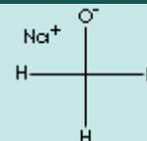


SODIUM METHOXIDE

PRODUCT IDENTIFICATION

CAS NO.	124-41-4
EINECS NO.	204-699-5
FORMULA	CH ₃ ONa
MOL WT.	54.02
H.S. CODE	2905.19
TOXICITY	Oral rat LD50: 2037 mg/kg
SYNONYMS	Sodium Methylate; Methanol, Sodium Salt; Sodium methanolate; Natriummethanolat (German); Metanolato de sodio (Spanish); Méthanolate de sodium (French); Metilato di sodio; Metanolato di sodio (Italian);
DERIVATION	sodium, methanol



CLASSIFICATION

PHYSICAL AND CHEMICAL PROPERTIES (ANHYDROUS POWDER)

PHYSICAL STATE	white powder
MELTING POINT	127 C (Decomposes)
BOILING POINT	
SPECIFIC GRAVITY	1.1
SOLUBILITY IN WATER	Reacts violently (miscible with methanol and ethanol)
pH	
VAPOR DENSITY	
AUTOIGNITION	240 C
NFPA RATINGS	Health: 3; Flammability: 2; Reactivity: 2
REFRACTIVE INDEX	
FLASH POINT	32 C
STABILITY	Stable under ordinary conditions. Hygroscopic.

GENERAL DESCRIPTION & APPLICATIONS

Alkoxide (also called alcoholate) is the conjugate bases of corresponding alcohol. They contain negatively charged oxygen atom, found as intermediaries in various reactions. Alkoxide is a strong reducing agent. The term alkoxide is for a compound formed from alcohol by replacing the hydrogen of the hydroxy group by a monovalent metal. Alkoxides provide carbanion in the relevant alcohols. A carbanion is an anion which arise cleavage of a covalent bond involving carbon and bears a negative charge. A carbanion is an unstable intermediate stage during a chemical reaction. Thus, it is encountered in organic synthesis. Metal alkoxides are versatile reagents favoring the chemical reaction of condensation, esterification, alkoxylation and etherification, Claisen condensation, Wolf-Kishner reduction and Stobbe reaction are examples. They are used in wide range of applications in organic synthesis; Agrochemicals; Pharmaceuticals, colorants and aroma chemicals. They are used in manufacturing detergents and biodiesel. They also act as catalysts in polymerization and isomerizations.

Biodiesel is biodegradable, non-toxic fuel made from biolipids such as vegetable oils or animal fats as a candidate to replace fossil fuels. It should significantly reduce emissions when burned. Mostly biodiesel is produced using base catalyzed transesterification which exchanges the alkoxy group of an ester compound by another alcohol in the presence of acid or base catalyst. The transesterification process in biodiesel production is the reaction of a triglyceride with a bioalcohol to form esters (a biodiesel) and glycerol (a by-product). The most common

form of biodiesel is methyl esters of long chain fatty acids , though ethyl ester biodiesel exists. Acids can catalyse the reaction by donating a proton to the alkoxy group, while bases can catalyse the reaction by removing a proton from the alcohol. Traditionally transesterification is for the production of polyester fiber. Diesters (e.g dimethyl terephthalate) undergo transesterification with diol (e.g ethylene glycol) to form macromolecule (polyethylene terephthalate) and methanol. The reverse reaction (methanolysis) is also transesterification, and has been used to recycle polyesters. Sodium methoxide is a very powerful base that is used as a base catalyst in the production of biodiesel. Potassium methoxide find similar applications. Higher quality of by-product (glycerol) is expected by using potassium methylate catalyst.

SALES SPECIFICATION

30% IN METHANOL

APPEARANCE clear liquid

CONTENT (CH₃ONa) 30.0% min

WATER 0.2% max

NaOH 0.3% max

Na₂CO₃ 0.3% max

ANHYDROUS POWDER

APPEARANCE white powder

ASSAY 98.5.0% min

NaOH + Na₂CO₃ 1.5% max

TRANSPORTATION

PACKING 170kgs in drum (Solution)

HAZARD CLASS 4.2 (Packing Group: II)

UN NO. 1431 (powder), 1289 (solution)

OTHER INFORMATION

Hazard Symbols: F C, Risk Phrases: 11-14-34, Safety Phrases: 8-16-26-43