture. UV 1164 has a very low volatility.
- This product is suitable for polyoxymethylene, polyamide, polycarbonate, polyethylene, polyether amine, ABS resin and polymethyl methacrylate. Especially suitable for nylon and engineering plastics.
- Polyethylene sheets used for agriculture/Greenhouse films, PPE in hospitals and in medical devices such as incubation tubs.

8. APPOLO-1164 (M) : SPECTRAL TRANSMISSION

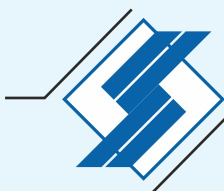


9. Food Approval status (for plastic coming in contact with food) CAS No.2725-22-6 has EU & FDA approval. In USA according to FDA 21 CFR part section 178.2010

- A.** At levels not to exceed 0.3 percent by weight of olefin polymers complying with 177.1520(c) of this chapter in contact with food types I, II, IV-B, VI, VII-B, and VIII described in 176.170(c) of this chapter, table 1, under conditions of use D through G as described in 176.170(c), table 2, of this chapter.
- B.** At levels not to exceed 0.1 percent by weight of polypropylene complying with 177.1520(c) of this chapter, items 1.1a, 1.2, and 1.3 in contact with food under conditions of use A through H as described in 176.170(c), table 2, of this chapter.
- C.** At levels not to exceed 0.04 percent by weight of polyethylene and olefin copolymers complying with 177.1520(c) of this chapter, items 2.1, 2.2, 2.3, 3.1a, 3.1b, 3.1c, 3.2a, and 3.2b having a minimum density of 0.94 gram per cubic centimeter, in contact with food under conditions of use A through H as described in 176.170, table 2, of this chapter provided that the finished articles used in contact with fatty food types III, IV-A, V, VII-A, and IX as described in table 1 of 176.170(c) of this chapter hold a minimum of 2 gallons (7.6 liters) of food.

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APPOLO-1164 (M)

9. Food Approval status (for plastic coming in contact with food) CAS No.2725-22-6 has EU & FDA approval. In USA according to FDA 21 CFR part section 178.2010

D. At levels not to exceed 0.4 percent by weight of ethylene copolymers complying with 177.1520(c) of this chapter, items 3.1a, 3.1b, 3.1c, 3.2a, and 3.2b, having a density of less than 0.94 gram per cubic centimeter, in contact with food under conditions of use B through H, as described in 176.170(c), table 2, of this chapter provided that the finished articles used in contact with fatty food types III, IV-A, V, VII-A, and IX hold a minimum of 5 gallons (18.9 liters) of food.

E. At levels not to exceed 0.04 percent by weight of polyethylene having a density of less than 0.94 gram per cubic centimeter, and olefin polymers complying with 177.1520(c) of this chapter, items 2.1, 2.2, 2.3, 3.3a, 3.3b, 3.4, 3.5, 3.6, 4, 5, and 6, in contact with food under conditions of use D through G as described in 176.170(c) of this chapter, table 2, provided that the finished articles used in contact with fatty food types III, IV-A, V, VII-A, and IX hold a minimum of 5 gallons (18.9 liters) of food.

F. EU Approval : Appolo-1164 with CAS no. 2725-22-6 is registered under Ref. no. 38885 and has a SML=0.05 only for acqeous food.

10. HAZARD CLASSIFICATION : Non Hazardous material.

11. DUST EXPLOSION HAZARD

DUST EXPLOSION TEST (MODIFIED HARTMANN APPARATUS):

Test Method: FTL/SOP/05, Based on International Test Method: VDI 2263 PART 1/2.1.1; 2003

Description: Sample is dried at 50°C under vacuum, sieved through 63µ sieve. Weighed amount of product is charged into a modified Hartmann tube of 1.2 liter volume. The product is converted into a dust cloud in glass cylindrical tube with compressed air and electrodes with continuous spark is used as ignition source to ignite this dust cloud. Based on dust fire or extent of opening of the hinged cover rating 0, 1 or 2 are assigned. Test is repeated with varied weights of the sample.

Observation	Class
No fire or explosion	St _{0H}
Dust fire or mild explosion	St _{1H}
Violent explosion	St _{2H}

Result:

Sr. No.	Wt. of sample (mg)	Eq. dust concentration (g/m ³)	Class
1	36	30	St _{0H}
2	120	100	St _{0H}
3	240	200	St _{0H}
4	600	500	St _{1H}
5	1200	1000	St _{2H}

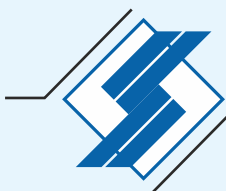
Final Rating : St_{2H}

12. CAPACITY : 50 MT Per Year.

13. STORAGE CONDITION : Stored in closed container at ambient temperature. Avoid direct sunlight.

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APPOLO-1164 (M)

14. PACKING DETAILS

: Big Jumbo Bag

Bag Capacity 500 kg and Net Wt. 250 kg

1 Bag of 250 kg on One Pallet

Corrugated Boxes (7 Ply)

Size = 360 X 360 X 480 mm

Net Quantity per box = 15 kgs

Inner Packing double plastic liner inside

27 boxes can be placed on wooden pallet (ISPM 15) in 3 tier

(9 Boxes in one tier * 3 tier = 27 Boxes)

Total quantity per pallet = 27*15 = 405 kgs

One 20 feet container load quantity = 405*10 pallets = 4050 kgs

15. SHELF LIFE

: 3 years.

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