



Preparing for the New Era of Laboratories

# MATERIAL SAFETY DATA SHEET (MSDS)

According to regulation (EU) no.1907/2006

## **ACETALDEHYDE SOLUTION 20-30% FOR SYNTHESIS**

PRODUCT CODE : B-3004

CAS No : 75-07-0

FORMULA :  $C_2H_4O$

UN No : 1993

website : [www.labotiq.net](http://www.labotiq.net)

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MSDS Number : 0011

Date : Sept 18<sup>th</sup>, 2024

Version : 1.0

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

- 1.1 Product Name** : ACETALDEHYDE SOLUTION 20-30% FOR SYNTHESIS  
**Synonyms** : Ethanal 20 - 30% Solution  
**CAS No.** : 75-07-0  
**HS Code** : 2912 12 00  
**Chemical Formula** : C<sub>2</sub>H<sub>4</sub>O  
**Molecular Weight** : 44.05 g/mol  
**Product Code** : B-3004  
**Brand** : Labotiq
- 1.2 Manufacturer** : Labotiq  
**Address** : Jl.Terapi Raya AD2-Bumi Menteng Asri Bogor, Jawa Barat Indonesia – 16111  
**Website** : [www.labotiq.net](http://www.labotiq.net)  
**Email** : [labotiq.id@gmail.com](mailto:labotiq.id@gmail.com)  
**For information** : Phone : (+62-251) 839110, 8311662, Fax : (+62-251) 83135710  
**Emergency number** : +6281316894650
- 1.3 Application** : Laboratory chemicals, Manufacture of substances, General Chemical reagent

### SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture**  
**Classification according to Regulation (EC) No 1272/2008**  
 Flammable liquids (Category 2), H225  
 Eye irritation (Category 2), H319  
 Germ cell mutagenicity (Category 2), H341  
 Carcinogenicity (Category 1B), H350  
 Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16

### 2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

H225

Highly flammable liquid and vapor.

H319

Causes serious eye irritation.

H335

May cause respiratory irritation.

H341

Suspected of causing genetic defects.

H350

May cause cancer.

Precautionary statement(s)

P202

Do not handle until all safety precautions have been read and understood.

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/attention. Supplemental Hazard Statements none
Supplemental Hazard Statements	none

### 2.3 Other hazards

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

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms	: Ethanal 20 - 30% Solution
Formula	: C <sub>2</sub> H <sub>4</sub> O
Molecular weight	: 44,05 g/mol
CAS-No.	: 75-07-0

### 3.2 Mixture

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
ethanol CAS-No. 64-17-5 EC-No. 200-578-6 Index-No. 603-002-00-5 Registration number 01-2119457610-43- XXXX	Flam. Liq. 2; Eye Irrit. 2; H225, H319 Concentration limits: >= 50 %: Eye Irrit. 2A, H319;	>= 50 - < 70 %
Acetaldehyde CAS-No. EC-No. Index-No. Registration number 75-07-0 200-836-8 605-003-00-6 01-2119451152-51- XXXX	Flam. Liq. 1; Eye Irrit. 2; Muta. 2; Carc. 1B; STOT SE 3; H224, H319, H341, H350, H335	>= 50 - < 70 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General advice

Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air. Call in physician.

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**In case of skin contact**

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

**In case of eye contact**

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

**If swallowed**

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

**4.2 Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**4.3 Indication of any immediate medical attention and special treatment needed**

No data available

**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

Foam Carbon dioxide (CO<sub>2</sub>) Dry powder

**Unsuitable extinguishing media**

For this substance/mixture no limitations of extinguishing agents are given.

**5.2 Special hazards arising from the substance or mixture**

Carbon oxides

Mixture with combustible ingredients.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapours possible in the event of fire.

Forms explosive mixtures with air at ambient temperatures.

**5.3 Advice for firefighters**

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

**5.4 Further information**

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

**6.2 Environmental precautions**

Do not let product enter drains. Risk of explosion.

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**6.3 Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemisorb®). Dispose of properly. Clean up affected area.

**6.4 Reference to other sections**

For disposal see section 13.

**SECTION 7: Handling and storage****7.1 Precautions for safe handling****Advice on safe handling**

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

**Advice on protection against fire and explosion**

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

**Hygiene measures**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

**7.2 Conditions for safe storage, including any incompatibilities****Storage conditions**

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.

**Storage stability**

Recommended storage temperature 2 - 8 °C

Store under inert gas. Handle and open container with care. Air sensitive. Cool to 0°C before opening. Metals

**Storage class**

Storage class (TRGS 510): 3: Flammable liquids

**7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters**

Ingredients with workplace control parameters

**8.2 Exposure control****Appropriate engineering controls**

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

**Personal protective equipment****Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses. Tightly fitting safety goggles

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**Skin protection**  
required

**Body Protection**  
Flame retardant antistatic protective clothing

**Respiratory protection**  
required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type ABEK

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

**Control of environmental exposure**  
Do not let product enter drains. Risk of explosion.

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

Appearance	Form: liquid
	Colour: colourless
Odour	No data available
Odour Threshold	No data available
pH	No data available
Melting point/freezingpoint	No data available.
Initial boiling point and boiling range	61 - 82 °C
Flash point	-1 °C - closed cup
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	7,39 hPa at 20 °C 34,52 hPa at 55 °C
Vapour density	No data available
Density	0,882 g/cm <sup>3</sup> at 25 °C
Relative density	No data available
Water solubility	No data available
Partition coefficient: noctanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	Not classified as explosive
Oxidizing properties	none

#### 9.2 Other safety information

No data available

### SECTION 10: Stability and reactivity

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### **10.1 Reactivity**

Vapors may form explosive mixture with air

### **10.2 Chemical stability**

The product is chemically stable under standard ambient conditions (room temperature) .

### **10.3 Possibility of hazardous reactions**

No data available

### **10.4 Conditions to avoid**

Warming

### **10.5 Incompatible materials**

Strong oxidizing agents

### **10.6 Hazardous decomposition products**

In the event of fire: see section 5

## **SECTION 11: Toxicological information**

### **11.1 Information on toxicological effects**

#### **Mixture**

#### **Acute toxicity**

Oral: No data available

Symptoms: Possible symptoms:, mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

Dermal: No data available

#### **Skin corrosion/irritation**

No data available

#### **Serious eye damage/eye irritation**

Remarks: Mixture causes serious eye irritation.

#### **Respiratory or skin sensitization**

No data available

#### **Germ cell mutagenicity**

Evidence of genetic defects.

Evidence of genetic defects.

#### **Carcinogenicity**

Possible carcinogen.

Possible carcinogen.

#### **Reproductive toxicity**

No data available

#### **Specific target organ toxicity - single exposure**

Mixture may cause respiratory irritation.

Mixture may cause respiratory irritation.

#### **Specific target organ toxicity - repeated exposure**

No data available

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### **Aspiration hazard**

No data available

### **Additional Information**

Endocrine disrupting properties

Product: Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Pulmonary edema. Effects may be delayed., Headache, Blurred vision, Unconsciousness Other dangerous properties can not be excluded.

This substance should be handled with particular care.

Handle in accordance with good industrial hygiene and safety practice.

### **Components**

#### **Ethanol**

Acute toxicity

LD50 Oral - Rat - male and female - 10.470 mg/kg (OECD Test Guideline 401)

LC50 Inhalation - Rat - male and female - 4 h - 124,7 mg/l - vapor (OECD Test Guideline 403)

Dermal: No data available

Skin corrosion/irritation Skin - Rabbit

Result: No skin irritation - 24 h (OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Causes serious eye irritation. (OECD Test Guideline 405)

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: negative (OECD Test Guideline 406)

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: Methanol

Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Result: negative

Method: OECD Test Guideline 478

Species: Mouse - male

Result: Positive results were obtained in some in vivo tests.

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available



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Specific target organ toxicity - repeated exposure

Aspiration hazard  
No data available

#### **acetaldehyde**

Acute toxicity  
Oral: No data available  
Inhalation: No data available  
Dermal: No data available

Skin corrosion/irritation  
Skin - Rabbit  
Result: No skin irritation (OECD Test Guideline 404)

Serious eye damage/eye  
irritation Eyes - Rabbit  
Result: Severe irritations  
Remarks: (RTECS)  
Remarks: Lacrimal irritation due to vapours. conjunctivitis

Respiratory or skin sensitization  
Maximization Test - Guinea pig Result: negative (OECD Test Guideline 406)

Germ cell mutagenicity  
Suspected of causing genetic defects.  
Test Type: Ames test  
Test system: Escherichia coli/Salmonella typhimurium  
Result: negative  
Remarks: (ECHA) Carcinogenicity Presumed to have carcinogenic potential for humans

Reproductive toxicity  
No data available

Specific target organ toxicity - single exposure  
May cause respiratory irritation.

Specific target organ toxicity - repeated exposure  
No data available

Aspiration hazard  
No data available

## **SECTION 12: Ecological information**

### **12.1 Toxicity**

Mixture  
No data available

### **12.2 Persistence and degradability**

No data available

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**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

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

**12.6 Other adverse effects**

No data available

**ethanol**

Toxicity to fish flow-through test

LC50 - Pimephales promelas (fathead minnow) - 15.300 mg/l - 96 h (US-EPA)

Toxicity to daphnia and other aquatic invertebrates static test

LC50 - Ceriodaphnia dubia (water flea) - 5.012 mg/l - 48 h Remarks: (ECHA)

Toxicity to algae

static test ErC50 - Chlorella vulgaris (Fresh water algae) - 275 mg/l - 72 h  
(OECD Test Guideline 201)

Toxicity to bacteria static test

IC50 - activated sludge - &gt; 1.000 mg/l - 3 h (OECD Test Guideline 209)

Toxicity to fish(Chronic toxicity)

semi-static test NOEC - Danio rerio (zebra fish) - 250 mg/l - 120 h Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)

semi-static test NOEC - Daphnia magna (Water flea) - 9,6 mg/l - 9 d Remarks: (ECHA)

**acetaldehyde**

Toxicity to fish static test

LC50 - Pimephales promelas (fathead minnow) - 31 mg/l - 96 h

Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates

static test EC50 - Daphnia magna (Water flea) - ca. 48,3 mg/l - 48 h

Remarks: (ECHA)

Toxicity to algae

static test ErC50 - Pseudokirchneriella subcapitata - &gt; 100 mg/l - 72 h (OECD Test Guideline 201)

static test EC10 - Pseudokirchneriella subcapitata - &gt; 100 mg/l - 72 h (OECD Test Guideline 201)

**Endocrine disrupting properties**

Product: Assessment :

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

##### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

##### Contaminated packaging

Dispose of as unused product.

### SECTION 14: Transport information

#### 14.1 UN number

ADR/RID: 1993

IMDG: 1993

IATA: 1993

#### 14.2 UN proper shipping name

ADR/RID: FLAMMABLE LIQUID, N.O.S. (acetaldehyde, ethanol)

IMDG: FLAMMABLE LIQUID, N.O.S. (acetaldehyde, ethanol)

IATA: Flammable liquid, n.o.s. (acetaldehyde, ethanol)

#### 14.3 Transport hazard class(es)

ADR/RID: 3

IMDG: 3

IATA: 3

#### 14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

#### 14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

#### 14.6 Special precautions for user

##### Further information

No data available

### SECTION 15: Regulatory information

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

#### 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

### SECTION 16: Other information

#### Full text of H-Statements referred to under sections 2 and 3.

H224 Extremely flammable liquid and vapor.

H225 Highly flammable liquid and vapor.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H341 Suspected of causing genetic defects.

H350 May cause cancer.

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**National Fire Protection Association (U.S.A.):**

Health: 3

Flammability: 4

Reactivity: 3

**Further information**

*The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Labotiq shall not be held liable for any damage resulting from handling or from contact with the above product.*

Version : 1.0

Revision Date : September 18<sup>th</sup>, 2024