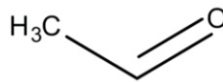


### MATERIAL SAFETY DATA SHEET (MSDS)

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

##### 1.1. Product identifier

Product form	: Mixture
	:
EC-No.	: 200-836-8
CAS-No.	: 75-07-0
Product code	: 00508
Formula	: C <sub>2</sub> H <sub>4</sub> O
Chemical structure	:



Synonyms	: Ethanal
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##### 1.2. Relevant identified uses of the substance or mixture and uses advised against

###### 1.2.1. Relevant identified uses

Industrial/Professional use spec	: Industrial For professional use only
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###### 1.2.2. Uses advised against

No additional information available

##### 1.3. Details of the supplier of the safety data sheet

CHEMIECALL  
Jl. Diklat Pemda, Dukuh Pinang No. 24 RT.001/003  
Kel. Bojong Nangka Kec. Kelapa Dua Tangerang 15821  
Contact: +62(21) 54210228  
[info@chemiecall.com](mailto:info@chemiecall.com) [www.chemiecall.com](http://www.chemiecall.com)

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]Mixtures/Substances: SDS EU 2015: According to

Flammable liquids, Category 1	H224
Serious eye damage/eye irritation, Category 2	H319
Carcinogenicity, Category 2	H351
Specific target organ toxicity — Single	H335

# ACETALDEHYDE SOLUTION For Synthesis

## Safety Data Sheet

exposure, Category 3,  
Respiratory tract irritation

Full text of H statements : see section 16

### Adverse physicochemical, human health and environmental effects

No additional information available

## 2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP] Extra labelling to display Extra classification(s) to display

Hazard pictograms (CLP) :



GHS02

GHS07

GHS08

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H224 - Extremely flammable liquid and vapour.  
H319 - Causes serious eye irritation.  
H335 - May cause respiratory irritation.  
H351 - Suspected of causing cancer.

Precautionary statements (CLP) :

P261 - Avoid breathing vapours, dust, fume, gas.  
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.  
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

## 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ACETALDEHYDE SOLUTION For Synthesis	(CAS-No.) 75-07-0 (EC-No.) 200-836-8	25 - 50	Flam. Liq. 1, H224 Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H335

# ACETALDEHYDE SOLUTION For Synthesis

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WATER AR	(CAS-No.) 7732-18-5 (EC-No.) 231-791-2	70 - 80	Not classified
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Full text of H-statements: see section 16

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

#### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Chronic symptoms	: Suspected carcinogen.

#### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

#### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: Extremely flammable liquid and vapour.
Explosion hazard	: Heating may cause a fire or explosion.

#### 5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.
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##### 6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel.
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##### 6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Ventilate area.

# ACETALDEHYDE SOLUTION For Synthesis

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### 6.2. Environmental precautions

Avoid release to the environment. Do not allow water (or moist air) contact with this material.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.  
Precautions for safe handling : Avoid contact with skin and eyes. Provide good ventilation in process area to prevent formation of vapour. Keep away from sources of ignition - No smoking. Do not breathe vapours. Use only outdoors or in a well-ventilated area.  
Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep in fireproof place. Keep container tightly closed.  
Incompatible products : Strong bases. Strong acids.  
Incompatible materials : Sources of ignition. Direct sunlight.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

Personal protective equipment : Avoid all unnecessary exposure.  
Hand protection : protective gloves  
Eye protection : Chemical goggles or safety glasses  
Skin and body protection : Wear suitable protective clothing  
Respiratory protection : Wear appropriate mask  
Other information : Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

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

Physical state : Liquid  
Molecular mass : 44.05 g/mol  
Colour : Clear Colorless.  
Odour : Pungent.

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## Safety Data Sheet

Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 62 °C
Flash point	: < -17 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Highly flammable liquid and vapour. Flammable solid.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Water: Complete
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 0.04 - 0.6 vol %

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Extremely flammable liquid and vapour.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Open flame. Heat. Sparks.

### 10.5. Incompatible materials

Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

No additional information available

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### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Germ cell mutagenicity	: Not classified Based on available data, the classification criteria are not met
Carcinogenicity	: Suspected of causing cancer.
Additional information	: Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

#### 12.1. Toxicity

No additional information available

#### 12.2. Persistence and degradability

##### ACETALDEHYDE SOLUTION For Synthesis (75-07-0)

Persistence and degradability	Not established.
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#### 12.3. Bioaccumulative potential

##### ACETALDEHYDE SOLUTION For Synthesis (75-07-0)

Bioaccumulative potential	Not established.
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#### 12.4. Mobility in soil

No additional information available

# ACETALDEHYDE SOLUTION For Synthesis

## Safety Data Sheet

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

Additional information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Additional information : Handle empty containers with care because residual vapours are flammable.

Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

### 14.1. UN number

UN-No. (ADR) : 1089

UN-No. (IMDG) : 1089

UN-No. (IATA) : 1089

UN-No. (ADN) : 1089

UN-No. (RID) : 1089

### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : ACETALDEHYDE

Proper Shipping Name (IMDG) : ACETALDEHYDE

Proper Shipping Name (IATA) : Acetaldehyde

Proper Shipping Name (ADN) : ACETALDEHYDE

Proper Shipping Name (RID) : ACETALDEHYDE

Transport document description (ADR) : UN 1089 ACETALDEHYDE, 3, I, (D/E)

Transport document description (IMDG) : UN 1089 ACETALDEHYDE, 3, I (-27°C c.c.)

Transport document description (IATA) : UN 1089 Acetaldehyde, 3, I

Transport document description (ADN) : UN 1089 ACETALDEHYDE, 3, I

Transport document description (RID) : UN 1089 ACETALDEHYDE, 3, I

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : 3

Danger labels (ADR) : 3



#### IMDG

Transport hazard class(es) (IMDG) : 3

Danger labels (IMDG) : 3

# ACETALDEHYDE SOLUTION For Synthesis

## Safety Data Sheet



### IATA

Transport hazard class(es) (IATA) : 3

Hazard labels (IATA) : 3



### ADN

Transport hazard class(es) (ADN) : 3

Danger labels (ADN) : 3



### RID

Transport hazard class(es) (RID) : 3

Danger labels (RID) : 3



## 14.4. Packing group

Packing group (ADR) : I

Packing group (IMDG) : I

Packing group (IATA) : I

Packing group (ADN) : I

Packing group (RID) : I

## 14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

## 14.6. Special precautions for user

### - Overland transport

Classification code (ADR) : F1

Limited quantities (ADR) : 0

Excepted quantities (ADR) : E0

Packing instructions (ADR) : P001

Mixed packing provisions (ADR) : MP7, MP17



# ACETALDEHYDE SOLUTION For Synthesis

## Safety Data Sheet

Portable tank and bulk container instructions (ADR) : T11  
Portable tank and bulk container special provisions (ADR) : TP2, TP7  
Tank code (ADR) : L4BN  
Tank special provisions (ADR) : TU8  
Vehicle for tank carriage : FL  
Transport category (ADR) : 1  
Special provisions for carriage - Operation (ADR) : S2, S20  
Hazard identification number (Kemler No.) : 33  
Orange plates :



Tunnel restriction code (ADR) : D/E  
EAC code : •2YE

### - Transport by sea

Limited quantities (IMDG) : 0  
Excepted quantities (IMDG) : E0  
Packing instructions (IMDG) : P001  
Tank instructions (IMDG) : T11  
Tank special provisions (IMDG) : TP2, TP7  
EmS-No. (Fire) : F-E  
EmS-No. (Spillage) : S-D  
Stowage category (IMDG) : E  
Flash point (IMDG) : -27°C c.c.  
MFAG-No : 129

### - Air transport

PCA Excepted quantities (IATA) : E0  
PCA Limited quantities (IATA) : Forbidden  
PCA limited quantity max net quantity (IATA) : Forbidden  
PCA packing instructions (IATA) : Forbidden  
PCA max net quantity (IATA) : Forbidden  
CAO packing instructions (IATA) : 361  
CAO max net quantity (IATA) : 30L  
Special provisions (IATA) : A1  
ERG code (IATA) : 3H

### - Inland waterway transport

Classification code (ADN) : F1  
Limited quantities (ADN) : 0  
Excepted quantities (ADN) : E0  
Carriage permitted (ADN) : T  
Equipment required (ADN) : PP, EX, A  
Ventilation (ADN) : VE01  
Number of blue cones/lights (ADN) : 1

### - Rail transport

Classification code (RID) : F1  
Limited quantities (RID) : 0  
Excepted quantities (RID) : E0  
Packing instructions (RID) : P001

# ACETALDEHYDE SOLUTION For Synthesis

## Safety Data Sheet

Mixed packing provisions (RID)	: MP7, MP17
Portable tank and bulk container instructions (RID)	: T11
Portable tank and bulk container special provisions (RID)	: TP2, TP7
Tank codes for RID tanks (RID)	: L4BN
Special provisions for RID tanks (RID)	: TU8
Transport category (RID)	: 1
Hazard identification number (RID)	: 33

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

#### 15.1.2. National regulations

##### Germany

Reference to AwSV : Water hazard class (WGK) 1, Slightly hazardous to water (Classification according to AwSV, Annex 1)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

##### Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

##### Denmark

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

Pregnant/breastfeeding women working with the product must not be in direct contact with the product

The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

# ACETALDEHYDE SOLUTION For Synthesis

## Safety Data Sheet

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

### SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H- and EUH-statements:

Carc. 2	Carcinogenicity, Category 2
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 1	Flammable liquids, Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H224	Extremely flammable liquid and vapour.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*