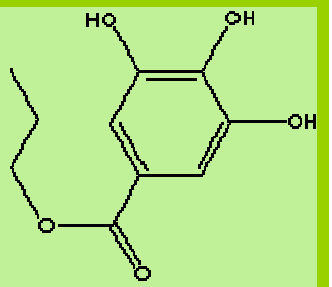
PROPYL GALLATE



PRODUCT IDENTIFICATION	
CAS NO.	121-79-9
EINECS NO.	204-498-2
FORMULA	$C_6H_2(OH)_3COOC_3H_7$
MOL WT.	212.20
H.S. CODE	2918.29
TOXICITY	
SYNONYMS	Tenox PG;
	Propyl 3,4,5-trihydroxybenzoate; Gallic acid, propyl ester; 3,4,5-Trihydroxybenzoic acid propyl ester;
DERIVATION	
CLASSIFICATION	Antioxidant

PHYSICAL AND CHEMICAL PROPERTIES	
PHYSICAL STATE	white granular
MELTING POINT	148 - 151 C
BOILING POINT	
SPECIFIC GRAVITY	
SOLUBILITY IN WATER	3.5 (g/l)
pH	
VAPOR DENSITY	
NFPA RATINGS	
AUTOIGNITION	
REFRACTIVE INDEX	
FLASH POINT	
STABILITY	Stable under ordinary conditions.

GENERAL DESCRIPTION & APPLICATIONS

Gallic acid [3,4,5-trihydroxybenzoic acid, $C_6H_2(OH)_3COOH$] is obtained from nutgalls and other plants or by the hydrolysis of tannic acid with sulfuric acid. Gallic acid has two functional groups in the same molecule, hydroxyl groups and a carboxylic acid group. They can yield numerous esters and salts including digallic acid which is formed by the reaction of two moles of gallic acid with one another. If gallic acid lose carbon dioxide, pyrogallol is formed. Gallic acid and its derivatives are used in making dyes and inks, photographic developers and has been used as astringents in medically. Some gallates are used as antioxidants in foods. Tannins (tannic acid or gallotannic acid) are esters of digallic acid. They are widely used in tanning leather, dyeing fabrics, manufacturing inks, and in various medical applications (as astringents and to treat some skin diseases). Benzoic acid derivatives substituted by hydroxyl group or ether containing oxygen atom have bacteriostatic and fragrant properties. They are typically used in pharmaceutical and perfumery industry. The destructive metabolic property of oxygen containing benzoic acid derivatives such as protocatechuic acid (3,4-dihydroxybenzoic acid) and veratric acid (3,4-dimethoxybenzoic acid) is used in the application for pharmaceuticals. Protocatechuic acid is a catabolite of epinephrine. Prazosin, a peripheral vasodilator and antihypertensive, is also an example of the application of veratric acid. Hydroxy and ether substituted benzoic acids feature analogue metabolite of aspirin (acetylsalicylic Acid). They are used as intermediates for pharmaceuticals (especially for antipyetic anlgesic, antirheumatism) and other organic synthesis. They are used as matrix for ionization of peptides, proteins and carbohydrates.

Propyl Gallate, obtained from natural gallic acid, is one of the most effective antioxidant-based

antimicrobials for the food industry. It is also used as a anti-fade reagent in fluorescence microscopy to reduce photo-bleaching of fluorescences such as rhodamine and fluorescein. It is a white to almost white, odorless powder having a slightly bitter taste. It is slightly soluble in water and freely soluble in alcohol and in either; melting point 148 - 151 C.

SALES SPECIFICATION (BP, Ph Eur)	
APPEARANCE	white granular
ASSAY	97.0 - 102.0%
IDENTITY	pass
FREE ACID	pass
Cl	100ppm max
ASH	0.1% max
HEAVY METALS	10ppm max
PROPANOL	0.5% max
TRANSPORTATION	
PACKING	25kgs in fiber drum
HAZARD CLASS	
UN NO.	
OTHER INFORMATION	
Hazard Symbols: XN, Risk Phrases: 22-43, Safety Phrases: 24-37	