

MSDS

FORESCHEM CO.,LTD.

Trimethyl Orthoformate

1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name: Trimethyl Orthoformate, 99%

Synonyms: Methyl Orthoformate

Company Identification: FORESCHEM CO.,LTD.
A906 HUIJIN BUILDING HIGH TECH INDUSTRY ZOOM,ZIBO,
CHINA

2 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS#	Chemical Name	%	EINECS#
149-73-5	TRIMETHYL ORTHOFORMATE	99	205-745-7
67-56-1	METHANOL	0.5	
	WATER	0.5	

Hazard Symbols: Xi F

Risk Phrases: 11 36/37/38

3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Highly flammable. Irritating to eyes, respiratory system and skin. Moisture sensitive. The toxicological properties of this material have not been fully investigated.

Potential Health Effects

Eye:

Causes moderate eye irritation. The toxicological properties of this material have not been fully investigated.

Skin:

Causes mild skin irritation. The toxicological properties of this material have not been fully investigated.

Ingestion:

The toxicological properties of this substance have not been fully investigated. Expected to be a low ingestion hazard. Causes gastrointestinal tract irritation.

Inhalation:

Causes respiratory tract irritation. The toxicological properties of

this substance have not been fully investigated. Vapors may cause dizziness or suffocation.

Chronic:

No information found.

4 – FIRST AID MEASURES

Eyes:

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin:

Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

Ingestion:

If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid. Wash mouth out with water.

Inhalation:

Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Notes to Physician:

5 – FIRE FIGHTING MEASURES

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. Flammable liquid and vapor. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

Extinguishing Media:

For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Do NOT use water directly on fire. Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water.

6 – ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

7 – HANDLING and STORAGE

Handling:

Wash thoroughly after handling. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Take precautionary measures against static discharges. Keep container tightly closed. Avoid contact with heat, sparks and flame. Avoid ingestion and inhalation. Use only in a chemical fume hood. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage:

Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.
Flammables-area.

8 – EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Personal Protective Equipment

Eyes: Wear chemical goggles. Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear a chemical apron. Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Appearance:	clear, colorless
Odor:	Aromatic, ester-like
pH:	Not available.
Vapor Pressure:	10 hPa @ 7 deg C
Vapor Density:	3.67
Evaporation Rate:	Not available.
Viscosity:	Not available.
Boiling Point:	101 – 102 deg C @ 760.00mm Hg

Freezing/Melting Point: 15 deg C
Autoignition Temperature: 255 deg C (491.00 deg F)
Flash Point: 15 deg C (59.00 deg F)
Explosion Limits, lower: 1.40 vol %
Explosion Limits, upper: 44.60 vol %
Decomposition Temperature: 180 deg C
Solubility: hydrolysis
Specific Gravity/Density: .9700g/cm3
Molecular Formula: C4H10O3
Molecular Weight: 106.12

10 - STABILITY AND REACTIVITY

Chemical Stability:

Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid:

Incompatible materials, ignition sources, excess heat, exposure to moist air or water.

Incompatibilities with Other Materials:

Strong oxidizing agents.

Hazardous Decomposition Products:

Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Has not been reported.

11 - TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 149-73-5: RM6650000

LD50/LC50:

CAS# 149-73-5: Draize test, rabbit, eye: 100 mg/24H Moderate; Draize test, rabbit, skin: 500 mg/24H Mild.

Carcinogenicity:

TRIMETHYL ORTHOFORMATE -

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology:

No information available.

Teratogenicity:

No information available.

Reproductive Effects:

No information available.

Neurotoxicity:

No information available.

Mutagenicity:

No information available.

Other Studies:

No data available.

12 - ECOLOGICAL INFORMATION

Other: No information available.

13 - DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.

14 - TRANSPORT INFORMATION

Shipping Name: TRIMETHYL ORTHOFORMATE

Hazard Class: 3

UN Number: UN3272

Packing Group: II

15 - REGULATORY INFORMATION

US FEDERAL

TSCA

CAS# 149-73-5 is listed on the TSCA inventory.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

TRIMETHYL ORTHOFORMATE is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California No Significant Risk Level:

None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XI F

Risk Phrases:

R 11 Highly flammable.

R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:

S 9 Keep container in a well-ventilated place.

S 16 Keep away from sources of ignition - No smoking.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 29 Do not empty into drains.

S 33 Take precautionary measures against static discharges.

16 - ADDITIONAL INFORMATION

Prepared by: Industry Safety Department