



MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT CODE	A0190
PRODUCT NAME	ACETAL
SUPPLIER	Shanghai M & U International Trade Co., Ltd. Rm 1717, No 598 North NuJiang Road 200333 Shanghai, China +86-21-32515501 32515502 sales@mu-intel.com

FOR EMERGENCIES CALL CHEMTREC: 800-424-9300 (24-HOURS)

2. HAZARD IDENTIFICATION:

Emergency Overview

OSHA Hazards

Flammable liquid, Irritant

Other hazards which do not result in classification

May form explosive peroxides

GHS Classification

Flammable liquids (Category 2)

Acute toxicity, Oral (Category 5)

Skin irritation (Category 2)

Eye irritation (Category 2A)

GHS Label elements, including precautionary statements

Signal word Danger

Hazard statement(s)

H225 Highly flammable liquid and vapour

H303 May be harmful if swallowed

H315 Causes skin irritation

H319 Causes serious eye irritation

Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking

P305 P351 P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification

Health hazard 2

Flammability 3

Physical hazards 2

NFPA Rating

Health hazard	2
Fire	3
Reactivity Hazard	0

Potential Health Effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation
Skin	May be harmful if absorbed through skin. Causes skin irritation
Eyes	Causes eye irritation
Ingestion	May be harmful if swallowed

3. COMPOSITION AND INFORMATION ON INGREDIENTS:

SYNONYMS	1,1-Diethoxyethane		
Formula	C6 H14 O2		
Molecular Weight	118.17 g/mol		
CAS-No	EC-No	Index-No	Concentration
105-57-7	203-310-6	605-015-00-1	

4. FIRST-AID GUIDE:

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician

In case of skin contact

Wash off with soap and plenty of water. Consult a physician

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician

5. FIRE-FIGHTING GUIDE:

Conditions of flammability

Flammable in the presence of a source of ignition when the temperature is above the flash point
Keep away from heat/sparks/open flame/hot surface. No smoking

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide

Special protective equipment for firefighters

Wear self contained breathing apparatus for firefighting if necessary

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE GUIDE:

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains

Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13)

7. HANDLING AND STORAGE:

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist

Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Heat-, light-, and moisture-sensitive, Dry residue is explosive

8. EXPOSURE AND PERSONAL PROTECTION:

Contains no substances with occupational exposure limit values

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands

Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU)

Skin and body protection

Impervious clothing, Flame retardant antistatic protective clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance

Form	LIQUID
Colour	COLORLESS TO PALE YELLOW

Safety data

pH	no data available
Melting point (°C)	-64
Boiling point (°C)	101
Flash point (°F)	Closed cup -6
Ignition temperature	230 °C (446 °F)
Auto ignition temperature	no data available
Lower explosion limit	1.65 % (V)
Upper explosion limit	10.4 % (V)
Vapour pressure (mm Hg @20 °C)	no data available
Density @25 °C	no data available
Water solubility	INSOLUBLE
Partition coefficient: n-octanol/ water	no data available
Relative vapour density	no data available
Odor	ETHERAL, FRUITY-GREEN
Odour Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY:

Chemical stability

Stable under recommended storage conditions, Stable under recommended storage conditions

Possibility of hazardous reactions

Vapours may form explosive mixture with air

Vapours may form explosive mixture with air

Conditions to avoid

Avoid moisture. Heat, Light

Heat, flames and sparks

Heat, flames and sparks. Extremes of temperature and direct sunlight

Materials to avoid

Strong oxidizing agents, Strong reducing agents, Strong bases

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION:

Acute toxicity**Oral LD50**

LD50 Oral - rat - 4,600 mg/kg

Inhalation LC50

No data available

Dermal LD50

No data available

Other information on acute toxicity

No data available

Skin corrosion/irritation

Skin - rabbit - Mild skin irritation - 24 h

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity**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

ACGIH

No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH

NTP

No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP

OSHA

No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA

Reproductive toxicity

No data available

Teratogenicity

No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

Aspiration hazard

No data available

Potential health effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation
Ingestion	May be harmful if swallowed
Skin	May be harmful if absorbed through skin. Causes skin irritation
Eyes	Causes eye irritation

Signs and Symptoms of Exposure

Central nervous system depression, gastrointestinal disturbance, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated

Synergistic effects

No data available

Additional Information

RTECS: AB2800000

12. ECOLOGICAL INFORMATION:

Toxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

PBT and vPvB assessment

No data available

Other adverse effects

No data available

13. DISPOSAL RECOMMENDATIONS:

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material

Contaminated packaging

Dispose of as unused product

14. TRANSPORTATION INFORMATION:

DOT (US)

UN number: 1088 Class: 3 Packing group: II

Proper shipping name: ACETAL

IMDG

UN number: 1088 Class: 3 Packing group: II

Proper shipping name: ACETAL

IATA

UN number: 1088 Class: 3 Packing group: II

Proper shipping name: ACETAL

15. REGULATORY INFORMATION:

OSHA Hazards

Flammable liquid, Irritant

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard

Massachusetts Right to Know Components

1,1-Diethoxyethane	CAS-No	Revision Date
	105-57-7	1993-04-24

Pennsylvania Right to Know Components

1,1-Diethoxyethane	CAS-No	Revision Date
	105-57-7	1993-04-24

New Jersey Right to Know Components

1,1-Diethoxyethane	CAS-No.	Revision Date
	105-57-7	1993-04-24

California Prop 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm

16. OTHER INFORMATION:

The information in this MSDS was obtained from current and reliable sources. However, the data is provided without any warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions for use, handling, storage and disposal of this product are beyond M&U's control, it is the responsibility of the user both to determine safe conditions for use of this product and to assume liability for loss, damage, or expense arising out of the products improper use. No warranty expressed or implied regarding the product described herein will be created by or inferred from any statement or omission in the MSDS. Various federal, state, or provincial agencies may have specific regulations concerning the transportation, handling, storage, use, or disposal of this product which may not be reflected in the MSDS. The user should review these regulations to ensure full compliance.