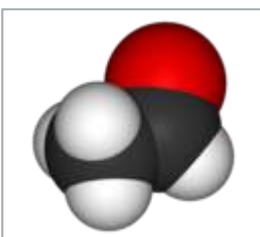
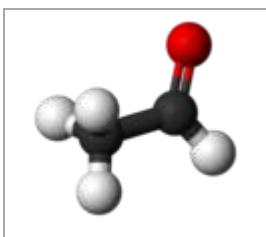
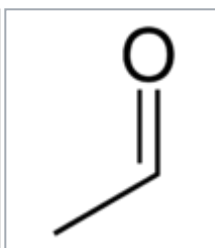
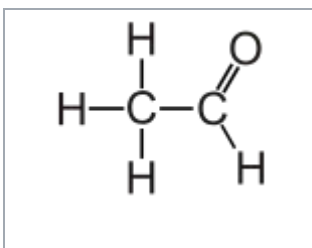


Acetaldehyde



Names

Preferred IUPAC name

Acetaldehyde^[3]

Systematic IUPAC name

Ethanal^[3]

Other names

Acetic aldehyde

Ethyl aldehyde^[1]

Acetylaldehyde^[2]

Identifiers

CAS Number

[75-07-0](#) ✓

3D model (JSmol)

[Interactive image](#)

[Interactive image](#)

ChEBI

[CHEBI:15343](#) ✓

ChEMBL

[ChEMBL170365](#) ✓

ChemSpider

[172](#) ✓

ECHA InfoCard

[100.000.761](#)

EC Number

200-836-8

IUPHAR/BPS

[6277](#)

KEGG

[C00084](#) ✓

PubChem CID

[177](#)

RTECS number

AB1925000


UNII


[GO1N1ZPR3B](#) ✓

CompTox Dashboard(EPA)

[DTXSID5039224](#)

InChI

| SMILES | |
|---|--|
| Properties | |
| Chemical formula | C ₂ H ₄ O |
| Molar mass | 44.053 g·mol ⁻¹ |
| Appearance | Colourless gas or liquid |
| Odor | Ethereal |
| Density | 0.784 g·cm ⁻³ (20 °C) ^[4] 0.7904–0.7928 g·cm ⁻³ (10 °C) ^[4] |
| Melting point | -123.37 °C (-190.07 °F; 149.78 K) |
| Boiling point | 20.2 °C (68.4 °F; 293.3 K) |
| Solubility in water | miscible |
| Solubility | miscible with <u>ethanol</u> , <u>ether</u> , <u>benzene</u> , <u>toluene</u> , <u>xylene</u> , <u>turpentine</u> , <u>acetone</u> slightly soluble in <u>chloroform</u> |
| log <i>P</i> | -0.34 |
| Vapor pressure | 740 mmHg (20 °C) ^[5] |
| Acidity (p <i>K</i> _a) | 13.57 (25 °C, H ₂ O) ^[6] |
| Magnetic susceptibility (<i>χ</i>) | -.5153 ⁻⁶ cm ³ /g |
| Refractive index(<i>n</i> _D) | 1.3316 |
| Viscosity | 0.21 mPa·s at 20 °C (0.253 mPa·s at 9.5 °C) ^[7] |
| Structure | |
| Molecular shape | trigonal planar (sp ²) at C ₁ tetrahedral (sp ³) at C ₂ |
| Dipole moment | 2.7 D |
| Thermochemistry | |
| Std molar entropy (<i>S</i> ^o ₂₉₈) | 250 J·mol ⁻¹ ·K ⁻¹ |
| Std enthalpy of formation(<i>Δ</i> _f <i>H</i> ^o ₂₉₈) | -166 kJ·mol ⁻¹ |
| Hazards | |
| Main hazards | potential occupational carcinogen ^[9] |
| Safety data sheet | <i>See: data page</i> HMDB |
| GHS pictograms |  ^[8] |
| GHS hazard statements | H224, H319, H335, H351 ^[8] |

| | |
|--|--|
| <u>GHS precautionary statements</u> | <u>P210, P261, P281, P305+351+338</u> ^[8] |
| NFPA 704 (fire diamond) |  |
| <u>Flash point</u> | -39.00 °C; -38.20 °F; 234.15 K |
| <u>Autoignition temperature</u> | 175.00 °C; 347.00 °F; 448.15 K ^[5] |
| <u>Explosive limits</u> | 4.0–60% |
| Lethal dose or concentration (LD, LC): | |
| <u>LD₅₀ (median dose)</u> | 1930 mg/kg (rat, oral) |
| <u>LC₅₀ (median concentration)</u> | 13,000 ppm (rat), 17,000 ppm (hamster), 20,000 ppm (rat) ^[9] |
| NIOSH (US health exposure limits): | |
| <u>PEL(Permissible)</u> | 200 ppm (360 mg/m ³) ^[5] |
| <u>IDLH(Immediate danger)</u> | 2000 ppm ^{[5][9]} |
| Related compounds | |
| <u>Related aldehydes</u> | <u>Formaldehyde</u> <u>Propionaldehyde</u> |
| <u>Related compounds</u> | <u>Ethylene oxide</u> |
| Supplementary data page | |
| <u>Structure and properties</u> | <u>Refractive index (n)</u> , <u>Dielectric constant (ε_r)</u> , etc. |
| <u>Thermodynamic data</u> | <u>Phase behaviour</u> solid–liquid–gas |
| <u>Spectral data</u> | <u>UV, IR, NMR, MS</u> |
| Except where otherwise noted, data are given for materials in their <u>standard state</u> (at 25 °C [77 °F], 100 kPa). | |
| <p>✓ verify (what is ✓✗ ?)</p> <p><u>Infobox references</u></p> | |