Safety Data Sheet

Acetaldehyde

CAROLINA®
www.carolina.com

Section 1 Product Description

Product Name:	Acetaldehyde
Recommended Use:	Science education applications
Synonyms:	Acetic Aldehyde, Ethanal, Ethyl Aldehyde
Distributor:	Carolina Biological Supply Company 2700 York Road, Burlington, NC 27215 1-800-227-1150
Chemical Information:	800-227-1150 (8am-5pm (ET) M-F)
Chemtrec:	800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

DANGER

Extremely flammable liquid and vapor. Causes serious eye irritation. May cause respiratory irritation. May cause cancer. Harmful to aquatic life.

GHS Classification:
Flammable Liquid Category 1, Carcinogenicity Category 1A, Serious Eye Damage/Eye Irritation Category 2A, Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 3, Hazardous to the aquatic environment - Acute Category 3, Acute Toxicity - Inhalation Vapor Category 5, Acute Toxicity - Dermal Category 5

Other Safety Precautions:	IF exposed or concerned: Get medical advice/attention.
Acute Toxicity Oral Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%
Acetaldehyde	75-07-0	100

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation:	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Eyes:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin Contact:	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
Ingestion:	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media:	Use dry chemical, CO2 or appropriate foam.
Fire Fighting Methods and Protection:	Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards:	Vapors may travel back to ignition source. Closed Containers exposed to heat may explode.
Hazardous Combustion Products:	Carbon dioxide, Carbon monoxide

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: Exposure to the spilled material may be severely irritating or toxic. Follow personal protective equipment recommendations found in Section 8 of this SDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits. Ventilate the contaminated area. Isolate area. Keep unnecessary personnel away.
Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

Section 7 Handling and Storage

Handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/…/ equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Use personal protective equipment as required. Keep out of the reach of children. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Wear suitable protective clothing and gloves.

Storage: Keep container tightly closed. Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up. This material should be kept in an area suitable for the storage of flammable liquids. Store away from oxidizing agents, sparks and flame.

Storage Code: Red - Flammables. Store in approved flammable containers. Store away from oxidizing materials.

Section 8 Protection Information

	ACGIH		OSHA PEL	
Chemical Name	**(TWA)**	**(STEL)**	**(TWA)**	**(STEL)**
Acetaldehyde	N/A	N/A	200 ppm TWA; 360 mg/m3 TWA	N/A

Control Parameters

Engineering Measures: Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.

Respiratory Protection: No respiratory protection required under normal conditions of use. Wear a NIOSH approved respirator if levels above the exposure limits are possible.

Respirator Type(s): NIOSH approved full-face respirator as a minimum.

Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: Butyl rubber

Section 9 Physical Data

Formula: CH3CHO
Molecular Weight: 44.05
Appearance: Colorless Liquid
Odor: Moderate Fruity Pungent
Odor Threshold: 0.087 ppm OT (Katz and Talbert); 0.12 mg/m3 OT (Katz and Talbert)
pH: No data available
Melting Point: No data available -123 C
Boiling Point: No data available 20 C

Vapor Pressure: 1006 hPa @ 20°C
Evaporation Rate (BuAc=1): 49.1
Vapor Density (Air=1): 1.52
Specific Gravity: 0.7834 @ 18°C
Solubility in Water: Soluble

Log Pow (calculated): No data available
Autoignition Temperature: No data available 175 C
Decomposition Temperature: No data available

Flash Point: No data available
Flammable Limits in Air: 4.1% 55%

Viscosity: No data available
Percent Volatile by Volume: 100%

Section 10 Reactivity Data

Reactivity: No data available
Chemical Stability: Stable under normal conditions. May form explosive peroxides
Conditions to Avoid: Sparks, open flame, other ignition sources, and elevated temperatures.
Incompatible Materials: Strong reducing agents, Strong oxidizing agents, Acids, Alcohols, Amines, Ammonia, Halogens, Caustics (bases)
Hazardous Polymerization: Will not occur

Section 11 Toxicity Data

Routes of Entry Inhalation, Ingestion, and Skin contact.
Symptoms (Acute): Respiratory disorders
Delayed Effects: No data available

Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Acetaldehyde	75-07-0	Not determined	Dermal LD50 Rabbit 3540 mg/kg	INHALATION LC50 Mouse 20300 MG/M3 INHALATION LC50 MAMMAL 20100 MG/M3 INHALATION LC50 HAMSTER 17000 ppm

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Acetaldehyde	75-07-0	Listed	Listed	Listed

Chronic Effects:
Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: See Section 2
Chronic: Mutation data cited., Reproductive data cited., Tests on laboratory animals indicate material may produce adverse mutagenic and reproductive effects.

Section 12 Ecological Data

Overview: Moderate ecological hazard. This product may be dangerous to plants and/or wildlife. Highly/very toxic to fish and other water organisms.
Mobility: No data
Persistence: No data
Bioaccumulation: No data
Degradability: No data
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
Acetaldehyde	75-07-0	96 HR LC50 LEPOMIS MACROCHIRUS 53 MG/L [STATIC] 48 HR EC50 DAPHNIA MAGNA 48.3 MG/L 120 HR EC50 NITZSCHIA LINEARIS 237 - 249 MG/L

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.

Waste Disposal Code(s): The waste is ignitable.
The waste is a listed hazardous waste.

Section 14 Transport Information

Ground - DOT Proper Shipping Name:
UN1089
Ethanal
Hazard Class = 3
P.G. I
1000 lb RQ (454 kg RQ)

Air - IATA Proper Shipping Name:
UN number: 1089 Class: 3 Packing group: I Proper shipping name: Acetaldehyde IATA Passenger: Not permitted for transport

Section 15 Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Acetaldehyde	75-07-0	Acetaldehyde	1000 lb RQ	1000 lb final RQ; 454 kg final RQ	No	No

California Prop 65: WARNING: This product contains a chemical known to the state of California to cause cancer, birth defects or other reproductive harm.

Section 16 Additional Information

Revised: 09/09/2015 **Replaces: 09/03/2014** **Printed: 10-29-2015**

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstract Service Number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOT	U.S. Department of Transportation
IARC	International Agency for Research on Cancer
N/A	Not Available
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
ppm	Parts per million
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
IDLH	Immediately dangerous to life and health