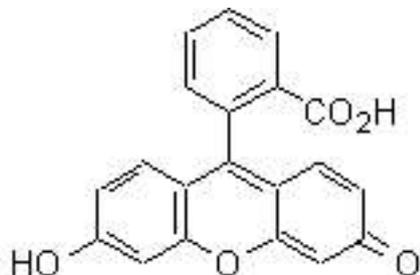


 **Taj Pharmaceuticals Ltd.**  
**ETHANOL**  
CAS No. 64-17-5

PRODUCT CODE- TYMT02155

5577 TM 2145 62131 792



ETHANOL /ENA 96.4% [Extra Neutral Alcohol] CAS No.: 64-17-5

ETHANOL 96.4% (FROM SUGARCANE) FROM TAJ PHARMACEUTICALS LIMITED  
DIVISION INDIA.

Technical Specifications of Extra Neutral Alcohol (ENA)

Min. 96.4% Purity: No. IS: 6613

1. Relative density at 15o / 15oC: 0.81245 to 0.81679
2. Ethanol content, percent by volume at 15.6oC: 96% Min.
3. Miscibility with water: Miscible
4. Alkalinity: Nil
5. Acidity (as CH<sub>3</sub>COOH), g/100ml: Max 0.002
6. Residue on evaporation, g/100ml: Max 0.002
7. Esters (as CH<sub>3</sub> COOC<sub>2</sub>H<sub>5</sub>), g per 100 ml : Max 0.01
8. Lead (os Pb), g per 100ml: Max Nil
9. Methyl alcohol content: To pass test
10. Furfural content: To pass test
11. Aldehydes (as CH<sub>3</sub> CHO), g/100 ml: Max 0.004
12. Permanganate reaction time, min.: Min 30
13. Copper (as Cu), g/100 ml: Max 0.0002
14. Isopropyl alcohol, acetone and other ketones: To pass test

Shipment: 30-35 DAYS

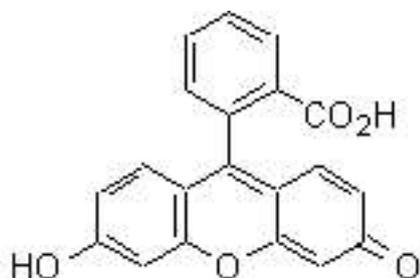
PACKAGING : 250 LITRE HDPE DRUMS . ISO TANKS. BULK

Origin: INDIA

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**Synonyms:**

Alcohol, Ethyl Alcohol, Ethyl Hydrate, Ethyl Hydroxide, Methylcarbinol, Absolute Ethanol, Algrain, Cologne Spirit, Fermentation Alcohol, Grain Alcohol, Jaysol, Jaysol S, Molasses Alcohol, Potato Alcohol, Spirit, Spirits Of Wine, Tecsol, Alcohol, Anhydrous, Alcohol Dehydrated, Anhydrol, Ethanol 200 Proof, Ethyl Alcohol Anhydrous, Cologne Spirits (Alcohol), Ethanol Solution, SD Alcohol 23-Hydrogen

**Exposure Limits:**

TLV: 1000 ppm; 1880 mg/m<sup>3</sup> (as TWA) (ACGIH 1993-1994).  
MAK: 1000 ppm; 1900 mg/m<sup>3</sup>; IV (1992).  
MAK: class D (1992).  
OSHA PEL: TWA 1000 ppm (1900 mg/m<sup>3</sup>)  
NIOSH REL: TWA 1000 ppm (1900 mg/m<sup>3</sup>)  
NIOSH IDLH: 3300 ppm LEL

**Uses:**

Alcoholic beverages; solvent in laboratory and industry (for resins, fats, fatty acids, oils, and hydrocarbons); extraction medium; antiseptic; sedative; manufacture of perfumes, pharmaceuticals (rubbing compounds, lotions, tonics, and colognes), denatured alcohol, acetaldehyde, acetic acid, ethyl acetate, ethylene, 2-ethylhexanol, nitrocellulose, ethyl chloride, ether, butadiene, ethylene dibromide, lacquers, plastics and plasticizers, cosmetics, rubber and rubber accelerators, aerosols, mouthwash products, soaps and cleaning preparations, polishes, dyes, adhesives, inks, preservatives, pesticides, and explosives; gasoline additive/substitute; elastomers; surface coatings; antifreeze; yeast growth medium; organic synthesis; in veterinary medicine as an antiseptic, to destroy nerve tissue and as a solvent and dehydrating agent.

**Consumer products that may contain Ethanol include:**

windshield washer fluid; cleaning products; antimicrobial agents; personal care products.

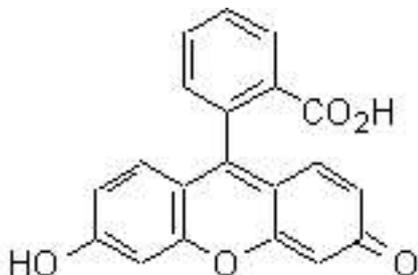
**Routes of Exposure:**

The substance can be absorbed into the body by inhalation of its vapor and by ingestion.

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### Symptoms of exposure

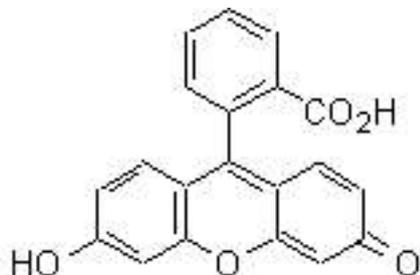
Exposure to ethanol vapors may result in irritation of the eyes and nose, drowsiness and headache. Other symptoms may include stupor, nausea, mental excitement or depression, vomiting, flushing and coma. It can cause irritation of the respiratory tract, intra ocular tension, ataxia, sleepiness, narcosis, impaired perception and incoordination. It can also cause lowered inhibitions, dizziness, shallow respiration, unconsciousness and death. Eye contact results in immediate stinging and burning, with reflex closure of the lids and tearing; transitory injury of the corneal epithelium and hyperemia of the conjunctiva. Other symptoms may include irritation of the throat, lassitude and loss of appetite. Vapor exposure may cause watering of the eyes. It can cause mild redness and burning of the skin, sensory and motor disturbances, mood swings, overconfidence, dulled then lost discrimination, memory, concentration, and insight; vasodilatation, increased sweating and heat sensation. It can also cause drunkenness, slow comprehension, numbness and fatigue. Slurred speech, visual impairment such as blurred or double vision and slowed reaction time may result. Other symptoms may include nervousness and tremors. Chronic symptoms of ingestion and/or vapor exposure may include weight loss, cirrhosis of the liver, gastroenteritis, anorexia, diarrhea, polyneuritis with pain, motor and sensory loss in the extremities, optic atrophy and loss or impairment of other abilities, excitement, acute and chronic gastritis, malabsorption syndrome, acute and chronic pancreatitis, anemia due to acute or chronic blood myopathy, alcoholic cardiomyopathy, lactic acidosis, hypomagnesemia, hypouricemia, hyperlipidemia, pulmonary aspiration and respiratory infections. Chronic exposure may also result in serious neurological and mental disorders (e.g. brain damage, memory loss, sleep disturbances, and psychoses). Other symptoms include mucous membrane irritation, central nervous system depression, giddiness, jaundice, pain in upper abdomen on the right side and staggering gait. It may cause liver, kidney and heart damage. The pupils are sometimes widely dilated and unreactive to light. The liquid can defat the skin, producing a dermatitis characterized by drying and fissuring. It rarely causes temporary blindness. Ingestion of this compound can enhance the effects of coumarin, anticoagulants, antihistamines, hypnotics, sedatives, tranquilizers, insulin, monoamine oxidase inhibitors, and antidepressants. Can cause reproductive and teratogenic effects

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**Target Organs:**

Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system

**Inhalation risk:**

A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20°C.

**Effects of short-term exposure:**

The substance irritates the eyes. Inhalation of high concentration of vapor may cause irritation of the eyes and respiratory tract. The substance may cause effects on the central nervous system.

**Effects of long-term or repeated exposure:**

The liquid defats the skin. The substance may have effects on the upper respiratory tract and central nervous system, resulting in irritation, headache, fatigue and lack of concentration. Chronic ingestion of ethanol may cause liver cirrhosis.

**Special Warnings:**

SAX TOXICITY EVALUATION: THR: MODERATE-LOW via oral, intravenous and dermal routes; probably also via inhalation routes. MUTATION data. It is rapidly oxidized in the body to carbon dioxide and water, and no cumulative effect occurs. Concentrations below 1000 ppm usually produce no signs of intoxication. It is a central nervous system depressant in humans. It causes teratogenic effects, equivoal tumorigenic effects, gastrointestinal effects and glandular effects in humans.