



**Percentage Composition:** C 72.68%; H 11.18%; O 16.14%

**Boiling Point:** Bp 228-230°

**Optical Rotation:**  $[\alpha]_D^{20} -80$  (c, 8 in C<sub>6</sub>H<sub>6</sub>)

**Aldrich:** 44105-8

**Fluka:** 45985

>>**Derivative:** Chloroformyl

**Synonym(s):** Menthyl chloroformate

**CAS Registry Number:** 7635-54-3

**Molecular Formula:** C<sub>11</sub>H<sub>19</sub>ClO<sub>2</sub>

**Molecular Weight:** 218.723

**Accurate Mass:** 218.107357

**Percentage Composition:** C 60.41%; H 8.76%; Cl 16.21%; O 14.63%

**Use/Importance:** Reagent for resolution of chiral amines and alcohols

**Aldrich:** 37871-2

**Fluka:** 23197

>>**Derivative:** Chloromethyl ether

**CAS Registry Number:** 26127-08-2

**Molecular Formula:** C<sub>11</sub>H<sub>21</sub>ClO

**Molecular Weight:** 204.739

**Accurate Mass:** 204.128092

**Percentage Composition:** C 64.53%; H 10.34%; Cl 17.32%; O 7.81%

**Use/Importance:** Used in chiral synthesis of  $\alpha$ -methyl- $\alpha$ -amino acids

**Boiling Point:** Bp<sub>0.4</sub> 72-74°

**Optical Rotation:**  $[\alpha]_D^{25} -187.8$  (c, 1.2 in CH<sub>2</sub>Cl<sub>2</sub>)

**Aldrich:** 34991-7

>>**Derivative:** 3-Methylbutanoyl

**Synonym(s):** Methyl isovaleate. validol. FEMA 2669

**CAS Registry Number:** 16409-46-4

**Molecular Formula:** C<sub>15</sub>H<sub>28</sub>O<sub>2</sub>

**Molecular Weight:** 240.385

**Accurate Mass:** 240.20893

**Percentage Composition:** C 74.95%; H 11.74%; O 13.31%

**Use/Importance:** Flavouring ingredient with a bitter, wood-like taste

**Physical Description:** Oil

**Boiling Point:** Bp<sub>22</sub> 140-146°

>>**Derivative:** 2-Hydroxypropanoyl

**Synonym(s):** Menthyl lactate. FEMA 3748

**CAS Registry Number:** 59259-38-0

**Molecular Formula:** C<sub>13</sub>H<sub>24</sub>O<sub>3</sub>

**Molecular Weight:** 228.331

**Accurate Mass:** 228.172545

**Percentage Composition:** C 68.38%; H 10.59%; O 21.02%

**Use/Importance:** Flavouring ingredient

**Physical Description:** Cryst.

**Melting Point:** Mp 38-40°

>>**Variant:** (1*R*,3*S*,4*R*)-form

**Synonym(s):** (+)-Isomenthol

**CAS Registry Number:** 23283-97-8

**Extra CAS Registry Numbers(s):** 15356-70-4

**Molecular Formula:** C<sub>10</sub>H<sub>20</sub>O

**Molecular Weight:** 156.267

**Accurate Mass:** 156.151415

**Percentage Composition:** C 76.86%; H 12.90%; O 10.24%

**Physical Description:** Cryst. (MeOH)

**Melting Point:** Mp 82.5°

**Boiling Point:** Bp 218°

**Optical Rotation:**  $[\alpha]$