### MỤC LỤC

### Trang

Mục lục 1

**A. PHẦN 1: DANH PHÁP CÁC CHẤT VÔ CƠ** 2

1. HỆ THỐNG TÊN NGUYÊN TỐ, ĐƠN CHẤT 2

2. PHÂN LOẠI VÀ CÁCH GỌI TÊN MỘT SỐ PHÂN LOẠI HỢP CHẤT VÔ CƠ 5

2.1. ION 5

2.2. OXIDE 5

2.3. BASE 6

2.4. ACID 6

2.5. MUỐI VÀ MỘT SỐ HỢP CHẤT CỘNG HÓA TRỊ KHÁC 7

**B. DANH PHÁP HỢP CHẤT HỮU CƠ** 10

1. DANH PHÁP CHUNG 10

1.1. Số lượng và tên mạch carbon chính 10

1.2. Tên một số gốc (nhóm) thường gặp 11

1.3. Nhóm đặc trưng ở dạng tiền tố (Prefix) 11

1.4. Nhóm đặc trưng ở dạng tiền tố (Prefix) và hậu tố (Suffix) 11

1.5. Tên thông thường 12

1.6. Tên hệ thống theo danh pháp IUPAC 12

2. DANH PHÁP CÁC LOẠI HỢP CHẤT HỮU CƠ 12

2.1. ALKANE 12

2.2. ALKENE 13

2.3. ALKADIENE 14

2.4. ALKYNE 15

2.5. HYDROCARBON THƠM 16

2.6. DẪN XUẤT HALOGEN CỦA HYDROCARBON 17

2.7. ALCOHOL 17

2.8. ETHER 18

2.9. PHENOL 19

2.10. ALDEHYDE 19

2.11. KETONE 20

2.12. CARBOXYLIC ACID 21

2.13. ESTER 22

2.14. CARBOHYDRATE 23

2.15. AMINE 23

2.16. AMINO ACID 24

2.17. PEPTIDE 24

2.18. POLYMER 24

**CHEMICAL TERMS**

**NOMENCLATURE OF CHEMICAL ELEMENTS AND COMPOUNDS**

*Thuật ngữ hóa học - Danh pháp các nguyên tố và hợp chất hóa học*

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**A. PHẦN 1: DANH PHÁP CÁC CHẤT VÔ CƠ**

**1. HỆ THỐNG TÊN NGUYÊN TỐ, ĐƠN CHẤT**

Với hệ thống tiếng Anh, cả nguyên tố và đơn chất đều được biểu diễn bằng thuật ngữ “element”. Tên gọi của nguyên tố và đơn chất theo đó giống nhau.

VD:

Hydrogen Nguyên tố H hoặc đơn chất H2

Oxygen Nguyên tố O hoặc đơn chất O2

Nitrogen Nguyên tố N hoặc đơn chất N2

Fluorine Nguyên tố F hoặc đơn chất F2

Chlorine Nguyên tố Cl hoặc đơn chất Cl2

Bromine Nguyên tố Br hoặc đơn chất Br2

Iodine Nguyên tố I hoặc đơn chất I2

Sulfur Nguyên tố S hoặc đơn chất S8 (thường viết gọn thành S)

Phosphorous Nguyên tố P hoặc đơn chất P4 (thường viết gọn thành P)

**Bảng 1: Kí hiệu hóa học và tên gọi các nguyên tố.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Z** | **KÍ HIỆU HÓA HỌC** | **TÊN GỌI** | **PHIÊN ÂM TIẾNG ANH** |
| 1 | H | Hydrogen | /ˈhaɪdrədʒən/ |
| 2 | He | Helium | /ˈhiːliəm/ |
| 3 | Li | Lithium | /ˈlɪθiəm/ |
| 4 | Be | Beryllium | /bəˈrɪliəm/ |
| 5 | B | Boron | /ˈbɔːrɒn/  /ˈbɔːrɑːn/ |
| 6 | C | Carbon | /ˈkɑːbən/  /ˈkɑːrbən/ |
| 7 | N | Nitrogen | /ˈnaɪtrədʒən/ |
| 8 | O | Oxygen | /ˈɒksɪdʒən/  /ˈɑːksɪdʒən/ |
| 9 | F | Fluorine | /ˈflɔːriːn/  /ˈflʊəriːn/  /ˈflɔːriːn/  /ˈflʊriːn/ |
| 10 | Ne | Neon | /ˈniːɒn/  /ˈniːɑːn/ |
| 11 | Na | Sodium | /ˈsəʊdiəm/ |
| 12 | Mg | Magnesium | /mæɡˈniːziəm/ |
| 13 | Al | Aluminium | /ˌæljəˈmɪniəm/  /ˌæləˈmɪniəm/ |
| 14 | Si | Silicon | /ˈsɪlɪkən/ |
| 15 | P | Phosphorus | /ˈfɒsfərəs/  /ˈfɑːsfərəs/ |
| 16 | S | Sulfur | /ˈsʌlfə(r)/  /ˈsʌlfər/ |
| 17 | Cl | Chlorine | /ˈklɔːriːn/ |
| 18 | Ar | Argon | /ˈɑːɡɒn/  /ˈɑːrɡɑːn/ |
| 19 | K | Potassium | /pəˈtæsiəm/ |
| 20 | Ca | Calcium | /ˈkælsiəm/ |
| 21 | Sc | Scandium | /ˈskændiəm/ |
| 22 | Ti | Titanium | /tɪˈteɪniəm/  /taɪˈteɪniəm/ |
| 23 | V | Vanadium | /vəˈneɪdiəm/ |
| 24 | Cr | Chromium | /ˈkrəʊmiəm/ |
| 25 | Mn | Manganese | /ˈmæŋɡəniːz/ |
| 26 | Fe | Iron | /ˈaɪən/  /ˈaɪərn/ |
| 27 | Co | Cobalt | /ˈkəʊbɔːlt/ |
| 28 | Ni | Nickel | /ˈnɪkl/ |
| 29 | Cu | Copper | /ˈkɒpə(r)/  /ˈkɑːpər/ |
| 30 | Zn | Zinc | /zɪŋk/ |
| 33 | As | Arsenic | /ˈɑːsnɪk/  /ˈɑːrsnɪk/ |
| 34 | Se | Selenium | /səˈliːniəm/ |
| 35 | Br | Bromine | /ˈbrəʊmiːn/ |
| 36 | Kr | Krypton | /ˈkrɪptɒn/  /ˈkrɪptɑːn/ |
| 37 | Rb | Rubidium | /ruːˈbɪdiəm/ |
| 38 | Sr | Strontium | /ˈstrɒntiəm/  /ˈstrɒnʃiəm/  /ˈstrɑːntiəm/  /ˈstrɑːnʃiəm/ |
| 46 | Pd | Palladium | /pəˈleɪdiəm/ |
| 47 | Ag | Silver | /ˈsɪlvə(r)/  /ˈsɪlvər/ |
| 48 | Cd | Cadmium | /ˈkædmiəm/ |
| 50 | Sn | Tin | /tɪn/ |
| 53 | I | Iodine | /ˈaɪədiːn/  /ˈaɪədaɪn/ |
| 54 | Xe | Xenon | /ˈzenɒn/  /ˈziːnɒn/  /ˈzenɑːn/  /ˈziːnɑːn/ |
| 55 | Cs | Caesium | /ˈsiːziəm/ |
| 56 | Ba | Barium | /ˈbeəriəm/  /ˈberiəm/ |
| 78 | Pt | Platinum | /ˈplætɪnəm/ |
| 79 | Au | Gold | /ɡəʊld/ |
| 80 | Hg | Mercury | /ˈmɜːkjəri/  /ˈmɜːrkjəri/ |
| 82 | Pb | Lead | /liːd/ |
| 87 | Fr | Francium | /ˈfrænsiəm/ |
| 88 | Ra | Radium | /ˈreɪdiəm/ |

**2. PHÂN LOẠI VÀ CÁCH GỌI TÊN MỘT SỐ PHÂN LOẠI HỢP CHẤT VÔ CƠ**

**2.1. ION**

- Ion dương (Cation):

K potassium  K+ potassium ion

Mg magiesium  Mg2+ magiesium ion

Al aluminum  Al3+ aluminum ion

- Ion âm (Anion):

Cl chlorine Cl- chloride ion

O oxygen  O2- oxide ion

N nitrogen  N3- nitride ion

**2.2. OXIDE**

**-** “oxide” - /ˈɒksaɪd/ hay /ˈɑːksaɪd/

**- Đối với oxide của kim loại (hướng đến basic oxide):**

**TÊN KIM LOẠI + (HÓA TRỊ) + OXIDE**

VD:

Na2O: **sodium oxide** - /ˈsəʊdiəm ˈɒksaɪd/.

MgO: **magnesium oxide** - /mæɡˈniːziəm ˈɒksaɪd/.

**Lưu ý:** Hóa trị sẽ được phát âm bằng tiếng Anh, ví dụ (II) sẽ là two, (III) sẽ là three. Đối với kim loại đa hóa trị thì bên cạnh cách gọi tên kèm hóa trị thì có thể dung một số thuật ngữ tên thường để ám chỉ cả hóa trị mà kim loại đang mang. Trong đó, đuôi -ic hướng đến hợp chất mà kim loại thể hiện mức hóa trị cao, còn đuôi -ous hướng đến hợp chất mà kim loại thể hiện mức hóa trị thấp.

**Bảng 2: Tên gọi các oxide.**

|  |  |  |
| --- | --- | --- |
| **KIM LOẠI** | **TÊN GỌI** | **VÍ DỤ** |
| Iron (Fe) | Fe (II): ferrous - /ˈferəs/ | FeO: **iron (II) oxide**  **ferrous oxide** |
| Fe (III): ferric - / ˈferik/ | Fe2O3: **iron (III) oxide**  **ferric oxide** |
| Copper (Cu) | Cu (I): cuprous - /ˈkyü-prəs/ | Cu2O: **copper (I) oxide**  **cuprous oxide** |
| Cu (II): cupric - /ˈkyü-prik/ | CuO: **copper (II) oxide**  **cupric oxide** |
| Chromium (Cr) | Cr (II): chromous - /ˈkrəʊməs/ | CrO: **chromium (II) oxide**  **chromous oxide** |
| Cr (III): chromic - /ˈkrəʊmik/ | Cr2O3: **chromium (III) oxide**  **chromic oxide** |

**- Đối với oxide của phi kim (hoặc acidic oxide – oxit axit của kim loại):**

**CÁCH 1:**

**TÊN PHI KIM + (HÓA TRỊ) + OXIDE**

**CÁCH 2:**

**SỐ LƯỢNG NGUYÊN TỬ + TÊN NGUYÊN TỐ + SỐ LƯỢNG OXYGEN + OXIDE**

**Lưu ý:**

+Số lượng nguyên tử/nhóm nguyên tử được quy ước là mono, di, tri, tetra, penta,…

+ Theo quy tắc giản lược nguyên âm: **mono** + **oxide = monoxide, penta** + **oxide = pentoxide.**

**Bảng 3: Số lượng và phiên âm**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **SỐ LƯỢNG** | **PHIÊN ÂM TIẾNG ANH** | **VÍ DỤ AUDIO** | |
| **1** | Mono | /ˈmɒnəʊ/ | | [mono](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/m/mon/mono_/mono__gb_1.mp3) | |
| **2** | Di | /dɑɪ/ | | [di](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/d/di_/di__1/di__1_gb_1.mp3) | |
| **3** | Tri | /trɑɪ/ | | [tri](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/t/tri/tri__/tri__1_gb_1.mp3) | |
| **4** | Tetra | /ˈtetrə/ | | [tetra](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=tetra) | |
| **5** | Penta | /pentə/ | | [penta](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/p/pen/penta/penta__1_gb_2.mp3) | |
| **6** | Hexa | /heksə/ | | [hexa](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/h/hex/hexa_/hexa__1_gb_2.mp3) | |
| **7** | Hepta | /ˈheptə/ | | [hepta](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=hepta) | |
| **8** | Octa | /ˈɒktə/ | | [octa](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=octa) | |
| **9** | Nona | /nɒnə/ | | [nona](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=nona) | |
| **10** | Deca | /dekə/ | | [deca](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/d/dec/deca_/deca__1_gb_2.mp3) | |

VD:

SO2: **sulfur (IV) oxide** hay **sulfur dioxide**

CO: **carbon (II) oxide** hay **carbon monoxide**

P2O5: **phosphorus (V) oxide** hay **diphosphorus pentoxide**

CrO3: **chromium (VI) oxide** hay **chromium trioxide**

**2.3. BASE**

- “base” - /beɪs/

- “hydroxide” - /haɪˈdrɒksaɪd/ hay /haɪˈdrɑːksaɪd/

- Cách gọi tên:

**TÊN KIM LOẠI + (HÓA TRỊ) + HYDROXIDE**

VD:

Ba(OH)2: **barium hydroxide**

Fe(OH)3: **iron (III) hydroxide** hay **ferric hydroxide**

Fe(OH)2: **iron (II) hydroxide** hay **ferrous hydroxide**

**2.4. ACID**

- “Acid” - /ˈæsɪd/

- Một số acid vô cơ:

**Bảng 4: Một số acid và tên gọi.**

|  |  |  |  |
| --- | --- | --- | --- |
| **CÔNG THỨC HÓA HỌC** | **TÊN GỌI** | **PHIÊN ÂM** | **VÍ DỤ AUDIO** |
| HX | hydrohalic acid | /ˌhaɪdrəˌklɔːrɪk ˈæsɪd/ |  |
| HF | hydrofluoric acid | /ˌhaɪdrəˌflʊərɪk ˈæsɪd/ | [hydrofluoric acid](https://www.google.com/search?sxsrf=ALeKk012kk4ENYSDr8q03E8Y4kZbGa6v6Q%3A1598596993967&source=hp&ei=gadIX72iONfhwAP2sZXwCg&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgQILhAnOgUIABCRAjoFCC4QkQI6BQgAELEDOgsILhCxAxDHARCjAjoICAAQsQMQgwE6AggAOgIILjoICC4QxwEQowI6CAgAELEDEJECUKQMWNIQYJIYaABwAHgAgAFwiAHlA5IBAzMuMpgBAKABAaoBB2d3cy13aXo&sclient=psy-ab#dobs=hydrofluoric%20acid) |
| HCl | hydrochloric acid | /ˌhaɪdrəˌklɒrɪk ˈæsɪd/ | [hydrochloric acid](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/h/hyd/hydro/hydrochloric_acid_1_gb_1.mp3) |
| HBr | hydrobromic acid | /ˌhaɪdrəˌbrəʊmɪk ˈæsɪd/ | [hydrobromic acid](https://www.google.com/search?sxsrf=ALeKk012kk4ENYSDr8q03E8Y4kZbGa6v6Q%3A1598596993967&source=hp&ei=gadIX72iONfhwAP2sZXwCg&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgQILhAnOgUIABCRAjoFCC4QkQI6BQgAELEDOgsILhCxAxDHARCjAjoICAAQsQMQgwE6AggAOgIILjoICC4QxwEQowI6CAgAELEDEJECUKQMWNIQYJIYaABwAHgAgAFwiAHlA5IBAzMuMpgBAKABAaoBB2d3cy13aXo&sclient=psy-ab#dobs=hydrobromic%20acid) |
| HI | hydroiodic acid | /ˌhaɪdrəˌaɪədɪk ˈæsɪd/ |  |
| HClO | *hypo*chloruos acid | /haɪpəʊklɒrəs ˈæsɪd/ |  |
| HClO2 | chloruos acid | /klɒrəs ˈæsɪd/ |  |
| HClO3 | chloric acid | /klɒrɪk ˈæsɪd/ | [chloric acid](https://www.google.com/search?sxsrf=ALeKk012kk4ENYSDr8q03E8Y4kZbGa6v6Q%3A1598596993967&source=hp&ei=gadIX72iONfhwAP2sZXwCg&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgQILhAnOgUIABCRAjoFCC4QkQI6BQgAELEDOgsILhCxAxDHARCjAjoICAAQsQMQgwE6AggAOgIILjoICC4QxwEQowI6CAgAELEDEJECUKQMWNIQYJIYaABwAHgAgAFwiAHlA5IBAzMuMpgBAKABAaoBB2d3cy13aXo&sclient=psy-ab#dobs=chloric%20acid) |
| HClO4 | *per*chloric acid | /pərˌklɒrɪk ˈæsɪd/ | [*per*chloric acid](https://www.google.com/search?sxsrf=ALeKk012kk4ENYSDr8q03E8Y4kZbGa6v6Q%3A1598596993967&source=hp&ei=gadIX72iONfhwAP2sZXwCg&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgQILhAnOgUIABCRAjoFCC4QkQI6BQgAELEDOgsILhCxAxDHARCjAjoICAAQsQMQgwE6AggAOgIILjoICC4QxwEQowI6CAgAELEDEJECUKQMWNIQYJIYaABwAHgAgAFwiAHlA5IBAzMuMpgBAKABAaoBB2d3cy13aXo&sclient=psy-ab#dobs=perchloric%20acid) |
| H2S | hydrosulfuric acid | /ˈhaɪdrəʊsʌlˌfjʊərɪk ˈæsɪd/ |  |
| H2SO4 | sulfuric acid | /sʌlˌfjʊərɪk ˈæsɪd/  /sʌlˌfjʊrɪk ˈæsɪd/ | [sulfuric acid](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/s/sul/sulph/sulphuric_acid_1_gb_1.mp3) |
| H2SO3 | sulfurous acid  sulphurous acid | /ˈsʌlfərəs ˈæsɪd/ | [sulfurous](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/s/sul/sulph/sulphurous__gb_1.mp3) acid |
| HNO3 | nitric acid | /ˌnaɪtrɪk ˈæsɪd/ | [nitric acid](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/n/nit/nitri/nitric_acid_1_gb_1.mp3) |
| HNO2 | nitrous acid | /ˌnaɪtrəs ˈæsɪd/ | [nitrous acid](https://www.google.com/search?sxsrf=ALeKk012kk4ENYSDr8q03E8Y4kZbGa6v6Q%3A1598596993967&source=hp&ei=gadIX72iONfhwAP2sZXwCg&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgQILhAnOgUIABCRAjoFCC4QkQI6BQgAELEDOgsILhCxAxDHARCjAjoICAAQsQMQgwE6AggAOgIILjoICC4QxwEQowI6CAgAELEDEJECUKQMWNIQYJIYaABwAHgAgAFwiAHlA5IBAzMuMpgBAKABAaoBB2d3cy13aXo&sclient=psy-ab#dobs=nitrous%20acid) |
| H3PO­4 | phosphoric acid | /fɒsˌfɒrɪk ˈæsɪd/  /fɑːsˌfɔːrɪk ˈæsɪd/ | [phosphoric acid](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/p/pho/phosp/phosphoric_acid_1_gb_1.mp3) |
| H3PO3 | phosphorous acid | /fɒsˌfɒrəs ˈæsɪd/ | [phosphorous acid](https://www.google.com/search?sxsrf=ALeKk012kk4ENYSDr8q03E8Y4kZbGa6v6Q%3A1598596993967&source=hp&ei=gadIX72iONfhwAP2sZXwCg&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgQILhAnOgUIABCRAjoFCC4QkQI6BQgAELEDOgsILhCxAxDHARCjAjoICAAQsQMQgwE6AggAOgIILjoICC4QxwEQowI6CAgAELEDEJECUKQMWNIQYJIYaABwAHgAgAFwiAHlA5IBAzMuMpgBAKABAaoBB2d3cy13aXo&sclient=psy-ab#dobs=phosphorous%20acid) |
| H3PO2 | *hypo*phosphorous acid | /haɪpəʊfɒsˌfɒrəs ˈæsɪd/ |  |
| CO2 + H2O (H2CO3) | carbonic acid | /kɑːˌbɒnɪk ˈæsɪd/  /kɑːrˌbɑːnɪk ˈæsɪd/ | [carbonic acid](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/c/car/carbo/carbonic_acid_1_gb_1.mp3) |
| H3BO3 | boric acid | /ˌbɔː.rɪk ˈæs.ɪd/ | [boric acid](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/b/bor/boric/boric_acid_1_gb_1.mp3) |

**2.5. MUỐI VÀ MỘT SỐ HỢP CHẤT CỘNG HÓA TRỊ KHÁC**

**Bảng 5: Một số gốc và hóa trị.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **GỐC MUỐI** | **HÓA TRỊ** | **TÊN GỐC** | **PHIÊN ÂM** | **VÍ DỤ** |
| F | I | -fluoride | /ˈflɔːraɪd/  /ˈflʊəraɪd/  /ˈflʊraɪd/ | NaF: sodium fluoride  SF6: sulfur hexafluoride |
| Cl | I | -chloride | /ˈklɔːraɪd/ | CuCl2: copper (II) chloride  cupric chloride  HCl(gas): hydrogen chloride |
| Br | I | -bromide | /ˈbrəʊmaɪd/ | FeBr3: iron (III) bromide  ferric bromide |
| I | I | -iodide | /ˈaɪədaɪd/ | AgI: silver iodide |
| ClO | I | -*hypo*chlorite | /haɪpəʊˈklɔːraɪt/ | NaClO: sodium *hypo*chlorite |
| ClO2 | I | -chlorite | /ˈklɔːraɪt/ | NaClO2: sodium chlorite |
| ClO3 | I | -chlorate | /klɒreɪt/ | KClO3: potassium chlorate |
| ClO4 | I | -*per*chlorate | /pərˌklɒreɪt/ | KClO4: potassium *per*chlorate |
| S | II | -sulfide | /ˈsʌlfaɪd/ | PbS: lead sulfide |
| HS | I | -hydrogen sulfide | /ˈhaɪdrədʒən ˈsʌlfaɪd/ | NaHS: sodium hydrogen sulfide |
| C | IV | -carbide | /ˈkɑːbaɪd/ | Al4C3: aluminium carbide |
| N | III | -nitride | /ˈnaɪtraɪd/ | Li3N: lithium nitride |
| P | III | -phosphide | /ˈfɒsfaɪd/  /ˈfɑːsfaɪd/ | Zn3P2: zinc phosphide |
| CN | I | -cyanide | /ˈsaɪənaɪd/ | KCN: potassium cyanide |
| SCN | I | -thiocyanate | /ˈθaɪəʊsaɪəneɪd/ | KSCN: potassium thiocyanate |
| SO4 | II | -sulfate | /ˈsʌlfeɪt/ | Na2SO4: sodium sulfate |
| HSO4 | I | -hydrogen sulfate  -bisulfate | /ˈhaɪdrədʒən sʌlfeɪt/  /baɪˈsʌlfeɪt/ | KHSO4: potassium hydrogen sulfate  potassium bisulfate |
| SO3 | II | -sulfite | /ˈsʌlfaɪt/ | CaSO3: calcium sulfite |
| HSO3 | I | -hydrogen sulfite | /ˈhaɪdrədʒən ˈsʌlfaɪt/ | NaHSO3: sodium hydrogen sulfite |
| NO3 | I | -nitrate | /ˈnaɪtreɪt/ | AgNO3: silver nitrate |
| NO2 | I | -nitrite | /ˈnaɪtraɪt/ | NaNO2: sodium nitrite |
| MnO4 | I | -*per*manganate | /pəˈmæŋɡəˌneɪt/ | KmnO4: potassium permanganate |
| MnO4 | II | -manganate | /mæŋɡəˌneɪt/ | K2MnO4: potassium manganate |
| CO3 | II | -carbonate | /ˈkɑːbənət/ | MgCO3: magnesium carbonate |
| HCO3 | I | -hydrogen carbonate  -bicarbonate | /ˈhaɪdrədʒən ˈkɑːbənət/  /baɪˈ ˈkɑːbənət/ | Ba(HCO3)2:  barium hydrogen carbonate  barium bicarbonate |
| PO4 | III | -phosphate | /ˈfɒsfeɪt/  /ˈfɑːsfeɪt/ | Ag3PO4: silver phosphate |
| HPO4 | II | -hydrogen phosphate | /ˈhaɪdrədʒən ˈfɒsfeɪt/ | (NH­4)2HPO4  ammonium hydrogen phosphate |
| H2PO4 | I | -dihydrogen phosphate | /dai ˈhaɪdrədʒən ˈfɒsfeɪt/ | Ca(H2PO­4)2  calcium dihydrogen phosphate |
| H2PO3 | I | -dihydrogen phosphite | /dai ˈhaɪdrədʒən ˈfɒsfaɪt/ | NaH2PO3:  sodium dihydrogen phosphite |
| HPO3 | II | -hydrogen phosphite | /haɪdrədʒən ˈfɒsfaɪt/ | Na2HPO3:  sodium hydrogen phosphite |
| H2PO2 | I | -*hypo*phosphite | /haɪpəʊˈfɒsfaɪt/ | NaH2PO2: sodium *hypo*phosphite |
| CrO2 | I | -chromite | /ˈkrəʊmaɪt/ | NaCrO2: sodium chromite |
| CrO4 | II | -chromate | /ˈkrəʊmeɪt/ | K2CrO4: potassium chromate |
| Cr2O7 | II | -dichromate | /daiˈkrəʊmeɪt/ | K2Cr2O7: potassium dichromate |
| AlO2 | I | -aluminate | /ˌæləˈmɪnieɪt/ | NaAlO2: sodium aluminate |
| ZnO2 | II | -zincate | /zɪŋkeɪt/ | Na2ZnO2: sodium zincate |

**Lưu ý:** Phát âm đuôi đúng /t/ và /d/ để phân biệt rõ các chất sodium chloride (NaCl) và sodium chlorite (NaClO2) tránh tạo ra sự hiểu lầm.

**B. DANH PHÁP HỢP CHẤT HỮU CƠ**

**1. DANH PHÁP CHUNG**

**1.1. Số lượng và tên mạch carbon chính**

**Bảng 6: Số lượng và tên mạch carbon chính từ 1 đến 10**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **SỐ LƯỢNG** | | **MẠCH CARBON CHÍNH** |
| **1** | *Mono* | *Meth* | |
| **2** | *Di* | *Eth* | |
| **3** | *Tri* | *Prop* | |
| **4** | *Tetra* | *But* | |
| **5** | Penta | Pent | |
| **6** | Hexa | Hex | |
| **7** | Hepta | Hept | |
| **8** | Octa | Oct | |
| **9** | Nona | Non | |
| **10** | Deca | Dec | |

Cách nhớ: **Mẹ Em Phải Bón Phân Hóa Học Ở Ngoài Đồng**

**Bảng 7: Số lượng từ 1 đến 100.**

|  |  |  |  |
| --- | --- | --- | --- |
| **1** | Mono | **19** | Nonadeca |
| **2** | Di (bis) | **20** | Icosa |
| **3** | Tri (tris) | **21** | Henicosa |
| **4** | Tetra (tetrakis) | **22** | Docosa |
| **5** | Penta (pentakis) | **23** | Tricosa |
| **6** | Hexa (hexakis) | **30** | Triaconta |
| **7** | Hepta (heptakis) | **31** | Hentriaconta |
| **8** | Octa (octakis) | **35** | Pentatriaconta |
| **9** | Nona (nonakis) | **40** | Tetraconta |
| **10** | Deca (decakis) | **48** | Octatetraconta |
| **11** | Undeca | **50** | Pentaconta |
| **12** | Dodeca | **52** | Dopentaconta |
| **13** | Trideca | **60** | Hexaconta |
| **14** | Tetradeca | **70** | Heptaconta |
| **15** | Pentadeca | **80** | Octaconta |
| **16** | Hexadeca | **90** | Nonaconta |
| **17** | Heptadeca | **100** | Hecta |
| **18** | Octadeca |  |  |

**1.2. Tên một số gốc (nhóm) thường gặp**

***1.2.1. Gốc (nhóm) no alkyl***

- Từ alkane bớt đi 1 H được nhóm alkyl

CH3-: methyl

CH3-CH2-: ethyl

CH3-CH2-CH2-: propyl

CH3-CH(CH3)-: isopropyl

CH3CH2CH2CH2-: butyl

CH3-CH(CH3)-CH2-: isobutyl

CH3-CH2-CH(CH3)-: *sec*-butyl

(CH3)3C-: *tert*-butyl

CH3-CH2-CH2-CH2-CH2-: amyl

CH3-CH(CH3)-CH2-CH2-: isoamyl

CH3-CH2-C(CH3)2-: *tert*-pentyl

(CH3)3C-CH2-: neopentyl

***1.2.2. Gốc (nhóm) không no***

CH2=CH-: vinyl

CH2=CH-CH2-: allyl

***1.2.3. Gốc (nhóm) thơm***

C6H5-: phenyl

C6H5-CH2-: benzyl

**1.3. Nhóm đặc trưng ở dạng tiền tố (Prefix)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Nhóm** | **Tiền tố** | **Nhóm** | **Tiền tố** |
| F | Fluoro- | NO | Nitroso- |
| Cl | Chloro- | NO2 | Nitro- |
| Br | Bromo- | OR | (R)oxy- |
| I | Iodo- |  |  |

**1.4. Nhóm đặc trưng ở dạng tiền tố (Prefix) và hậu tố (Suffix)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Loại hợp chất** | **Nhóm** | **Hậu tố** | **Tiền tố** |
| Alcohols | -OH | -ol | hydroxy- |
| Ketones | -(C)=O  **|** | -one | oxo- |
| Aldehydes | -(C)H=O | -al | oxo- |
| -CH=O | -carbaldehyde | formyl- |
| Carboxylic acids | -(C)OOH | -oic acid | - |
| -COOH | -carboxylic acid | carboxy- |
| Esters | -(C)OOR | R … -oate | (R-oxy)-oxo- |
| -COOR | R … -carboxylate | (R)oxycarbonyl- |
| Amines | -NH2 | -amine | amino- |

**(C) nghĩa là nguyên tử carbon này được tính trong mạch carbon chính**

**1.5. Tên thông thường**

**-** Thường đặt theo nguồn gốc tìm ra chúng đôi khi có phần đuôi để chỉ rõ hợp chất loại nào.

**1.6. Tên hệ thống theo danh pháp IUPAC**

***1.6.1. Tên gốc – chức***

***Tên phần gốc Tên phần định chức***

VD:

C2H5Cl Ethyl chloride

C2H5OCH3 Ethyl methyl ether

**Lưu ý**: Các gốc có vần iso và neo viết liền, *sec*- và *tert*- có dấu gạch nối “-”

***1.6.2. Tên thay thế***

- Tên thay thế được viết liền, không viết cách như tên gốc chức, chia thành ba phần:

***Tên phần thế (có thể không có) + Tên mạch carbon chính + Tên phần định chức***

VD:

CH3-CH3 ethane

C2H5-Cl chloroethane

CH3-CH=CH-CH3 but-2-ene

CH3-CH(OH)-CH=CH2 but-3-en-2-ol

**-** Thứ tự ưu tiên trong mạch:

-COOH > -CHO > -OH > -NH2 > -C=C > -C≡CH > nhóm thế

VD:

OHC-CHO ethanedial

HC≡C-CH2-CH2-C(CH=CH2)=CH-CHO 3-vinylhept-2-en-6-ynal

OHC-C≡C-CH2-CH2-C(CH=CH2)=CH-CHO 3-vinyloct-2-en-6-ynedial

**2. DANH PHÁP CÁC LOẠI HỢP CHẤT HỮU CƠ**

**2.1. ALKANE**

- Alkane (hay paraffin) là những hydrocarbon no không có mạch vòng.

- Công thức chung: CnH2n+2 (n 1)

- Cách gọi tên:

+ Chọn mạch chính: mạch carbon dài nhất có nhiều nhánh nhất.

+ Đánh số mạch chính: từ phía phân nhánh sớm hơn.

+ Gọi tên:

|  |  |
| --- | --- |
| **Phần nhánh** | **Phần mạch chính** |
| Vị trí nhánh – tên nhánh | Tên mạch chính + ane |

- Lưu ý:

+ Gọi tên mạch nhánh (tên nhóm alkyl) theo thứ tự vần chữ cái

+ Số chỉ vị trí nhánh nào đặt ngay trước gạch nối với tên nhánh đó.

VD:

**(a)** **5 4 3 2 1**

CH3 – CH2 – CH – CH – CH3

**(b) 5’ 4’ 3’ | |**

**2’**CH2 CH3

**|**

**1’**CH3

+ Chọn mạch chính:

Mạch (a): 5C, 2 nhánh **** Đúng

Mạch (b): 5C, 1 nhánh **** Sai

+ Đánh số mạch chính:Số 1 từ phía bên phải vì phân nhánh sớm hơn bên trái

+ Gọi tên nhánh theo thứ tự chữ cái (nhánh **Eth**yl trước nhánh **Meth**yl) sau đó đến tên mạch C chính rồi đến đuôi **ane  3-ethyl-2-methylpentane**

**2.2. ALKENE**

- Alkene là hydrocarbon mạch hở trong phân tử có một liên kết đôi C=C.

- Công thức phân tử chung: CnH2n (n 2).

***2.2.1. Tên thông thường***

- Tên thường của alkene đơn giản lấy từ tên của alkane tương ứng nhưng đổi đuôi **ane** thành đuôi **ylene.**

VD:

CH2=CH2 ethylene

CH2=CH-CH3 propylene

CH2=CH-CH2-CH3 α-butylene

CH3-CH=CH-CH3 β-butylene

CH2=C(CH3)-CH3 isobutylene

***2.2.2. Tên thay thế***

- Cách gọi tên:

+ Chọn mạch chính: mạch carbon dài nhất có chứa liên kết đôi và có nhiều nhánh nhất.

+ Đánh số mạch chính: từ phía gần liên kết đôi hơn.

+ Gọi tên:

|  |  |
| --- | --- |
| **Phần nhánh** | **Phần mạch chính** |
| Vị trí nhánh – tên nhánh | Tên mạch chính – vị trí liên kết đôi – ene |

- Lưu ý:

+ Gọi tên mạch nhánh (tên nhóm alkyl) theo thứ tự vần chữ cái. Số chỉ vị trí nhánh nào đặt ngay trước gạch nối với tên nhánh đó.

+ Khi mạch chính chỉ có 2 hoặc 3 nguyên tử C thì không cần ghi vị trí liên kết đôi.

VD:

CH2=CHCH2CH2CH3 pent-1-ene

CH3CH=CHCH2CH3 pent-2-ene

CH2=C(CH3)-CH2CH3 2-methylbut-1-ene

CH3C(CH3)=CHCH3 2-methylbut-2-ene

- Đồng phân hình học của alkene: để có đồng phân hình học thì R1 ≠ R2 và R3 ≠ R4.

****

+ Mạch chính ở cùng một phía của liên kết đôi: đồng phân cis

+ Mạch chính ở về hai phía của liên kết đôi: đồng phân trans

(Cis – Cùng; Trans – Trái)

VD: But-2-ene

** **

Cis-but-2-ene Trans-but-2-ene

**2.3. ALKADIENE**

- Alkadiene là hydrocarbon mạch hở có hai liên kết đôi C=C trong phân tử.

- Công thức phân tử chung: CnH2n-2 (n 3).

***2.3.1. Tên thông thường***

VD:

CH2=C=CH2 allene

CH2=CH-CH=CH2 butadiene

CH2-C(CH3)=CH=CH2 isoprene

***2.3.2. Tên thay thế***

- Cách gọi tên:

+ Chọn mạch chính: mạch carbon dài nhất có chứa hai liên kết đôi và có nhiều nhánh nhất.

+ Đánh số mạch chính: từ phía gần liên kết đôi hơn.

+ Gọi tên:

|  |  |
| --- | --- |
| **Phần nhánh** | **Phần mạch chính** |
| Vị trí nhánh – tên nhánh | Tên mạch chính + a – vị trí các liên kết đôi – diene |

- Lưu ý:

+ Gọi tên mạch nhánh (tên nhóm alkyl) theo thứ tự vần chữ cái. Số chỉ vị trí nhánh nào đặt ngay trước gạch nối với tên nhánh đó.

+ Khi mạch chính chỉ có 3 nguyên tử C thì không cần ghi vị trí các liên kết đôi.

VD:

CH2=C=CH2 propadiene

CH2=CH-CH=CH2 buta-1,3-diene

CH2-C(CH3)=CH=CH2 2-methylbuta-1,3-diene

CH2=CH-CH2-CH=CH2 penta-1,4-diene

**2.4. ALKYNE**

- Alkyne là hydrocarbon mạch hở trong phân tử có một liên kết ba C≡C.

- Công thức phân tử chung: CnH2n-2 (n 2).

***2.4.1. Tên thông thường***

**R-C≡C-R’**

**Tên R, R’ + acetylene (viết liền)**

VD:

CH≡CH acetylene

CH3-C≡C-C2H5 ethylmethylacetylene

CH≡C-CH=CH2 vinylacetylene

***2.4.2. Tên thay thế***

- Quy tắc gọi tên alkyne tương tự như gọi tên alkene, nhưng dùng đuôi **yne** để chỉ liên kết ba.

- Cách gọi tên:

+ Chọn mạch chính: mạch carbon dài nhất có chứa liên kết ba và có nhiều nhánh nhất.

+ Đánh số mạch chính: từ phía gần liên kết ba hơn.

+ Gọi tên:

|  |  |
| --- | --- |
| **Phần nhánh** | **Phần mạch chính** |
| Vị trí nhánh – tên nhánh | Tên mạch chính – vị trí liên kết ba – yne |

- Lưu ý:

+ Gọi tên mạch nhánh (tên nhóm alkyl) theo thứ tự vần chữ cái. Số chỉ vị trí nhánh nào đặt ngay trước gạch nối với tên nhánh đó.

+ Khi mạch chính chỉ có 2 hoặc 3 nguyên tử C thì không cần ghi vị trí liên kết ba.

VD:

CH≡CH ethyne

CH≡C-CH3 propyne

CH≡C-CH2CH3 but-1-yne

CH3-C≡C-CH3 but-2-yne

- Trong một chất vừa có liên kết đôi và liên kết ba, vần -ene được gọi trước -yne, nhưng lược bỏ 'e'.

VD:

CHC-CH=CH-CH3 pent-3-en-l-yne  
CHC-CH=CH2 but-l-en-3-yne

**2.5. HYDROCARBON THƠM**

- Hydrocarbon thơm (Aromatic hydrocarbon) là những hydrocarbon trong phân tử có chứa một hay nhiều vòng benzene.

***2.5.1. Tên thông thường***

- Những hợp chất thơm, một số lớn không có tên hệ thống mà thường dùng tên thông thường.

***2.5.2. Tên thay thế***

- Cách gọi tên:

**Tên nhóm alkyl + benzene**

- Nếu vòng benzene liên kết với nhiều nhóm alkyl thì trong tên gọi cần chỉ rõ vị trí các nhóm alkyl bằng các chữ số hoặc các chữ cái **o (ortho), m (meta), p (para)**.

- Đánh số các nguyên tử C trong vòng sao cho tổng chỉ số trong tên gọi là nhỏ nhất.

- Các nhóm thế được gọi theo thứ tự chữ cái đầu tên gốc alkyl.

** **

Methylbenzene Ethylbenzene

(Toluene)

**  **

1,2-dimethylbenzene 1,3-dimethylbenzene 1,4-dimethylbenzene

*o*-dimethylbenzene *m*-dimethylbenzene *p*-dimethylbenzene

(*o*-xylene) (*m*-xylene) (*p*-xylene)

** **

isopropylbenzene vinylbenzene, phenylethylene

(Cumene) (Styrene)

**  **

C10H8: Naphthalene C10H12: Tetralin C10H18: Decalin

**2.6. DẪN XUẤT HALOGEN CỦA HYDROCARBON**

- Khi thay thế nguyên tử hydrogen của hydrocarbon với các nguyên tử halogen thu được dẫn xuất halogen của hydrocarbon (*Halogen derivatives of hydrocarbons*)

***2.6.1. Tên thông thường***

VD:

CHCl3 chloroform

CHBr3 bromoform

CHI3 iodoform

***2.6.2. Tên gốc chức***

**Tên gốc hydrocarbon halogen + ide**

VD:

CH2Cl2 methylene chloride

CH2=CH-F vinyl fluoride

C6H5-CH2-Br benzyl bromide

***2.6.3. Tên thay thế***

- Xem các nguyên tử halogen là những nhóm thế đính vào mạch chính.

**Vị trí nhóm thế - tên nhóm thế + Tên hydrocarbon**

VD:

FCH2CH2CH2CH3 1-fluorobutane

CH3CHFCH2CH3 2-fluorobutane

FCH2CH(CH3)CH3 1-fluoro-2-methylpropane

(CH3)3C-F 2-fluoro-2-methylpropane

ClFC-CHBrI 2-bromo-1-chloro-1,1-difluoro-2-iodoethane  
BrF2C-CClFI 1-bromo-2-chloro-1,1,2-trifluoro-2-iodoethane

**2.7. ALCOHOL**

- Alcohol là những hợp chất hữu cơ trong phân tử có nhóm hydroxyl -OH liên kết trực tiếp với nguyên tử carbon no.

- Công thức phân tử chung alcohol no, đơn chức, mạch hở CnH2n+2O hay CnH2n+1OH (n ≥ 1)

***2.7.1. Tên thông thường***

**Tên gốc hydrocarbon tương ứng alcohol**

***2.7.2. Tên thay thế***

- Mạch chính: mạch carbon dài nhất có chứa nhóm –OH.

- Đánh số mạch chính: từ phía gần nhóm –OH hơn.

- Gọi tên:

|  |  |
| --- | --- |
| **Phần nhánh** | **Phần mạch chính** |
| Vị trí nhánh – tên nhánh | Tên mạch chính – vị trí nhóm OH – ol |

|  |  |  |  |
| --- | --- | --- | --- |
| **Công thức** | **Tên thông thường** | **Tên thay thế** | **Alcohol khác** |
| CH3OH | Methyl alcohol | Methanol | **Benzyl alcohol**  C6H5-CH2OH  **Allyl alcohol**  CH2=CH-CH2-OH  **Ethylene glycol**  **(1,2-ethanediol)**  CH2OH-CH2OH  **Glycerol**  **(1, 2, 3-propanetriol)**  CH2OH-CHOH-CH2OH |
| CH3CH2OH | Ethyl alcohol | Ethanol |
| CH3CH2CH2OH | Propyl alcohol | Propan-1-ol |
| (CH3)2CHOH | Isopropyl alcohol | Propan-2-ol |
| CH3CH2CH2CH2OH | Butyl alcohol | Butan-1-ol |
| CH3CH2CH(OH)CH3 | sec-butyl alcohol | Butan-2-ol |
| (CH3)3C-OH | tert-butyl alcohol | Methylpropan-2-ol |
| (CH3)2CH-CH2CH2OH | Isoamyl alcohol | 3-methylbutan-1-ol |

**2.8. ETHER**

***2.8.1. Tên thay thế***

- Tên của ether R1-O-R2 là tổ hợp tên của nhóm R1O- ở dạng tiền tố và mạch chính R2.

VD:

CH3-O-CH2CH3 methoxyethane

CH3CH2-O-CH=CH2 ethoxyethene

C6H4(OCH3)2 dimethoxybenzene

***2.8.2. Tên gốc chức***

- Tên của ether R1-O-R2 là tổ hợp tên của các gốc R1, R2 và “ether”.

**Tên gốc R1, R2 ether**

VD:

CH3-O-CH3 dimethyl ether

CH3-O-C2H5 ethyl methyl ether

**2.9. PHENOL**

- Phenol là loại hợp chất mà phân tử có chứa nhóm hydroxyl (-OH) liên kết trực tiếp với vòng benzene.

***2.9.1. Tên thông thường***

** **

phenol *o*-cresol *m*-cresol *p*-cresol

**   **

pyrocatechol resorcinol hydroquinone - naphthol (1-naphthol)

***2.9.2. Tên thay thế***

- Đánh số các vị trí trên vòng, ưu tiên đánh số từ C liên kết với -OH sao cho tổng số vị trí các nhóm liên kết với vòng là nhỏ nhất.

VD:

** **

4-methylphenol 1,2-dihydroxy-4-methylbenzene

**2.10. ALDEHYDE**

- Aldehyde là những hợp chất hữu cơ mà phân tử có nhóm -CH=O liên kết trực tiếp với nguyên tử carbon hoặc nguyên tử hydrogen.

- Công thức phân tử chung aldehyde no, đơn chức, mạch hở CnH2nO (n ≥ 1) hay CmH2m+1CHO (m ≥ 0)

***2.10.1. Tên thông thường***

- Một số aldehyde đơn giản hay được gọi theo tên thông thường (xuất phát từ tên thông thường của acid), có liên quan đến nguồn gốc tìm ra chúng.

**Cách 1**: Tên acid tương ứng (bỏ acid) aldehyde (viết cách)

**Cách 2**: Tên acid tương ứng (bỏ acid, bỏ đuôi “ic” hoặc “oic”) + aldehyde(viết liền)

***2.10.2. Tên thay thế***

- Cách gọi tên:

+ Chọn mạch chính: mạch carbon dài nhất có chứa nhóm –CH=O (nhóm cacbaldehyde) và có nhiều nhánh nhất.

+ Đánh số mạch chính: từ nhóm –CH=O.

+ Gọi tên:

**Tên của hydrocarbon tương ứng + al**

|  |  |  |
| --- | --- | --- |
| **Công thức cấu tạo** | **Tên thông thường** | **Tên thay thế** |
| H-CHO | Formic aldehyde (formaldehyde) | Methanal |
| CH3-CHO | Acetic aldehyde (axetaldehyde) | Ethanal |
| CH3CH2-CHO | Propionic aldehyde (propionaldehyde) | Propanal |
| CH3-(CH2)2-CHO | Butyric aldehyde (butyraldehyde) | Butanal |
| CH3-CH(CH3)-CHO | Isobutyric aldehyde (isobutyraldehyde) | 2-methylpropanal |
| CH3-(CH2)3-CHO | Valeric aldehyde (valeraldehyde) | Pentanal |
| (CH3)2CHCH2CH=O | Isovaleric aldehyde (isovaleraldehyde) | 3-methylbutanal |
| OHC-(CH2)2-CHO | Succinic aldehyde (succinaldehyde) | Butanedial |

**Lưu ý: khi kết thúc tên hydrocarbon là nguyên âm (ane, ene, yne,…) thì chuyển thành (an, en, yn,…) sau đó thêm al**

**2.11. KETONE**

- Ketone là những hợp chất hữu cơ mà phân tử có nhóm > C = O liên kết trực tiếp với hai nguyên tử carbon.

***2.11.1. Tên thông thường***

VD:

CH3-CO-CH3 acetone

***2.11.2. Tên gốc chức***

**Tên gốc R, R’ đính với nhóm >C=O ketone (viết cách)**

***2.11.3. Tên thay thế***

- Cách gọi tên:

+ Chọn mạch chính: mạch dài nhất chứa nhóm -CO- (nhóm carbonyl).

+ Đánh số mạch chính từ phía gần nhóm -CO-.

**Tên hydrocarbon tương ứng (tính cả C của -CO-) - vị trí nhóm >C=O - one**

VD:

|  |  |  |
| --- | --- | --- |
| **Công thức cấu tạo** | **Tên thay thế** | **Tên gốc chức** |
| CH3-CO-CH3 | propan-2-one | dimethyl ketone |
| CH3-CO-C2H5 | butan-2-one | ethyl methyl ketone |
| CH3-CO-CH=CH2 | but-3-en-2-one | methyl vinyl ketone |
| CH3-CO-C6H5 | acetophenone | methyl phenyl ketone |

**2.12. CARBOXYLIC ACID**

- Carboxylic acid là những hợp chất hữu cơ mà phân tử có nhóm carboxyl (-COOH) liên kết trực tiếp với nguyên tử carbon hoặc nguyên tử hydrogen.

- Công thức phân tử chung acid no, đơn chức, mạch hở CnH2nO2 (n ≥ 1) hay CmH2m+1COOH (m ≥ 0)

***2.12.1. Tên thông thường***

- Có liên quan đến nguồn gốc tìm ra chúng.

VD:

HCOOH Formic acid Acid có trong nọc độc của ong và vòi đốt của kiến

CH3COOH Acetic acid Acid có trong giấm

***2.12.2. Tên thay thế***

**Tên của hydrocarbon tương ứng + oic acid (viết cách)**

**\* Tên một số acid no và không no**

|  |  |  |
| --- | --- | --- |
| **Công thức** | **Tên thông thường** | **Tên thay thế** |
| H-COOH | Formic acid | Methanoic acid |
| CH3-COOH | Acetic acid | Ethanoic acid |
| CH3CH2COOH | Propionic acid | Propanonic acid |
| CH3CH2CH2COOH | Butyric acid | Butanoic acid |
| (CH3)2CH-COOH | Isobutyric acid | 2-methylpropanoic acid |
| CH3-[CH2]3-COOH | Valeric acid | Pentanoic acid |
| CH2=CH-COOH | Acrylic acid | Propenoic acid |
| CH2=C(CH3)-COOH | Methacrylic acid | 2-methylpropenoic acid |

**\* Tên thông thường một số acid chứa vòng benzene**

|  |  |
| --- | --- |
| **Công thức cấu tạo** | **Tên thường** |
| C6H5-COOH | Benzoic acid |
| Ortho-C6H4(COOH)2 | Phthalic acid |
| Meta-C6H4(COOH)2 | Isophthalic acid |
| Para-C6H4(COOH)2 | Terephthalic acid |
| Ortho-C6H4(OH)(COOH) | Salicylic acid |

**\* Tên thông thường một số acid đa chức**

|  |  |
| --- | --- |
| **Công thức cấu tạo** | **Tên thường** |
| HOOC-COOH | Oxalic acid |
| HOOC-CH2-COOH | Malonic acid |
| HOOC-(CH2)2-COOH | Succinic acid |
| HOOC-(CH2)3-COOH | Glutaric acid |
| HOOC-(CH2)4-COOH | Adipic acid |

**\* Tên thông thường một số acid béo**

|  |  |
| --- | --- |
| **Công thức cấu tạo** | **Tên thường** |
| C15H31COOH | Palmitic acid |
| C17H35COOH | Stearic acid |
| C17H33COOH | Oleic acid |
| C17H31COOH | Linoleic acid |
| C17H29COOH | Linolenic acid |

**2.13. ESTER**

- Khi thay nhóm OH ở nhóm carboxyl của carboxylic acid bằng nhóm OR thì được ester.

- Công thức chung của ester đơn chức: .

- CTTQ dạng 

(trong đó n là số carbon trong phân tử ester n ≥ 2, nguyên; k là tổng số liên kết π và số vòng trong phân tử k ≥ 1, nguyên; a là số nhóm chức ester a ≥ 1, nguyên)

+ Ester đơn chức: ; CxHyO2 (y ≤ 2x) hoặc RCOOR’

+ Ester no, đơn chức, mạch hở: CnH2nO2 (n ≥ 2) hoặc CnH2n+1COOCmH2m+1 (n ≥ 0, m ≥ 1)

- Cách gọi tên:

**Tên gốc R’+ tên gốc acid RCOO đuôi ate (viết liền)**

VD:

HCOO-C2H5 ethyl formate

CH3COO-CH=CH2 vinyl acetate

C6H5COO-CH3 methyl benzoate

CH3COO-CH2-C6H5 benzyl acetate

HCOOCH2CH2CH2CH3 butyl formate

HCOOCH2CH(CH3)2 isobutyl formate

HCOOCH(CH3)CH2CH3 *sec*-butyl formate

HCOOC(CH3)3 *tert*-butyl formate

CH3COOCH2CH2CH3 propyl acetate

CH3COOCH(CH3)2 isopropyl acetate

CH3CH2COOC2H5 ethyl propionate

CH3CH2CH2COOCH3 methyl butyrate

(CH3)2CHCOOCH3 methyl isobutyrate

- Chất béo là triester của glycerol với acid béo (acid béo là acid đơn chức có mạch carbon dài, không phân nhánh), gọi chung là triglyceride hay triacylglycerol.

+ Công thức cấu tạo:



+ Công thức trung bình:



- Một số chất béo thường gặp:

(C15H31COO)3C3H5 tripalmitin tripalmitoylglycerol no 806 g/mol

(C17H35COO)3C3H5 tristearin tristearoylglycerol no 890 g/mol

(C17H33COO)3C3H5 triolein trioleoylglycerol không no 884 g/mol

**2.14. CARBOHYDRATE**

|  |  |  |
| --- | --- | --- |
| **Tên gọi** | **Công thức phân tử** | **Cấu tạo** |
| Glucose | C6H12O6 | CH2OH-[CHOH]4-CHO |
| Fructose | C6H12O6 | CH2OH-[CHOH]3-CO-CH2OH |
| Sucrose | C12H22O11 | 1 gốc α-glucose liên kết với 1 gốc β-fructose |
| Maltose | C12H22O11 | 2 gốc α-glucose liên kết với nhau |
| Starch  (Tinh bột) | (C6H10O5)n | các gốc α-glucose liên kết với nhau. |
| Cellulose | (C6H10O5)n  [C6H7O2(OH)3]n | các gốc β-glucose liên kết với nhau |

**2.15. AMINE**

- Khi thay thế nguyên tử hydrogen trong phân tử NH3 bằng gốc hydrocarbon thu được amine.

***2.15.1. Tên thông thường***

VD:

C6H5NH2 Aniline

***2.15.2. Tên gốc chức***

**Tên gốc hydrocarbon + amine (viết liền)**

***2.15.3. Tên thay thế***

**Tên của hydrocarbon tương ứng + vị trí nhóm chức + amine (viết liền)**

|  |  |  |
| --- | --- | --- |
| **Hợp chất** | **Tên gốc - chức** | **Tên thay thế** |
| CH3NH2 | Methylamine | Methanamine |
| C2H5NH2 | Ethylamine | Ethanamine |
| CH3CH2CH2NH2 | Propylamine | Propan-1-amine |
| CH3CH(NH2)CH3 | Isopropylamine | Propan-2-amine |
| H2N(CH2)6NH2 | Hexamethylendiamine | Hexane-1,6-diamine |
| C6H5NH2 | Phenylamine | Benzenamine |
| C6H5NHCH3 | Methylphenylamine | N-methylbenzenamine |
| C2H5NHCH3 | Ethylmethylamine | N-methylethanamine |

**2.16. AMINO ACID**

- Amino acid là loại hợp chất hữu cơ tạp chức, phân tử chứa đồng thời nhóm amino (-NH2) và nhóm carboxyl (-COOH).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Công thức** | **Tên thường (Kí hiệu)** | **M** | **Quỳ tím** | **Tên bán hệ thống** | **Tên thay thế** |
| H2N-CH2-COOH | Glycine  (Gly) | 75 | Không đổi màu | aminoacetic acid | aminoethanoic acid |
|  | Alanine  (Ala) | 89 | Không đổi màu | α-aminopropionic acid | 2-aminopropanoic acid |
|  | Valine  (Val) | 117 | Không đổi màu | α-aminoisovaleric acid | 2-amino-3-methylbutanoic acid |
|  | Glutamic  acid  (Glu) | 147 | Hóa đỏ | α-aminoglutaric acid | 2-aminopentandioic acid |
|  | Lysine  (Lys) | 146 | Hóa xanh | α,ε-diaminocaproic acid | 2,6-diaminohexanoic acid |
| H2N-(CH2)5-COOH | ε-aminocaproic acid; 6-aminohexanoic acid (trùng ngưng tạo nilon-6) | | | | |
| H2N-(CH2)6-COOH | ω-aminoenantoic acid; 7-aminohexanoic acid (trùng ngưng tạo nilon-7) | | | | |

Một số α-amino acid khác:

(CH3)2CHCH2CH(NH2)COOH α-aminoisocaproic acid (Leucine, kí hiệu Leu-L)

CH3CH2CH(CH3)CH(NH2)COOH α-amino-β-methylvaleric acid (Isoleucine, kí hiệu Ile-I)

HOCH2CH(NH2)COOH α-amino-β-hydroxypropionic acid (Serine, kí hiệu Ser-S)

CH3CH(OH)CH(NH2)COOH α-amino-β-hydroxybutyric acid (Threonine, kí hiệu Thr-T)

HS-CH2CH(NH2)COOH α-amino-β-mercaptopropionic acid (Cysteine, kí hiệu Cys-C)

CH3-S-[CH2]2CH(NH2)COOH α-amino-γ-methylthiobutyric acid (Methionine, kí hiệu Met-M)

HOOC-CH2CH(NH2)COOH α-aminosuccinic acid (Aspartic acid, kí hiệu Asp-D)

C6H5CH2CH(NH2)COOH Phenylalanine kí hiệu Phe-F

**2.17. PEPTIDE**

- Peptide là loại hợp chất chứa từ 2 đến 50 gốc α-amino acid liên kết với nhau bởi các liên kết peptide.

- Tên của peptide được gọi bằng cách ghép tên các *gốc axyl bắt đầu từ amino acid đầu* còn tên *amino acid đuôi được giữ nguyên vẹn*

VD:

H2N-CH(CH3)-CO-HN-CH2-CO-NH-CH(CH3)-COOH tripeptide alanylglycylalanine

**2.18. POLYMER**

- Polymer là những hợp chất có phân tử khối rất lớn do nhiều đơn vị cơ sở (gọi là mắc xích) liên kết với nhau tạo nên.

- Ghép từ poly trước tên monomer.

VD:

(-CH2-CH2-)n polyethylene

**** polypropylene

- Nếu tên monome gồm 2 từ trở lên hoặc từ 2 monome tạo nên polymer thì tên monomer phải để ở trong ngoặc đơn.

VD:

~~(~~CH2-CHCl~~)~~n poly(vinyl chloride)

~~(~~CO-C6H4-CO-O-C2H4-O~~)~~ n poly(ethylene terephthalate)

**** Poly(butadiene-styrene)

- Một số polymer có tên riêng (tên thông thường).

VD:

Teflon ~~(~~CF2-CF2~~)~~n

Nylon-6 ~~(~~NH-[CH2]5-CO~~)~~n

Cellulose ~~(~~C6H10O5~~)~~n

**Bảng 8: Một số thuật ngữ thông dụng.**

|  |  |
| --- | --- |
| **MỘT SỐ THUẬT NGỮ** | **Ý nghĩa** |
| Organic | Hữu cơ |
| Compound | Hợp chất |
| Cyclic organic compound | Hợp chất vòng |
| Acyclic organic compound | Hợp chất không vòng |
| Physical properties | Tính chất vật lý |
| Chemical properties | Tính chất hóa học |
| Chemical reaction | Phản ứng hoá học |
| Elemental analysis | Phân tích nguyên tố |
| Qualitative analysis | Phân tích định tính |
| Quanlitative analysis | Phân tích định lượng |
| Molecular formula | Công thức phân tử |
| Empirical formula | Công thức đơn giản nhất |
| Structural formula | Công thức cấu tạo |
| Expanded structural formula | Công thức cấu tạo khai triển |
| Condensed structural formula | Công thức cấu tạo thu gọn |
| Homologs | Đồng đẳng |
| Homologous series | Dãy đồng đẳng |
| Isomers | Đồng phân |
| Geometric isomers | Đồng phân hình học |
| Chemical bonding | Liên kết hóa học |
| Single bond | Liên kết đơn |
| Double bond | Liên kết đôi |
| Triple bond | Liên kết ba |
| Multiple bond | Liên kết bội |
| Sigma |  |
| Pi |  |
| Covalent bond | Liên kết cộng hóa trị |
| Carbon chain | Mạch carbon |
| Functional group | Nhóm chức |
| Substitution reaction | Phản ứng thế |
| Addition reaction | Phản ứng cộng |
| Elimination reaction | Phản ứng tách |
| Oxidation reaction | Phản ứng oxy hóa |
| Complete oxidation reaction | Phản ứng oxy hóa hoàn toàn |
| Incomplete oxidation reaction | Phản ứng oxy hóa không hoàn toàn |
| Ring opening reaction | Phản ứng cộng mở vòng |
| Addition polymerization | Phản ứng trùng hợp |
| Nonmenclature | Danh pháp |
| Synthesis | Điều chế |
| Experiment | Thí nghiệm |
| Experimental procedures | Cách tiến hành thí nghiệm |
| Common name | Tên thông thường |
| Substitutive name | Tên thay thế |
| Application | Ứng dụng |
| Definition | Định nghĩa |
| Concept | Khái niệm |
| Classification | Phân loại |
| Solvent | Dung môi |
| Dehydrate reaction | Phản ứng tách nước |
| Synthetic method | Phương pháp tổng hợp |
| Biochemical method | Phương pháp sinh hóa |
| Degree of carbon | Bậc carbon |
| Acidic properties | Tính axit |
| Silver mirror reaction | Phản ứng tráng bạc |
| Litmus paper | Giấy quỳ tím |

**Bảng 9: Cách phát âm các thành phần trong tên gọi hợp chất hữu cơ.**

|  |  |  |
| --- | --- | --- |
| **THÀNH PHẦN TÊN GỌI** | **PHIÊN ÂM TIẾNG ANH** | **VÍ DỤ AUDIO** |
| **SỐ LƯỢNG** | | |
| mono | /ˈmɒnəʊ/ | [mono](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/m/mon/mono_/mono__gb_1.mp3) |
| di | /dɑɪ/ | [di](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/d/di_/di__1/di__1_gb_1.mp3) |
| tri | /trɑɪ/ | [tri](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/t/tri/tri__/tri__1_gb_1.mp3) |
| tetra | /ˈtetrə/ | [tetra](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=tetra) |
| penta | /pentə/ | [penta](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/p/pen/penta/penta__1_gb_2.mp3) |
| hexa | /heksə/ | [hexa](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/h/hex/hexa_/hexa__1_gb_2.mp3) |
| hepta | /ˈheptə/ | [hepta](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=hepta) |
| octa | /ˈɒktə/ | [octa](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=octa) |
| nona | /nɒnə/ | [nona](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=nona) |
| deca | /dekə/ | [deca](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/d/dec/deca_/deca__1_gb_2.mp3) |
| **TÊN MẠCH CARBON CHÍNH** | | |
| meth | /miːθ/  /meθ/ | [meth](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=meth)  [methane](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/m/met/metha/methane__gb_1.mp3)  [methyl](https://dictionary.cambridge.org/media/english/uk_pron/c/cdo/cdo03/cdo0317methuk2418.mp3) |
| eth | /iːθ/  /eθ/ | [eth](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=eth)  [ethane](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/e/eth/ethan/ethane__gb_1.mp3)  [ethyl](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/e/eth/ethyl/ethyl__gb_1.mp3) |
| prop | /prəʊp/ |  |
| but | /bjuːt/ |  |
| pent | /pent/ | [pent](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=pent) |
| hex | /heks/ | [hex](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=hex) |
| hept | /hept/ |  |
| oct | /ɒkt/ | [oct](https://dictionary.cambridge.org/media/english/uk_pron/e/epd/epd32/epd32562.mp3) |
| non | /nɒn/ | [non](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/n/non/non__/non__1_gb_1.mp3) |
| dec | /dek/ | [dec](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/d/dec/dec_1/dec_1_gb_1.mp3) |
| **TÊN GỐC HYDROCARBON** | | |
| alkyl | /ˈæl.kɪl/  /ˈæl.kəl/ | [alkyl](https://dictionary.cambridge.org/media/english/uk_pron/e/epd/epd00/epd00916.mp3)  [alkyl](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=alkyl) |
| -yl | /ɪl/  /əl/ | [alkyl](https://dictionary.cambridge.org/media/english/uk_pron/e/epd/epd00/epd00916.mp3)  [alkyl](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=alkyl) |
| methyl | /ˈmeθ.ɪl/  /ˈmeθəl/ | [methyl](https://dictionary.cambridge.org/media/english/uk_pron/c/cdo/cdo03/cdo0317methuk2418.mp3) |
| ethyl | /ˈeθɪl/  /ˈeθəl/ | [ethyl](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/e/eth/ethyl/ethyl__gb_1.mp3) |
| propyl | /ˈprəʊpəl/ | [propyl](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=propyl) |
| butyl | /bju:dəl/ | [butyl](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=butyl) |
| iso | /ˈɑɪsəʊ/ | [iso](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/i/iso/iso__/iso__1_gb_1.mp3) |
| *sec*- | /sek/ |  |
| *tert*- | /tərt/ |  |
| amyl | /ˌæmɪl/ | [amyl nitrite](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/a/amy/amyl_/amyl_nitrite_1_gb_1.mp3) |
| pentyl | /ˈpen(t)əl/ | [pentyl](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=pentyl) |
| neo | /ˈniː.ə/ | [neoprene](https://dictionary.cambridge.org/media/english/uk_pron/e/epd/epd20/epd20073.mp3) |
| vinyl | /ˈvɑɪnl/ | [vinyl](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/v/vin/vinyl/vinyl__gb_1.mp3) |
| allyl | /ˈɑləl/ | [allyl](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=allyl) |
| phenyl | /ˈfenəl/ | [phenyl](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=phenyl) |
| benzyl | /ˈbenzɪ:l/ | [benzyl](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=benzyl) |
| **NHÓM ĐẶC TRƯNG Ở DẠNG TIỀN TỐ (PREFIX)** | | |
| F (Fluoro-) | /ˈfluro/ |  |
| Cl (Chloro-) | /ˈklɒrə/ | [Chloroform](https://www.oxfordlearnersdictionaries.com/media/english/us_pron/c/chl/chlor/chloroform__us_1.mp3) |
| Br (Bromo-) | /ˈbromo/ |  |
| I (Iodo-) | /ˈɑɪədo/ | [iodoform](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=iodoform) |
| NO- (Nitroso-) | /ˈnɑɪtroso/ |  |
| NO2- (Nitro-) | /ˈnɑɪtro/ | [nitro](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=nitro) |
| OCH3 (methoxy-) | /məθɑ:ksi:/ |  |
| OC2H5 (ethoxy-) | /eθɑ:ksi:/ |  |
| **NHÓM ĐẶC TRƯNG Ở DẠNG TIỀN TỐ (PREFIX) VÀ HẬU TỐ (SUFFIX)** | | |
| -OH  + ol  + hydroxy | /ɒl/  /hɑɪˌdrɒk.si/ | [methanol](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/m/met/metha/methanol__gb_1.mp3)  [hydroxy](MP3/hydroxy.mp3) |
| -(C)=O  |  + one  + oxo | /əʊn/  /ˈɒksəʊ/ | [acetone](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/a/ace/aceto/acetone__gb_1.mp3)  [oxo](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/o/oxo/oxo__/oxo__gb_1.mp3) |
| -(C)H=O  + al  + oxo | /ɔ:l/  /ˈɒksəʊ/ | [oxo](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/o/oxo/oxo__/oxo__gb_1.mp3) |
| -CH=O  + carbaldehyde  + formyl | /ˈkɑːbældɪhaɪd/  /fɔrməl/ | [formyl](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=formyl) |
| -(C)OOH (oic acid) | /əʊɪk ˈæsɪd/ | [ethanoic acid](https://dictionary.cambridge.org/media/english/uk_pron/c/csd/csdk0/csdk0158.mp3) |
| -COOH  + carboxylic acid  + carboxy | /kɑːˈbɒk.sɪlik ˈæsɪd/  /kɑːˈbɒk.sɪ/ | [carboxylic acid](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=carboxylic%20acid) |
| -(C)OOR  + R … -oate  + (R-oxy)-oxo- | /ɔ:eɪt/  /ˈɒksɪ ˈɒksəʊ/ |  |
| -COOR  + R … -carboxylate  + (R)oxycarbonyl- | /kɑːˈbɒk.sɪleɪt/  /ˈɒksɪ kɑːˈbɒk.nɪl/ |  |
| **HYDROCARBONS** | | |
| **Saturated hydrocarbons**  **(Hydrocarbon no)** | | |
| hydrocarbon | /ˌhɑɪdrəˈkɑːbən/ | [hydrocarbon](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/h/hyd/hydro/hydrocarbon__gb_1.mp3) |
| alkane | /ˈælˌkeɪn/ | [alkane](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/a/alk/alkan/alkane__gb_1.mp3) |
| cycloalkane | /sɑɪkləʊˈælˌkeɪn/ | [cycloalkane](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=cycloalkane) |
| -ane | /eɪn/ | [alkane](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/a/alk/alkan/alkane__gb_1.mp3) |
| paraffin | /ˈpærəfɪn/ | [paraffin](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/p/par/paraf/paraffin__gb_1.mp3) |
| methane | /ˈmiːθeɪn/ | [methane](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/m/met/metha/methane__gb_1.mp3) |
| ethane | /ˈiːθeɪn/ | [ethane](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/e/eth/ethan/ethane__gb_1.mp3) |
| propane | /ˈprəʊpeɪn/ | [propane](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/p/pro/propa/propane__gb_1.mp3) |
| butane | /ˈbjuːteɪn/ | [butane](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/b/but/butan/butane__gb_2.mp3) |
| **Unsaturated hydrocarbons**  **(Hydrocarbon không no)** | | |
| alkene | /ˈælkiːn/ | [alkene](http://www.oxfordlearnersdictionaries.com/us/media/english/uk_pron/a/alk/alken/alkene__gb_1.mp3) |
| -ene | /iːn/ | [alkene](http://www.oxfordlearnersdictionaries.com/us/media/english/uk_pron/a/alk/alken/alkene__gb_1.mp3) |
| ethylene | /ˈeθɪliːn/ | [ethylene](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/e/eth/ethyl/ethylene__gb_1.mp3) |
| propylene | /ˌprəʊ.pəliːn/ | [propylene](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=propylene) |
| butylene | /ˈbju:dəli:n/ | [butylene](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=butylene) |
| isobutylene | /ɑɪsəʊˈbju:dəli:n/ |  |
| ethene | /ˈeθiːn/ | [ethene](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/e/eth/ethen/ethene__gb_1.mp3) |
| propene | /ˌprəʊ.piːn/ | [propene](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=propene) |
| cis | /sɪs/ | [cis](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/c/cis/cis__/cis__gb_2.mp3) |
| trans | /trænz/ | [trans](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/t/tra/trans/trans__gb_2.mp3) |
| alkadiene | /ˈæl.kədɑıi:n/ |  |
| -diene | /dɑıi:n/ | [butadiene](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=butadiene) |
| allene | /,ɑli:n/ |  |
| propadiene | /ˈprəʊpəˈdaıi:n/ |  |
| butadiene | /bju:dəˈdaıi:n/ | [butadiene](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=butadiene) |
| isoprene | /ˈɑɪsəpriːn/ | [isoprene](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/i/iso/isopr/isoprene__gb_1.mp3) |
| alkyne | /ˈæl.kɑɪn/ | [alkyne](https://dictionary.cambridge.org/media/english/uk_pron/e/epd/epd00/epd00917.mp3) |
| -yne | /ɑɪn/ | [alkyne](https://dictionary.cambridge.org/media/english/uk_pron/e/epd/epd00/epd00917.mp3) |
| acetylene | /əˈsetəliːn/ | [acetylene](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/a/ace/acety/acetylene__gb_1.mp3) |
| ethylmethylacetylene | /ˈeθɪl ˈmeθ.ɪl əˈsetəliːn / |  |
| vinylacetylene | /ˈvɑɪnl əˈsetəliːn/ |  |
| ethyne | /ˈiːθɑɪn/ | [ethyne](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/e/eth/ethyn/ethyne__gb_1.mp3) |
| propyne | /ˈprəʊpɑɪn/ |  |
| **Aromatic hydrocarbons** | | |
| benzene | /ˈbenziːn/ | [benzene](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/b/ben/benze/benzene__gb_3.mp3) |
| toluene | /ˈtɑːlju:ˌi:n/ | [toluene](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=toluene) |
| styrene | /stɑɪriːn/ | [polystyrene](https://www.oxfordlearnersdictionaries.com/media/english/us_pron/p/pol/polys/polystyrene__us_1.mp3) |
| xylene | /ˈzɑɪli:n/ | [xylene](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=xylene) |
| cumene | /kju:·mi:n/ | [cumene](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=cumene) |
| naphthalene | /ˈnæfθəliːn/ | [naphthalene](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/n/nap/napht/naphthalene__gb_1.mp3) |
| methylbenzene | /ˌmeθəlˈbenzi:n/ | [methylbenzene](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=methylbenzene) |
| ethylbenzene | /ˌeθəlˈbenzi:n/ | [ethylbenzene](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=ethylbenzene) |
| ortho | /ɔːθəʊ/ | [ortho](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/o/ort/ortho/ortho__1_gb_2.mp3) |
| meta | /metə/ | [meta](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/m/met/meta_/meta__1_gb_3.mp3) |
| para | /ˈpærə/  /ˌpærəˈsiːtəmɒl/ | [para](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/p/par/para_/para__gb_1.mp3)  [paracetamol](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/p/par/parac/paracetamol__gb_1.mp3) |
| **DẪN XUẤT CỦA HYDROCARBON**  **(DERIVATIVES OF HYDROCARBONS)** | | |
| **Dẫn xuất halogen**  **(Halogen derivatives of hydrocarbons)** | | |
| halogen | /ˈhælədʒən/ | [halogen](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/h/hal/halog/halogen__gb_3.mp3) |
| derivative | /dɪˈrɪvətɪv/ | [derivative](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/d/der/deriv/derivative__gb_2.mp3) |
| chloroform | /ˈklɒrəfɔːm/ | [chloroform](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/c/chl/chlor/chloroform__gb_1.mp3) |
| bromoform | /ˈbrɒməfɔːm/ |  |
| iodoform | /ˈɑɪɔːdəfɔːm/ | [iodoform](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=iodoform) |
| fluoride | /ˈflɔːrɑɪd/ | [fluoride](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/f/flu/fluor/fluoride__gb_1.mp3) |
| chloride | /ˈklɔːrɑɪd/ | [chloride](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/c/chl/chlor/chloride__gb_1.mp3) |
| bromide | /ˈbrəʊmɑɪd/ | [bromide](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/b/bro/bromi/bromide__gb_1.mp3) |
| iodide | /ˈɑɪədɑɪd/ | [iodide](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/i/iod/iodid/iodide__gb_1.mp3) |
| methylene | /ˈmeθəliːn/ | [methylene](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=methylene) |
| **Alcohols** | | |
| alcohol | /ˈælkəhɒl/ | [alcohol](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/a/alc/alcoh/alcohol__gb_1.mp3) |
| ethylene glycol | /ˈeθɪliːn ˈɡlɑɪ.kɒl/ | [ethylene glycol](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=ethylene%20glycol) |
| propylene glycol | /ˌprəʊ.pɪ.liːn ˈɡlɑɪ.kɒl/ | [propylene glycol](https://dictionary.cambridge.org/media/english/uk_pron/c/cdo/cdo03/cdo0317propuk3152.mp3) |
| glycerol | /ˈɡlɪsərɒl/ | [glycerol](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/g/gly/glyce/glycerol__gb_1.mp3) |
| methanol | /ˈmeθənɒl/ | [methanol](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/m/met/metha/methanol__gb_1.mp3) |
| ethanol | /ˈeθənɒl/ | [ethanol](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/e/eth/ethan/ethanol__gb_1.mp3) |
| **Ethers** | | |
| ether | /ˈiːθə(r)/ | [ether](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/e/eth/ether/ether__gb_1.mp3) |
| **Phenols** | | |
| phenol | /ˈfiːnɒl/ | [phenol](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/p/phe/pheno/phenol__gb_1.mp3) |
| cresol | /ˈkri:sɒl/ | [cresol](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=cresol) |
| resorcinol | /rəˈzɒrsəˌnɒl/ | [resorcinol](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=resorcinol) |
| hydroquinone | /ˌhɑɪdrəˈkwiˌnɒn/ | [hydroquinone](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=hydroquinone) |
| naphthol | /ˈnɑpˌθɒl/ | [naphthol](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=naphthol) |
| **Aldehydes** | | |
| aldehyde | /ˈæl.dəˌhɑɪd/ | [aldehyde](https://dictionary.cambridge.org/media/english/uk_pron/e/epd/epd00/epd00805.mp3) |
| formaldehyde | /fɔːˈmældɪhɑɪd/ | [formaldehyde](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/f/for/forma/formaldehyde__gb_1.mp3) |
| axetaldehyde | /əˌsiːtældɪhɑɪd/ |  |
| propionaldehyde | /ˌprɔ:pi:ˌɒnældɪhɑɪd/ |  |
| butyraldehyde | /bju:ˌtirældɪhɑɪd/ |  |
| isobutyraldehyde | /ˈaɪsəʊbyu:ˌtirældɪhɑɪd/ |  |
| valeraldehyde | /vəˌlerældɪhɑɪd/ |  |
| isovaleraldehyde | /ˈaɪsəʊvəˌlerældɪhɑɪd/ |  |
| methanal | /ˈmeθəˌnɔːl/ | [methanal](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=methanal) |
| ethanal | /ˈeθəˌnɔːl/ | [ethanal](https://www.google.com/search?sxsrf=ALeKk00Alj8GoMvfsNLQTz2xWGB-NE5ypg%3A1597737493018&source=hp&ei=FIo7X_-JPIWpoATTwK6YBg&q=dictionary&oq=dic&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMggIABCxAxCRAjIFCAAQsQMyAggAMgIIADICCAAyBQgAELEDMggILhCxAxCDATILCC4QsQMQxwEQowIyBQgAELEDOgUIABCRAjoICAAQsQMQgwE6BQguELEDOggILhDHARCjAlCAB1iDCWDjF2gAcAB4AIABaYgBmgKSAQMyLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab#dobs=ethanal) |
| propanal | /ˈprəʊpəˌnɔːl/ |  |
| **Ketones** | | |
| ketone | /ˈkiː.təʊn/ | [ketone](https://dictionary.cambridge.org/media/english/uk_pron/e/e18/e18uk/e18uk00135.mp3) |
| carbonyl | /ˈkɑ:rbəˌnil/ | [carbonyl](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=carbonyl) |
| acetone | /ˈæsɪtəʊn/ | [acetone](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/a/ace/aceto/acetone__gb_1.mp3) |
| **Carboxylic acids** | | |
| carboxylic acid | /ˌkɑ:rbɑ:kˌsɪlɪk ˈæsɪd/ | [carboxylic acid](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=carboxylic%20acid) |
| carboxyl | /kɑːˈbɒk.sɪl/ | [carboxyl](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=carboxyl) |
| methanoic acid | /meθəˌnəʊɪk ˈæsɪd/ | [methanoic acid](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=methanoic%20acid) |
| ethanoic acid | /eθəˌnəʊɪk ˈæsɪd/ | [ethanoic acid](https://dictionary.cambridge.org/media/english/uk_pron/c/csd/csdk0/csdk0158.mp3) |
| propanonic acid | /prəʊpəˌnəʊɪk ˈæsɪd/ |  |
| butanoic acid | /ˈbjuː.təˌnəʊɪk ˈæsɪd/ | [butanoic acid](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=butanoic%20acid) |
| formic acid | /ˌfɔːmɪk ˈæsɪd/ | [formic acid](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/f/for/formi/formic_acid_1_gb_1.mp3) |
| acetic acid | /əˌsiːtɪk ˈæsɪd/ | [acetic acid](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/a/ace/aceti/acetic_acid_1_gb_1.mp3) |
| propionic acid | /ˌprɔ:pi:ˌɒnik ˈæsɪd/ | [propionic acid](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=propionic%20acid) |
| butyric acid | /bju:ˌtirik ˈæsɪd/ | [butyric acid](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=butyric%20acid) |
| isobutyric acid | /ˈɑɪsəʊbyooˌtirik ˈæsɪd/ |  |
| valeric acid | /vəˌlerik ˈæsɪd/ | [valeric acid](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=valeric%20acid) |
| isovaleric acid | /ˈɑɪsəʊvəˌlerik ˈæsɪd/ |  |
| acrylic acid | /əkrilik ˈæsɪd/ | [acrylic acid](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=acrylic%20acid) |
| methacrylic acid | /ˌmeθəˌkrilik ˈæsɪd/ | [methacrylic acid](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=methacrylic%20acid) |
| benzoic acid | /benˌzəʊ.ɪk ˈæs.ɪd/ | [benzoic acid](https://dictionary.cambridge.org/media/english/uk_pron/u/uka/uka31/uka31049.mp3) |
| phthalic acid | /ˌθɑlik ˈæsɪd/ | [phthalic acid](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=phthalic%20acid) |
| isophthalic acid | /ˈɑɪsəʊfˌθalik ˈæsɪd/ |  |
| terephthalic acid | /ˌterəfˌθalik ˈæsɪd/ | [terephthalic acid](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=terephthalic%20acid) |
| salicylic acid | /ˌsælɪsɪlɪk ˈæsɪd/ | [salicylic acid](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/s/sal/salic/salicylic_acid_1_gb_1.mp3) |
| oxalic acid | /ɒkˌsɑlik ˈæsɪd/ | [oxalic acid](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=oxalic%20acid) |
| malonic acid | /məˈləʊnik ˈæsɪd/ | [malonic acid](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=malonic%20acid) |
| succinic acid | /səkˌsinik ˈæsɪd/ | [succinic acid](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=succinic%20acid) |
| glutaric acid | /gluˈdərik ˈæsɪd/ |  |
| adipic acid | /əˌdipik ˈæsɪd/ | [adipic acid](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=adipic%20acid) |
| palmitic acid | /pɑ:(l)ˌmidik ˈæsɪd/ | [palmitic acid](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=palmitic%20acid) |
| stearic acid | /stiˌærɪk ˈæsɪd/ | [stearic acid](https://dictionary.cambridge.org/media/english/uk_pron/c/csd/csdk0/csdk0271.mp3) |
| oleic acid | /əʊˌli:ik ˈæsɪd/ | [oleic acid](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=oleic%20acid) |
| linoleic acid | /ˌlinəˈli:ik ˈæsɪd/ | [linoelic acid](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=linoleic%20acid) |
| linolenic acid | /ˌlinəˈli:nik ˈæsɪd/ | [linolenic acid](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=linolenic%20acid) |
| **Esters, lipids** | | |
| ester | /ˈestə(r)/ | [ester](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/e/est/ester/ester__gb_1.mp3) |
| formate | /ˈfɔːmeɪt/ | [formate](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=formate) |
| acetate | /ˈæsɪteɪt/ | [acetate](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/a/ace/aceta/acetate__gb_1.mp3) |
| propionate | /ˌprɔ:pi:ˌɒneɪt/ |  |
| butyrate | /bju:ˌtireɪt/ |  |
| isobutyrate | /ˈɑɪsəʊbju:ˌtireɪt/ |  |
| valerate | /vəˌlereɪt/ |  |
| isovalerate | /ˈɑɪsəʊvəˌlereɪt/ |  |
| acrylate | /ˈɑkrəleɪt/ | [acrylate](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=acrylate) |
| methacrylate | /məˈθˈkrileɪt/ | [methacrylate](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=methacrylate) |
| benzoate | /benˌzəʊ.eɪt/ |  |
| phthalate | /ˈθɑleɪt/ | [phthalate](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=phthalate) |
| isophthalate | /ˈɑɪsəʊfˌθɑleɪt/ |  |
| terephthalate | /ˌterəfˌθɑleɪt/ | [terephthalate](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=terephthalate) |
| salicylate | /ˌsæˈlɪsəleɪt/ | [salicylate](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=salicylate) |
| oxalate | /ˈɒkˌsəleɪt/ | [oxalate](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=oxalate) |
| malonate | /ˈmɑləneɪt/ | [malonate](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=malonate) |
| succinate | /ˈsəkˌsəneɪt/ | [succinate](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=succinate) |
| glutarate | /gluˈdəreɪt/ |  |
| adipate | /ˈɑˌdəpeɪt/ | [adipate](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=adipate) |
| palmitate | /ˈpɑ:(l)ˌməteɪt/ | [palmitate](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=palmitate) |
| stearate | /ˈstiˌəreɪt/ | [stearate](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=stearate) |
| oleate | /ˈəʊˌli:eɪt/ | [oleate](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=oleate) |
| linoleate | /ˈlinəˈli:eɪt/ | [linoleate](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=linoleate) |
| linolenate | /ˈlinəˈli:neɪt/ | [linolenate](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=linolenate) |
| triglyceride | /trɑɪˈɡlisəˌrɑɪd/ | [triglyceride](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=triglyceride) |
| tripalmitin | /trɑıpɑ:mətən/ |  |
| tristearin | /trɑıstirən/ |  |
| triolein | /trɑıəʊˌli:ən/ |  |
| **Carbohydrate** | | |
| carbohydrate | /ˌkɑː.bəʊˈhaɪ.dreɪt/ | [carbohydrate](https://dictionary.cambridge.org/media/english/uk_pron/u/ukc/ukcar/ukcarap008.mp3) |
| glucose | /ˈɡluːkəʊs/ | [glucose](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/g/glu/gluco/glucose__gb_5.mp3) |
| fructose | /ˈfrʌktəʊs/ | [fructose](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/f/fru/fruct/fructose__gb_1.mp3) |
| sucrose | /ˈsuːkrəʊz/ | [sucrose](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/s/suc/sucro/sucrose__gb_1.mp3) |
| maltose | /ˈmɔːltəʊz/ | [maltose](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/m/mal/malto/maltose__gb_1.mp3) |
| starch | /stɑːtʃ/ | [starch](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/s/sta/starc/starch__gb_1.mp3) |
| cellulose | /ˈseljuləʊs/ | [cellulose](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/c/cel/cellu/cellulose__gb_6.mp3) |
| alpha | /ˈælfə/ | [alpha](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/a/alp/alpha/alpha__gb_1.mp3) |
| beta | /ˈbiːtə/ | [beta](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/b/bet/beta_/beta__gb_2.mp3) |
| **Amines** | | |
| amine | /ˈeɪ.miːn/ | [amine](https://dictionary.cambridge.org/media/english/uk_pron/c/cdo/cdo02/cdo0216aminuk0059.mp3) |
| aniline | /ˈɑnələn/ | [aniline](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=aniline) |
| methylamine | /ˈmeθəlˈeɪ.miːn / |  |
| ethylamine | /ˈeθəlˈeɪ.miːn/ |  |
| methanamine | /ˈmiːθeɪnˈeɪ.miːn/ |  |
| ethanamine | /ˈiːθeɪnˈeɪ.miːn/ |  |
| **Amino acids, peptides, proteins** | | |
| amino acid | /əˌmiːnəʊ ˈæsɪd/ | [amino acid](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/a/ami/amino/amino_acid_1_gb_1.mp3) |
| glycine | /ˈɡlɑɪsi:n/ | [glycine](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=glycine) |
| alanine | /ˈɑləˌni:n/ | [alanine](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=alanine) |
| valine | /ˈvɑˌli:n/ | [valine](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=valine) |
| glutamic acid | /ɡlu:ˌtɑmik ˈæsɪd/ | [glutamic acid](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=glutamic%20acid) |
| lysine | /ˈlɑɪsi:n/ | [lysine](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=lysine) |
| caproic acid | /kəˌprəʊ-ik ˈæsɪd/ | [caproic acid](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=caproic%20acid) |
| peptide | /ˈpeptɑɪd/ | [peptide](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/p/pep/pepti/peptide__gb_1.mp3) |
| amide | /ˈæm. ɑɪd/ | [amide](https://dictionary.cambridge.org/media/english/uk_pron/e/epd/epd01/epd01164.mp3) |
| dipeptide | /dɑɪˈpepˌtɑɪd/ | [dipeptide](https://www.google.com/search?sxsrf=ALeKk000exDo46vsAw972gVgFqR_1vOMrg%3A1597718654632&ei=fkA7X5yfJpvZhwPOupVY&q=dictionary&oq=dicti&gs_lcp=CgZwc3ktYWIQAxgAMgQIIxAnMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBMgUIABDLATIFCAAQywEyBQgAEMsBOgUILhCRAjoICAAQsQMQgwE6CwguELEDEMcBEKMCOgQIABBDOg0ILhCxAxDHARCjAhBDOgUIABCxAzoCCAA6CwgAELEDEIMBEJECOgQILhBDOg4ILhCxAxCDARDHARCjAjoICC4QsQMQgwE6AgguUKATWL0ZYPsfaABwAHgAgAF7iAGaBJIBAzIuM5gBAKABAaoBB2d3cy13aXrAAQE&sclient=psy-ab#dobs=dipeptide) |
| glycyl | /ˈɡlɑɪsəl/ |  |
| alanyl | /ˈɑləˌnəl/ |  |
| valyl | /ˈvɑˌləl/ |  |
| **Polymers** | | |
| polymer | /ˈpɒlɪmə(r)/ | [polymer](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/p/pol/polym/polymer__gb_1.mp3) |
| monomer | /ˈmɒn.ə.mər/ | [monomer](https://dictionary.cambridge.org/media/english/uk_pron/c/cdo/cdo02/cdo0216monouk1238.mp3) |
| polyethylene | /ˌpɒliˈeθəliːn/ | [polyethylene](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/p/pol/polye/polyethylene__gb_1.mp3) |
| polypropylene | /ˌpɒliˈprəʊpəliːn/ | [polypropylene](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/p/pol/polyp/polypropylene__gb_1.mp3) |
| teflon | /ˈteflɒn/ | [teflon](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/t/tef/teflo/teflon__gb_1.mp3) |
| nylon | /ˈnɑɪlɒn/ | [nylon](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/n/nyl/nylon/nylon__gb_1.mp3) |
| plexiglas | /ˈpleksiɡlɑːs/ | [plexiglas](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/p/ple/plexi/plexiglas__gb_1.mp3) |
| poly(vinyl chloride) | /ˌpɒlivɑɪnl ˈklɔːraɪd/ | [poly(vinyl chloride)](https://www.oxfordlearnersdictionaries.com/media/english/uk_pron/p/pol/polyv/polyvinyl_chloride_1_gb_1.mp3) |
| polystyrene | /ˌpɒliˈstɑɪriːn/ | [polystyrene](https://www.oxfordlearnersdictionaries.com/media/english/us_pron/p/pol/polys/polystyrene__us_1.mp3) |