



MATERIAL SAFETY DATA SHEET

SECTION – 1 : CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name	: Triethyl orthoformate ($C_7H_{16}O_3$)
Synonyms	: Aethon, Ethone, Ethyl Orthoformate
Manufacturer/Supplier Name	: M/s GUJARAT FLUOROchemicals LIMITED
Address	: Survey No 16/3, 26, 27, Ranjitnagar Pin-389 380, Tal. Ghoghamba, Dist. Panchmahals, Gujarat,
Business Phone	: +91 – 2678 – 248107, 248152
Business Fax	: +91 – 2678 – 248153
Web Site	: www.gfl.co.in

SECTION – 2 : COMPOSITION, INFORMATION ON INGREDIENTS SECTION

Chemical Name	: Triethyl orthoformate
CAS No.	: 122-51-0
Physical Form	: Liquid

SECTION – 3 : HAZARDS IDENTIFICATION

3.1 Classification of the substance or mixture

Classification according to 2012 OSHA hazard communication standard (29CFR 1910.1200)

Flammable liquids - Category 3

Specific Target Organ Toxicity - Category 3

Target Organs - Respiratory systems

3.2 Label elements

Pictogram



Signal word Warning



Hazard Statement

Flammable liquid and vapor

May cause respiratory irritation

Precautionary statement(s) –

P280 -Wear protective gloves/ protective clothing/ eye protection/ face protection.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

Supplemental Hazard None

Statements

3.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative

And toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher.

SECTION – 4 : FIRST AID MEASURES

Eye Contact:

Get medical aid immediately. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin Contact:

Wash off Immediately with plenty of water for at least 15 minutes. Get Medical attention immediately if symptoms occur.

Inhalation:

Move to fresh air. If breathing is difficult, give Oxygen. Obtain medical attention.

Serious Inhalation: Not available.

Ingestion:

Do NOT induce vomiting. Get medical aid immediately.

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Serious Ingestion: Not available

SECTION – 5 : FIRE FIGHTING MEASURES

Auto-Ignition Temperature: 180°C / 365°F

Flash Points: 35 °C/95°F

Flammable Limits: Not available.

Fire Hazards in Presence of Various Substances:

Not available.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:

Do not enter fire areas without proper protective equipment, including respiratory protection.

Extinguishing media:

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

Special hazards arising from the substance or mixture:

Carbon monoxide (CO) Carbon Dioxide (CO₂)

Advice for firefighting:

Wear self contained breathing apparatus for firefighting if necessary. MSHA/NIOSH (Approved or equivalent) and full protective gear. Thermal decompositions can lead to release of irritating gases and vapors.

Further information

Use water spray to cool unopened containers.

SECTION – 6 : ACCIDENTAL RELEASE MEASURES

6.1 Personal Precaution, protective equipment and emergency procedure:

Use personal protective equipment. Avoid breathing vapours, mist or gases. Remove all sources of Ignition. Take precautionary measures against static discharges.

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6.2 Environment Precautions:

Prevent further leakage or spillage if safe to do so. Do not let product enter drain. Discharge into the environment must be avoided. See Section 12 for additional information.

6.3 Methods and materials for containment and cleaning up:

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipments

SECTION – 7 : HANDLING AND STORAGE SECTION

7.1 Precautions for safe handling:

Wear personal protective equipments. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation .Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Use explosion-proof equipments. Take precautionary measures against static discharges.

7.2 Condition for safe storage:

Store in ambient temperature. Keep container tightly closed. Keep away from heat and sources of ignition.

Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end uses:

No data available.

SECTION – 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls: Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating /lighting/equipments.

Personal Protection:

Eye / face protection: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29CFR 1910.133 or European Standard EN 166.

Skin Protection: Wear appropriate gloves and clothing to prevent skin exposure

Body protection: Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory Protection: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.



Hygiene Measures: Handle in accordance with good industrial hygiene and safety practice.

Personal Protection in Case of a Large Spill:

Not available

Exposure Limits: Not available.

SECTION – 9 : PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance:	Colorless liquid
Odor:	Irritating and Amine like
Taste:	Not available.
Molecular Weight:	148.2g/mole
Color:	Clear colorless liquid.
PH (1% soln /water):	12.7 at 15° C
Boiling Point:	146°C / 294.8°F @ 760mmHg
Melting Point:	-61 °C/-77.8°F
Critical Temperature:	Not available.
Relative Density:	0.890
Vapor Pressure:	10hPa @40°C
Vapor Density:	No information available.
Volatility:	Not available.
Odor Threshold:	No information available.
Water/Oil Dist. Coeff:	Not available.
Ionicity (in Water):	Not available.
Dispersion Properties:	Not available
Solubility:	Soluble in water



SECTION – 10 : STABILITY AND REACTIVITY

Stability: Moisture sensitive.

Incompatibility with various substances: Strong oxidizing agents.

Corrosivity: Not Studied.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: Not available.

SECTION – 11 : TOXICOLOGICAL INFORMATION

Acute toxicity: Not available

Skin Corrosion / irritation: Not Available

Eye irritation: Not Available

Respiratory or skin sensitization: Not Available

Carcinogenicity: Not available

IARC: No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive: Not available

Specific target organ toxicity: Not Available.

Aspiration hazard: Not available

Additional Information: RTECS: Not Available

SECTION – 12 : ECOLOGICAL INFORMATION

Ecotoxicity : Do not empty into drains

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Component	Freshwater Algae	Fresh water Fish	Microtox	Water Flea
Ethyl Orthoformate	Not listed	Leuciscus idus: LC 50=592mg/L/48h	Not available	EC50 =617mg/L/48h

Persistence and degradability : Soluble in water persistence is unlikely based on information available

Bio accumulative potential : Not available

Mobility in soil : Will likely be mobile in environment due to its water solubility

Results of PBT and vPvB assessment :

This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher.

Other adverse effects: Not Available



SECTION – 13 : DISPOSAL CONSIDERATIONS

Waste Treatment methods:

Product: This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company.

Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Contaminated packing: Dispose of as unused product.



SECTION – 14 : TRANSPORT INFORMATION

Identification: Not applicable.

Special Provisions for Transport:

UN number

DOT: 2524 TDG: 2524 IATA: 2524 IMDG/IMO: 2524

UN proper shipping name

ETHYL ORTHOFORMATE

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Transport hazard class (es)

DOT: 3 TDG: 3 IATA: 3 IMDG/IMO: 3

Packaging group

DOT : III TDG: III IMDG: III IATA: III

Environmental hazards

DOT: No IMDG Marine pollutant: No IATA: No

Special precautions for user: Not available

Further information: Not available

SECTION – 15 : REGULATORY INFORMATION

This safety data sheet complies with the requirement of Regulation (EC) No. 1907/2006

Other Classifications:

Health Hazard: Not Studied.

Fire Hazard: Not Studied.

Reactivity: Not Studied.

Specific hazard: Not Studied.

Chemical Safety Assessment:

For this product a chemical safety assessment was not carried out.

SECTION – 16 : ADDITIONAL INFORMATION

References: Not available.

Other Special Considerations: Not available.

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The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the Composition and hazards of the product. Since conditions of use are outside our control, we make no Warranties, express or implied, and assume no liability in connection with any use of this information.