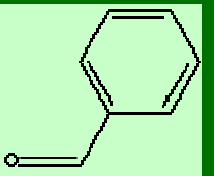
BENZALDEHYDE



PRODUCT IDENTIFICATION

CAS NO.	100-52-7
EINECS NO.	202-860-4
FORMULA	C_6H_5CHO
MOL WT.	106.12
H.S. CODE	2912.21
TOXICITY	Oral rat LD50: 1300 mg/kg
SYNONYMS	Benzenecarboxaldehyde; Benzoic aldehyde; Artificial Almond Oil; Benzenecarbonal; Phenylmethanal; Almond artificial essential oil; Phenylmethanal benzenecarboxaldehyde; Benzadehyde; Benzene carbaldehyde; Phenylmethanal;
DERIVATION	
CLASSIFICATION	

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Colourless to yellow liquid with bitter almonds odor
MELTING POINT	-26 C
BOILING POINT	179 C
SPECIFIC GRAVITY	1.044
SOLUBILITY IN WATER	Soluble
pH	
VAPOR DENSITY	
AUTOIGNITION	192 C
NFPA RATINGS	Health: 2 Flammability: 2 Reactivity: 0
REFRACTIVE INDEX	1.5450
FLASH POINT	64 C
STABILITY	Stable under ordinary conditions

GENERAL DESCRIPTION & APPLICATIONS

Benzaldehyde(also called Benzenecarbonal) is the simplest representative of the aromatic aldehydes. It is a colorless liquid aldehyde with a characteristic almond odor. It boils at 180°C, is soluble in ethanol, but is insoluble in water. Benzaldehyde is formed by partial oxidation of benzyl alcohol and readily oxidized to benzoic acid and is converted to addition products by hydrocyanic acid or sodium bisulfite. It is also prepared by oxidation of toluene or benzyl chloride or by treating benzal chloride with an alkali, e.g., sodium hydroxide. It is used chiefly in the synthesis of other organic compounds, ranging from pharmaceuticals to plastic additives and benzaldehyde is an important intermediate for the processing of perfume and flavouring compounds and in the preparation of certain aniline dyes . It is the first step in the synthesis for fragrances. It undergoes simultaneous oxidation and reduction with alcoholic potassium hydroxide, giving potassium benzoate and benzyl alcohol. It is converted to benzoin with alcoholic potassium cyanide, with anhydrous sodium acetate and acetic anhydride, giving cinnamic acid. Compounds which do not have alpha-hydrogen atoms cannot form an enolate ion and do not undergo electrophilic alpha-substitution and aldol condensation. Aromatic aldehydes such as benzaldehyde and formaldehyde may undergo disproportionation in concentrated alkali (Cannizaro's reaction); one molecule of the aldehyde is reduced to the corresponding alcohol and another molecule is simultaneously oxidized to the salt of a carboxylic acid. The speed of the reaction depends on the substituents in the aromatic ring. Two different types of aldehydes (aromatic and aliphatic) can undergo crossing reaction to form fomaldehyde and aromatic alcohols.

SALES SPECIFICATION

APPEARANCE	Clear to yellow liquid
ASSAY	99.0% min
TOLUENE	0.1% max
CHLORINE	20ppm max
ACIDITY	0.5% max (as Benzoic Acid)
BOILING POINT	177-182 C
RELATIVE DENSITY	1.041 - 1.043 at 20 C
TRANSPORTATION	
PACKING	210kgs in Drum
HAZARD CLASS	9 (Packing Group: III)
UN NO.	1990
OTHER INFORMATION	
Hazard Symbols: XN, Risk Phrases: 22, Safety Phrases: 24	