



>>>Acetaldehyde, 9CI

Ethanal

DFR74-T

[75-07-0]

Classification:VA0250

H<sub>3</sub>CCHO

C<sub>2</sub>H<sub>4</sub>O M 44.053. 44.026215. C 54.53%; H 9.15%; O 36.32%

etc. Intermed. in respiration. Toxic intermed. in ethanol metab. in humans. Widely distributed in essential oils and other plant products. Chemical intermed. used in manuf. of 2,2-Bis(hydroxymethyl)-1,3-propanediol [DDT03-T](#), Peracetic acid [DDW29-U](#) acid, pyridines. Declining as source of Acetic acid [DFR91-W](#). Various acetals are used in perfumery. Liq. with a pungent fruity odour. Misc. H<sub>2</sub>O, org. solvs..  $d_4^{20}$  0.778. Mp -121°. Bp 21°.  $pK_{a1}$  13.57 (25°,hydrate).  $n_D^{20}$  1.3316. Vp 900 mmHg (25°). Readily polymerises. At low temps., cationic or anionic polym. gives poly(acetaldehyde). At higher temps. cyclisation to the cyclic trimer, paraldehyde, and the cyclic tetramer, metaldehyde, occurs. The trimer may be formed on standing; redistn. regenerates acetaldehyde. Ceiling temp. for polym.  $T_c$ -39° (pure liq.). Crit. point 181.5°/63.2 atm..

♦Extremely flammable, fl. p.-38°, autoignition temp. 140/175°. Reacts violently with a range of organic and inorganic substances. Possible human carcinogen. Skin and severe eye irritant. A systemic irritant by inhalation. High vapour conc. narcotic preceded by sore throat and headache. Exp. carcinogen and teratogen. Exp. reprod. effects. AB1925000.

Supplier: Aldrich:40278-8. Fluka:71. Sigma:A5076. Supelco:S48-2003

>>>Oxime: Acetaldoxime. Aldoxime. Ethylidenehydroxylamine. BZS97-v [107-29-9] Classification:PA1450 PA1400 PM6860 PA2400. C<sub>2</sub>H<sub>5</sub>NO M 59.068. 59.037114. C 40.67%; H 8.53%; N 23.71%; O 27.09%.

Colorimetric reagent for Co, Cu, Ni. Needles. Sol. H<sub>2</sub>O, CHCl<sub>3</sub>, EtOH, Et<sub>2</sub>O. Mp 47°. Bp 115°.  $n_D^{22}$  1.4258 (Z-form). Mp refers to (E)-form which is the crystalline isomer. (Z)-form is liq..

♦Highly flammable, fl. p. <22°. AB2975000.

Supplier: Aldrich:40776-3. Fluka:150. Sigma:A0375

>>>Semicarbazone: DFR75-U [591-86-6] C<sub>3</sub>H<sub>7</sub>N<sub>3</sub>O M 101.108. 101.058912. C 35.64%; H 6.98%; N 41.56%; O 15.82%. Needles (H<sub>2</sub>O or EtOH). Mp 163°

>>>Phenylhydrazone (E-): LRS87-U [20488-38-4] C<sub>8</sub>H<sub>10</sub>N<sub>2</sub> M 134.18. 134.084398. C 71.61%; H 7.51%; N 20.88%. Mp 57°. Bp<sub>20</sub> 133-136°

>>>Phenylhydrazone (Z-): LRS86-T [27935-60-0] C<sub>8</sub>H<sub>10</sub>N<sub>2</sub> M 134.18. 134.084398. C 71.61%; H 7.51%; N 20.88%. Cryst. (Et<sub>2</sub>O/petrol). Mp 100°. Bp<sub>20</sub> 236°

>>>2,4-Dinitrophenylhydrazone (E-): HCS65-T [61947-85-1] Yellow plates (EtOH). Mp 169° (163.5-164.5°)

>>>2,4-Dinitrophenylhydrazone (Z-): LRS85-S [61947-84-0] Orange cryst.. Mp 147°

>>>Dimedone deriv.: DGS47-Z Cryst. (EtOH). Mp 141-142°

>>>Di-Me acetal: 1,1-Dimethoxyethane, 9CI. BZT10-v [534-15-6] C<sub>4</sub>H<sub>10</sub>O<sub>2</sub> M 90.122. 90.06808. C 53.31%; H 11.18%; O 35.51%. Synthetic reagent. Sol. H<sub>2</sub>O, EtOH, Et<sub>2</sub>O, Me<sub>2</sub>CO, CHCl<sub>3</sub>. Mp -113.2°. Bp 64.5°.  $n_D^{20}$  1.3668.

♦Highly flammable, fl. p. 1°. AB2825000.

Supplier: Aldrich:W34260-2. Fluka:120