

# 科研品种手册

(有机中间体部分)

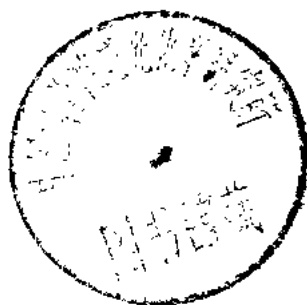


沈阳化工研究院技术档案科

1 9 8 5

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# 前 言

本手册展示了沈阳化工研究院自建院35年来研制的761种有机中间体。这些中间体不仅是生产染料、农药和照相有机物的重要中间体，也是生产医药、塑料和涂料等必不可少的原料。

沈阳化工研究院是化工部所属专门从事染料、农药和照相有机物等专业的科研机构，历史悠久，技术力量雄厚，拥有现代化的设备仪器。近年来，由于多渠道培训科技人员，以及同国外进行多方面的技术协作和技术交流，科研水平与技术实力均有了相应的提高和增强，为继续面向全国、服务四化提供了更优越的有利条件。自开展技术转让、技术咨询、委托研究及现场服务等项工作以来，曾受到有关部门和单位的重视、支持和欢迎。

为便于各有关部门更详尽地了解我院的科研成果，使科研成果尽快地转化为生产力，高伟华院长责成我科编纂了这本手册。本手册可供科技人员查找、索取有关技术资料，及作为咨询和技术转让的参考。如用户单位需要，我院也可提供本手册所列各种规格的试剂和工业产品。

参加编写工作的有吴树民、何振先和梁万建三位工程师。曾蒙我院高级工程师承纪元同志审校，谨此致谢。

为全面地介绍我院多年来的科研成果，还将陆续出版染料、农药和照相有机物等专业的科研品种手册。

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## 范例:

|       |               |
|-------|---------------|
| 分 类 号 | 中文化学名称 (其他名称) |
|       | 英文化学名称 (其他名称) |
| 索 取 号 | 结 构 式         |

## 一、脂肪族及其衍生物

|                      |                                                                                                                                                                              |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1·1                  | 乙 烯<br>Ethylene                                                                                                                                                              |
| 4·1·1·1<br>16'·330   | $\text{CH}_2=\text{CH}_2$                                                                                                                                                    |
| 1·2                  | 丁二烯-1,3<br>Butadiene-1,3                                                                                                                                                     |
| 16·2·1<br>16·4·1     | $\text{CH}_2=\text{CH}-\text{CH}=\text{CH}_2$                                                                                                                                |
| 1·3                  | 3-甲基丁烯-1 ( $\alpha$ -异戊烯)<br>3-Methyl-1-butene ( $\alpha$ -Isoamylene)                                                                                                       |
| 3·11·2·2<br>3·11·2·5 | $\begin{array}{c} \text{CH}_3 \\ \diagup \\ \text{CH} \\ \diagdown \\ \text{CH}_3 \end{array} - \text{CH} = \text{CH}_2$                                                     |
| 1·4                  | 2,4,4-三甲基戊烯-1<br>2,4,4-Trimethyl Pentene 1                                                                                                                                   |
| 3·74·1·3<br>3·77·1·1 | $\begin{array}{c} \text{CH}_3 \\   \\ \text{CH} - \text{C} - \text{CH}_2 - \text{C} - \text{CH}_3 \\   \qquad \qquad   \\ \text{CH}_3 \qquad \qquad \text{CH}_3 \end{array}$ |
| 1·5                  | 乙 炔<br>Acetylene                                                                                                                                                             |
| 4·3·1                | $\text{CH} \equiv \text{CH}$                                                                                                                                                 |

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|        |                                                                                                                                                                        |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1•6    | 乙炔基乙炔<br>Vinyl acetylene                                                                                                                                               |
| 16•1•1 | $\text{CH}_2=\text{CH}-\text{C}\equiv\text{CH}$                                                                                                                        |
| 1•7    | 二乙炔基乙炔<br>Divinyl acetylene                                                                                                                                            |
| 16•1•1 | $\text{CH}_2=\text{CH}-\text{C}\equiv\text{C}-\text{CH}=\text{CH}_2$                                                                                                   |
| 1•8    | 二氯甲烷<br>Dichloromethane(Methylene Chloride)                                                                                                                            |
| 4•28•1 | $\text{CH}_2\text{Cl}_2$                                                                                                                                               |
| 1•9    | 氯乙烷<br>Chloroethane(Ethyl chloride)                                                                                                                                    |
| 4•25•1 | $\text{CH}_3-\text{CH}_2-\text{Cl}$                                                                                                                                    |
| 1•10   | 1,1,2,2-四氯乙烷<br>Tetrachloroethane                                                                                                                                      |
| 4•27•1 | $  \begin{array}{c}  \text{Cl} \quad \text{Cl} \\    \quad   \\  \text{H} - \text{C} - \text{C} - \text{H} \\    \quad   \\  \text{Cl} \quad \text{Cl}  \end{array}  $ |

|          |                                                                                                                                                          |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.11     | 五氯乙烷<br>Pentachloroethane                                                                                                                                |
| 4.32.1   | $\begin{array}{c} \text{Cl} \quad \text{Cl} \\   \quad   \\ \text{H}-\text{C}-\text{C}-\text{Cl} \\   \quad   \\ \text{Cl} \quad \text{Cl} \end{array}$  |
| 1.12     | 六氯乙烷<br>Hexachloroethane                                                                                                                                 |
| 4.28.1   | $\begin{array}{c} \text{Cl} \quad \text{Cl} \\   \quad   \\ \text{Cl}-\text{C}-\text{C}-\text{Cl} \\   \quad   \\ \text{Cl} \quad \text{Cl} \end{array}$ |
| 1.13     | 2-氯丙烷<br>2-Chloropropane (Isopropylchloride)                                                                                                             |
| 2.52     | $\begin{array}{c} \text{CH}_3-\text{CH}-\text{CH}_3 \\   \\ \text{Cl} \end{array}$                                                                       |
| 1.14     | 溴代正十四烷<br>n-Bromotetradecane                                                                                                                             |
| 3.25.1.3 | $\text{CH}_3-(\text{CH}_2)_{13}-\text{Br}$                                                                                                               |
| 1.15     | 氯乙烯<br>Chloroethylene (Vinyl chloride)                                                                                                                   |
| 16'.313  | $\text{CH}_2=\text{CHCl}$                                                                                                                                |

|          |                                                                                                                                          |
|----------|------------------------------------------------------------------------------------------------------------------------------------------|
| 1•16     | 三氯乙烯<br>Trichloroethene (Trichloroethylene)                                                                                              |
| 4•2•1    | $\begin{array}{c} \text{Cl} \quad \text{Cl} \\   \quad   \\ \text{HC} = \text{C} - \text{Cl} \end{array}$                                |
| 1•17     | 2 氯丁二烯-1,3 (氯丁橡胶单体)<br>2 Chlorobutadiene-1,3 (Chloroprene)                                                                               |
| 16•1•1   | $\begin{array}{c} \text{Cl} \\   \\ \text{CH}_2 = \text{C} - \text{CH} - \text{CH}_2 \end{array}$                                        |
| 1•18     | 乙醇<br>Ethanol                                                                                                                            |
| 4•30•1   | $\text{CH}_3 - \text{CH}_2 - \text{OH}$                                                                                                  |
| 1•19     | 正丁醇<br>n-Butanol                                                                                                                         |
| 4•16•1•1 | $\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \text{OH}$                                                                      |
| 1•20     | 季戊四醇<br>Pentaerythritol                                                                                                                  |
| 4•121•1  | $\begin{array}{c} \text{CH}_2\text{OH} \\   \\ \text{HOCH}_2 - \text{C} - \text{CH}_2\text{OH} \\   \\ \text{CH}_2\text{OH} \end{array}$ |

|         |                                                                                                               |
|---------|---------------------------------------------------------------------------------------------------------------|
| 1·21    | 仲正辛醇<br>2-n-Octanol (sec-n-Octyl alcohol)                                                                     |
| 4·20·1  | $\begin{array}{c} \text{CH}_3(\text{CH}_2)_6 \text{CHOH} \\   \\ \text{CH}_3 \end{array}$                     |
| 1·22    | 2-乙基己醇<br>2-Ethylhexanol (2-Ethylhexyl alcohol)                                                               |
| 4·13·1  | $\begin{array}{c} \text{CH}_3(\text{CH}_2)_3 \text{CHCH}_2\text{OH} \\   \\ \text{C}_2\text{H}_5 \end{array}$ |
| 1·23    | 2-氯乙醇<br>2-Chloroethanol                                                                                      |
| 4·1·1·2 | $\text{ClCH}_2\text{---CH}_2\text{OH}$                                                                        |
| 4·21·1  |                                                                                                               |
| 1·24    | 1,3-二氯-2-丙醇<br>1,3-Dichloro-2 propanol                                                                        |
| 16·320  | $\begin{array}{c} \text{H} \\   \\ \text{Cl---CH}_2\text{---C---CH}_2\text{Cl} \\   \\ \text{OH} \end{array}$ |
| 1·25    | 乙二醇<br>1,2 Ethanediol (Ethylene glycol)                                                                       |
| 4·17·1  | $\begin{array}{c} \text{CH}_2\text{OH} \\   \\ \text{CH}_2\text{OH} \end{array}$                              |

|          |                                                                                                                  |
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| 1·26     | 乙二醇单甲醚<br>Ethylene glycol monomethyl ether<br>(methyl "Cellosolve" )                                             |
| 4·15·1·3 | $\text{HO}-\text{CH}_2-\text{CH}_2-\text{O}-\text{CH}_3$                                                         |
| 1·27     | 乙二醇单乙醚<br>Ethylene glycol monoethyl ether<br>( "Cellosolve" )                                                    |
| 4·15·1·1 | $\text{HO}-\text{CH}_2-\text{CH}_2-\text{O}-\text{CH}_2-\text{CH}_3$                                             |
| 1·28     | 乙二醇单丁醚<br>Ethylene glycol monobutyl ether<br>(butyl "Cellosolve" )                                               |
| 4·15·1·2 | $\text{HO}-\text{CH}_2-\text{CH}_2-\text{O}-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{CH}_3$                     |
| 1·29     | 环氧乙烷<br>Ethylene oxide (oxirane)                                                                                 |
| 4·1·1    | $\begin{array}{c} \text{CH}_2-\text{CH}_2 \\ \diagdown \quad \diagup \\ \text{O} \end{array}$                    |
| 1·30     | 1-氯-2,3-环氧丙烷(环氧氯丙烷)<br>1-Chloro-2,3-epoxypropane (Epichlorohydrin)                                               |
| 16'·320  | $\begin{array}{c} \text{ClH}_2\text{C}-\text{CH}-\text{CH}_2 \\ \diagdown \quad \diagup \\ \text{O} \end{array}$ |

|                   |                                                                                                                                                                                                      |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1·31              | 乙二醇缩甲醛<br>ethylene glycol formal                                                                                                                                                                     |
| 4·11·1            | $\begin{array}{c} \text{CH}_2-\text{O} \\   \quad \diagup \\ \text{CH}_2-\text{O}-\text{CH}_2 \end{array}$                                                                                           |
| 1·32              | 3·3-双氯甲基氧杂丁环<br>3·3-Dichloromethyloxaethane                                                                                                                                                          |
| 16'·60<br>16'·344 | $\begin{array}{c} \text{ClCH}_2 \quad \diagup \quad \text{C} \quad \diagdown \quad \text{CH}_2 \\ \text{ClCH}_2 \quad \diagdown \quad \text{C} \quad \diagup \quad \text{CH}_2 \end{array} \text{O}$ |
| 1·33              | 甲 醛<br>Formaldehyde                                                                                                                                                                                  |
| 4·12·1            | HCHO                                                                                                                                                                                                 |
| 1·34              | 乙 醛<br>Acetaldehyde                                                                                                                                                                                  |
| 4·34·1            | H <sub>3</sub> C—CHO                                                                                                                                                                                 |
| 1·35              | 正 丁 醛<br>n-Butylaldehyde                                                                                                                                                                             |
| 4·13·1            | CH <sub>3</sub> —CH <sub>2</sub> —CH <sub>2</sub> —CHO                                                                                                                                               |

|          |                                                                                                                                           |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------|
| 1.36     | 丁 烯 醛<br>2-Butenal (Crotonaldehyde)                                                                                                       |
| 4.16.1.1 | $\text{CH}_3-\text{CH}=\text{CH}-\text{CHO}$                                                                                              |
| 1.37     | 二 氯 乙 醛<br>Dichloroacetaldehyde                                                                                                           |
| 2.22     | $\begin{array}{c} \text{Cl} \\   \\ \text{H}-\text{C}-\text{C}=\text{O} \\   \quad   \\ \text{Cl} \quad \text{H} \end{array}$             |
| 1.38     | 丙 酮<br>Acetone                                                                                                                            |
| 4.33.1   | $\begin{array}{c} \text{O} \\    \\ \text{CH}_3-\text{C}-\text{CH}_3 \end{array}$                                                         |
| 1.39     | 异丙叉丙酮<br>Isopropylidene-acetone (mesityloxide)                                                                                            |
| 2.99     | $\begin{array}{c} \text{CH}_3-\text{C}=\text{CH}-\text{C}-\text{CH}_3 \\   \quad \quad   \\ \text{CH}_3 \quad \quad \text{O} \end{array}$ |
| 1.40     | 氯 丙 酮<br>Chloroacetone                                                                                                                    |
| 1.80.1   | $\text{CH}_3-\text{C}-\text{CH}_2\text{Cl}$                                                                                               |
| 1.80.2   | $\begin{array}{c}    \\ \text{O} \end{array}$                                                                                             |

|          |                                                                                                                                                                                                                                                                                                                                                                                          |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1•41     | 过氧化甲乙酮<br>methyl ethyl ketone peroxide                                                                                                                                                                                                                                                                                                                                                   |
| 4•22•1   | $\text{HO} \left[ \begin{array}{c} \text{CH}_3 \\   \\ -\text{O}-\text{C}-\text{O}- \\   \\ \text{C}_2\text{H}_5 \end{array} \right]_n \text{-OH} \quad (n=1\sim6) \text{ 和}$ $\left[ \begin{array}{c} \text{CH}_3 \\   \\ -\text{O}-\text{C}-\text{O}- \\   \\ \text{C}_2\text{H}_5 \end{array} \right]_n \text{ 的混合物}$ <p style="text-align: right;"><math>n=2 \text{ 或 } 3</math></p> |
| 1•42     | 乙 酸<br>Acetic acid                                                                                                                                                                                                                                                                                                                                                                       |
| 4•5      | $\text{CH}_3\text{-COOH}$                                                                                                                                                                                                                                                                                                                                                                |
| 1•43     | 三甲基乙酸<br>Trimethyl acetic acid                                                                                                                                                                                                                                                                                                                                                           |
| 3•12•1•2 | $\begin{array}{c} \text{CH}_3 \quad \text{O} \\   \quad // \\ \text{CH}_3\text{-C-C-OH} \\   \\ \text{CH}_3 \end{array}$                                                                                                                                                                                                                                                                 |
| 3•13•1•4 |                                                                                                                                                                                                                                                                                                                                                                                          |
| 3•13•2•3 |                                                                                                                                                                                                                                                                                                                                                                                          |
| 1•44     | 丙 酸<br>Propionic acid                                                                                                                                                                                                                                                                                                                                                                    |
| 2•21     | $\text{CH}_3\text{-CH}_2\text{-C-OH}$ <p style="text-align: center;"><math>\diagdown</math><br/>O</p>                                                                                                                                                                                                                                                                                    |

|                 |                                                                                                                                                              |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.45            | 癸二酸<br>Sebasic acid                                                                                                                                          |
| 4.7.1           | $\text{HO}-\underset{\text{O}}{\underset{\parallel}{\text{C}}}-(\text{CH}_2)_8-\underset{\text{O}}{\underset{\parallel}{\text{C}}}-\text{OH}$                |
| 1.46            | 3-甲基丁烯-2-酸 (2,3-二甲基丙烯酸, 千里酸)<br>3-Methyl-2-butenic acid (2,3-Dimethylacrylic acid, seneciolic acid)                                                          |
| 2.99            | $\begin{array}{c} \text{CH}_3 \diagdown \\ \text{CH}_3 \diagup \end{array} \text{C}=\text{CH}-\underset{\text{O}}{\underset{\parallel}{\text{C}}}-\text{OH}$ |
| 1.47            | 一氯醋酸<br>Monochloroacetic acid                                                                                                                                |
| 4.8.1<br>1.49.1 | $\text{ClCH}_2-\underset{\text{O}}{\underset{\parallel}{\text{C}}}-\text{OH}$                                                                                |
| 1.48            | α-氯丙酸<br>α-Chloropropionic acid                                                                                                                              |
| 2.107           | $\text{CH}_3-\underset{\text{Cl}}{\underset{ }{\text{CH}}}-\underset{\text{O}}{\underset{\parallel}{\text{C}}}-\text{OH}$                                    |



|        |                                                                                                                                                                         |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1·52   | 3-甲基丁烯-2·酰氯<br>3-Methyl-2-butenoyl chloride                                                                                                                             |
| 2·99   | $\begin{array}{c} \text{O} \\ \parallel \\ \text{Cl}-\text{C}-\text{CH}=\text{C} \begin{array}{l} \nearrow \text{CH}_3 \\ \searrow \text{CH}_3 \end{array} \end{array}$ |
| 1·53   | 氯乙酰氯<br>Chloroacetyl chloride                                                                                                                                           |
| 2·92   | $\text{Cl}-\text{CH}_2-\text{COCl}$                                                                                                                                     |
| 1·54   | 顺丁烯二(酸)酐<br>Maleic anhydride                                                                                                                                            |
| 4·35·1 | $\begin{array}{c} \text{HC}-\text{C}=\text{O} \\ \parallel \quad \diagdown \text{O} \\ \text{HC}-\text{C}=\text{O} \end{array}$                                         |
| 1·55   | 甲基丙烯酸甲酯<br>Methyl methacrylate                                                                                                                                          |
| 16·339 | $\begin{array}{c} \text{H}_2\text{C}-\text{C}-\text{COO}-\text{CH}_3 \\   \\ \text{CH}_3 \end{array}$                                                                   |

|           |                                                                                                                                                  |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 1·56      | 丙烯酸正丁酯<br>n-Butyl acrylate                                                                                                                       |
| 1·56·1    | $\text{CH}_2=\text{CH}-\text{COO}-(\text{CH}_2)_3-\text{CH}_3$                                                                                   |
| 1·57      | 丙烯酸异丁酯<br>Isobutyl acrylate                                                                                                                      |
| 3·109·1·2 | $\begin{array}{c} \text{O} \\    \\ \text{CH}_2=\text{CH}-\text{C}-\text{OCH}(\text{CH}_3)\text{CH}_2\text{CH}_3 \end{array}$                    |
| 1·58      | 氯甲酸甲酯<br>Methyl chloroformate                                                                                                                    |
| 2·61      | $\begin{array}{c} \text{Cl}-\text{C}-\text{O}-\text{CH}_3 \\    \\ \text{O} \end{array}$                                                         |
| 1·59      | 2-氯丙酸甲酯<br>Methyl 2-chloropropionate                                                                                                             |
| 2·107     | $\begin{array}{c} \text{CH}_3-\text{CH}-\text{C}-\text{O}-\text{CH}_3 \\   \quad    \\ \text{Cl} \quad \text{O} \end{array}$                     |
| 1·60      | 2-溴(代)十四酸乙酯<br>Ethyl 2-Bromo myristate                                                                                                           |
| 3·20·3·3  | $\begin{array}{c} \text{CH}_3(\text{CH}_2)_{11}\text{CH}-\text{C}-\text{OCH}_2\text{CH}_3 \\   \quad    \\ \text{Br} \quad \text{O} \end{array}$ |