



Safety Data Sheet (Acetaldehyde)

DATE PREPARED: 12/30/2011
REVISION NUMBER: 12/30/2011

Section 1 – Company Information

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Collect Calls Accepted

Section 2 – Product Identification/ Information on Ingredients

PRODUCT NAME Acetaldehyde
CAS NUMBER 75-07-0
SYNONYM Ethanal
FORMULA C₂H₄O

PRODUCT	CAS NUMBER	% BY WEIGHT
Acetaldehyde	75-07-0	100%

Section 3 – Hazards Identification

Emergency Overview

OSHA Hazards

Flammable Liquid, Target Organ Effect, Harmful by ingestion., Skin sensitizer, Irritant, Carcinogen

Target Organs

Blood, Kidney, Lungs, Cardiovascular system., Liver, Central nervous system

HMIS Classification

Health Hazard: 2

Chronic Health Hazard: *

Flammability: 4

Physical hazards: 2

NFPA Rating

Health Hazard: 2

Fire: 4

Reactivity Hazard: 2

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 Harmful if swallowed.



Section 4 – First Aid Measures

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.

Section 5 – Fire Fighting Measures

Flammable properties

Flash point -40 °C (-40 °F) - closed cup

Ignition temperature 175 °C (347 °F)

Suitable extinguishing media

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Specific hazards

May explode when heated. Closed containers may rupture and explode during runaway polymerization. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

Use water spray to cool unopened containers.

Section 6 – Accidental Release Measures

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



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

Methods for cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Section 7 – Handling & Storage

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 build up of electrostatic charge.

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. Store in cool place.

Recommended storage temperature: 2 - 8 °C

Store under inert gas. Air sensitive.

Section 8 – Exposure Controls & Personal Protection

Components CAS-No. Value Control parameters Update Basis

Acetaldehyde 75-07-0 CEIL 25 ppm 45 mg/m³ 1994-09-01

US. American Conference of Governmental and Industrial Hygienists Threshold Limit Values for Chemical Substances in the Work Environment; Annual Reports for the Year 2004:Committees on Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs)

Remarks Confirmed animal carcinogen with unknown relevance to humans. Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH

Recommended Exposure Limit (REL). See CFR 58(124) :36338-33351, June 30, 1993, for revised OSHA PEL. Substance identified by other sources as a suspected or confirmed human carcinogen.

Refers to Appendix A - Carcinogens.

TWA 100 ppm 180 mg/m³ 1989-03-01

US. Department of Labor - Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1000 Z-1-A

STEL 150 ppm 270 mg/m³ 1989-03-01

US. Department of Labor - Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1000 Z-1-A

TWA 200 ppm 360 mg/m³ 1993-06-30

US. Department of Labor - Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PEL) 29 CFR 1910.1000 Air Contaminants.

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to



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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.

Eye protection

Safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

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

Section 9 – Physical & Chemical Properties

Appearance

Form liquid, clear

Colour colourless

Safety data

pH no data available

Melting point -125 °C (-193 °F)

Boiling point 21 °C (70 °F) at 1,013 hPa (760 mmHg)

Flash point -40 °C (-40 °F) - closed cup

Ignition temperature 175 °C (347 °F)

Lower explosion limit 4 %(V)

Upper explosion limit 60 %(V)

Vapour pressure 1,008.5 hPa (756.4 mmHg) at 20 °C (68 °F)

1,451 hPa (1,088 mmHg) at 30 °C (86 °F)

2,660 hPa (1,995 mmHg) at 55 °C (131 °F)

Density 0.785 g/cm³

Water solubility completely miscible

Partition coefficient:

n-octanol/water

log Pow: 0.5

Relative vapour

density

1.52

- (Air = 1.0)

Section 10 – Stability & Reactivity Data

Storage stability



Stable under recommended storage conditions.

Conditions to avoid

Air

Heat, flames and sparks.

Materials to avoid

Oxidizing agents, Reducing agents, acids, Nitric acid, Peroxides, Bases, Sodium Hydroxide, Amines, Ammonia,

Oxygen, Warning: acetaldehyde is oxidized rapidly and exothermically by air, to acetic acid, Acid anhydrides, Alcohols, Halogens, Ketones, Phenol, Hydrogen cyanide (hydrocyanic acid)

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Hazardous reactions

Vapours may form explosive mixture with air.

Section 11 – Toxicological Information
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Acute toxicity

LD50 Oral - rat - 661 mg/kg

Remarks: Peripheral Nerve and Sensation:Spastic paralysis with or without sensory change.

Behavioral:Altered

sleep time (including change in righting reflex). Lungs, Thorax, or Respiration:Dyspnea.

LC50 Inhalation - rat - 4 h - 13300 ppm

Remarks: Behavioral:Excitement. Lungs, Thorax, or Respiration:Dyspnea.

LD50 Dermal - rabbit - 3,540 mg/kg

Irritation and corrosion

Skin - rabbit - Mild skin irritation

Eyes - rabbit - Severe eye irritation

Sensitisation

May cause allergic skin reaction.

Chronic exposure

This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC,

ACGIH, NTP, or EPA classification.

IARC: Group 2B - The agent (mixture) is possibly carcinogenic to humans. (Acetaldehyde)

NTP: Reasonably anticipated to be human carcinogens. (Acetaldehyde)

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. Laboratory experiments have shown mutagenic effects.

Signs and Symptoms of Exposure

Blurred vision, Unconsciousness

Potential Health Effects

Inhalation May be harmful if inhaled. Causes respiratory tract irritation.

Skin May be harmful if absorbed through skin. Causes skin irritation.



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Eyes Causes eye irritation.

Ingestion Harmful if swallowed.

Target Organs Blood, Kidney, Lungs, Cardiovascular system., Liver, Central nervous system,

Additional Information

RTECS: AB1925000

Section 12 – Ecological Information

Elimination information (persistence and degradability)

no data available

Ecotoxicity effects

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

LC100 - Leuciscus idus (Golden orfe) - 124 - 156 mg/l - 48 h

Toxicity to daphnia

and other aquatic

invertebrates.

EC50 - Daphnia magna (Water flea) - 48 mg/l - 48 h

Further information on ecology

no data available

Section 13 – Disposal Consideration

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

Section 14 – Transportation Data

DOT (US)

UN-Number: 1089 Class: 3 Packing group: I

Proper shipping name: Acetaldehyde

Marine pollutant: No

Poison Inhalation Hazard: No

IMDG

UN-Number: 1089 Class: 3 Packing group: I EMS-No: F-E, S-D

Proper shipping name: ACETALDEHYDE

Marine pollutant: No

IATA

UN-Number: 1089 Class: 3 Packing group: I



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Proper shipping name: Acetaldehyde
IATA Passenger: Not permitted for transport

Section 15 – Regulatory Information

OSHA Hazards

Flammable Liquid, Target Organ Effect, Harmful by ingestion., Skin sensitizer, Irritant, Carcinogen

DSL Status

All components of this product are on the Canadian DSL list.

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

Acetaldehyde

CAS-No.

75-07-0

Revision Date

1987-01-01

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

Acetaldehyde

CAS-No.

75-07-0

Revision Date

1987-01-01

Pennsylvania Right To Know Components

Acetaldehyde

CAS-No.

75-07-0

Revision Date

1987-01-01

New Jersey Right To Know Components

Acetaldehyde

CAS-No.

75-07-0

Revision Date

1987-01-01

California Prop. 65 Components

WARNING! This product contains a chemical known in the State of California to cause cancer.

Acetaldehyde



Section 16 – Other Information

Disclaimer

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.