

Chemical Handbook

Chemical Handbook 1.0 for Palm OS

Chemical Handbook is a Chemical handbook in handheld application that runs on Palm OS. It is Chemical database from frequently use tables paste into your handhelds. Tapping on any of database in the main menu will bring up a form showing a list of Physical/Chemical properties, Saturated steam table, Nominal pipe size, Periodic table, Unit converter, and Vapor pressure of organic compound. You can also select a subset of the compounds/elements for display properties.

Requirements:

1. Palm OS 3.1 or Higher
2. Color/Grey Screen

Using Chemical Handbook:

Chemical Handbook



CHEMICAL
HANDBOOK

Select database:

Saturated Steam Table

Chemical properties

Vapour Pressure of Organic Compound

Periodic Table

Physical Properties

Nominal Pipe Size



Go

1) Select Handbook database

Database content

- Saturated Steam Table
- Chemical properties
- Vapor pressure of organic compound
- Periodic Table
- Physical properties
- Nominal pipe size(NPS)
- Unit converter

Tap on list and tap on **Go** button

2) Saturated Steam Table

Enter your known value Temperature or Pressure

- Tab on Temperature when you know temperature or Tab on Pressure when you know pressure
- Tab on Calculate button to calculate some saturated steam value

- Tab on **Back** button to return to the main menu

Remark : Temperature range between 10 to 370 C and Pressure range between 0.3 to 225 kg/cm2

Saturated Steam

Enter known value:

☒ Temperature 300 C

☐ Pressure kg/cm2

Calculate

| Properties | Value | Unit |
|--------------|---------|---------|
| Pressure | 87.625 | kg/cm2 |
| Spec. Volume | 0.021 | m3/kg |
| Enthalpy | 655.202 | kcal/kg |
| Latent Heat | 334.162 | kcal/kg |

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Chemical Properties

Name : ▼

Property

| | |
|----------------|-------------------|
| Formula | Acetylene |
| Melting Point | Ammonia |
| Crit. Temp. | Carbon monoxide |
| Crit. Pressure | Iso-Butane |
| Latent Heat | Ethane |
| Viscosity | Ethylene |
| Specific heat | Hydrogen Chloride |
| Density | Chlorine |
| | Methyl Chloride |
| | Air |
| | Oxygen |
| | Hydrogen bromide |

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4) Vapor pressure of organic compounds

Select compounds in drop down list and select a compound. All compound properties will display in table below. The results are temperature of organic compound at vapor pressure 1, 5, 10, 20, 60, 200, 400, 760 mmHg.

Tab on **Back** button to return to the main menu

3) Chemical properties

Select compounds in drop down list and select a compound. All compound properties will display in table below.

Tab on **Back** button to return to the main menu

Vapour Pressure

CS2

Name : ▼

Pressure

| | |
|-----|----------------------|
| 1 | Carbon tetrachloride |
| 5 | Chloroform |
| 10 | Dichloromethane |
| 20 | Methanol |
| 60 | Carbon disulfide |
| 200 | Acetic acid |
| 400 | Ethanol |
| 760 | Acetone |
| | Methyl acetate |
| | 1-Propanol |
| | 2-Propanol |
| | Methyl ethyl ketone |

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Periodic Table

Element: **Magnesium - Mg**

Properties

| | |
|---------------|----------------|
| Symbol | Aluminum - Al |
| Atomic Number | Silicon - Si |
| Atomic Weight | Phosphorus - P |
| Boiling Point | Sulfur - S |
| Melting Point | Chlorine - Cl |
| Density | Argon - Ar |
| Heat Vapor | Potassium - K |
| Heat Fusion | Calcium - Ca |
| | Scandium - Sc |
| | Titanium - Ti |
| | Vanadium - V |

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5) Periodic Table

Select elements in drop down list and select an element. All element properties will display in table below. Such as symbol, atomic number, atomic weight, boiling point, etc. Tab on **Back** button to return to the main menu.

Physical Properties

Name: **Benzene**

Property

| | |
|---------------|----------------|
| MW | Toluene |
| Water Solu. | Ethylbenzene |
| Henry's Coef. | Xylenes |
| OCA.Coef. | Naphthalene |
| SWS.Coef. | Acenaphthylene |
| Diff.Coef(A) | Acenaphthene |
| Diff.Coef(W) | Fluorene |
| Diff.Coef(C) | Anthracene |
| | Phenanthrene |
| | Fluoranthene |
| | Pyrene |

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6) Physical properties

Select compound in drop down list and select a compound. All compound properties will display in table below.

Tab on **Back** button to return to the main menu.

Pipe Conversion Factors

NPS: **90** Inches

| Properties | Value |
|------------------|---------|
| DN | 3+1/2 |
| O.D. | 101.6 |
| I.D. | 93.2 |
| Area | 68.2490 |
| F rate at 1m/sec | 24.55 |
| F rate at 1m3/h | 0.04073 |
| Schedule 5S | 2.1 |
| Schedule 10S | 3 |

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7) Pipe conversion factor in NPS

Select NPS in drop down list and select a NPS in inch unit.

All properties will display in table below. Such as DN, O.D., I.D., Area, Schedul, etc.

Tab on **Back** button to return to the main menu.

Unit Converter **Viscosity**

Value: 25 **dyne.sec/cm²**

Convert to units

| | |
|-------|--------------------------|
| 25 | poise(P) |
| 25 | g/cm.sec |
| 25 | dyne.sec/cm ² |
| 2500 | cP |
| 2.500 | kg/m.sec |
| 1.680 | lb/ft.sec |
| 0.255 | kg.sec/m ² |
| 0.052 | lb.sec/ft ² |
| | kg/m.hr |
| | lb.sec/ft ² |

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8) Unit converter

- Select unit group (Temperature, Viscosity, Weight, etc.) at the right top of this page.
- Enter value at source field (example is 25)
- Select unit of value that you convert from unit.
- Result are value of source in the others unit.



Abbreviation

| | |
|-----------------|---------------------------------------|
| Crit.Temp. | Critical Temperature |
| Crit.Pressure | Critical Pressure |
| Spec. Volume | Specific Volume |
| NPS | Nominal Pipe Size |
| DN | Diameter Nominal |
| O.D. | Outer Diameter |
| I.D. | Inner Diameter |
| Elect.Cond. | Electrical Conductivity |
| Thermal Cond. | Thermal Conductivity |
| Water Solu. | Water Solubility |
| Spec.Heat Capa. | Specific Heat Capacity |
| Henry's Const | Henry's Law Constant |
| OCA.Coef. | Organic Carbon Adsorption Coefficient |
| SWS.Coef. | Soil-Water Sorption Coefficient |
| Diff.Coef(O) | Diffusion Coefficient in Oil |
| Diff.Coef(W) | Diffusion Coefficient in Water |
| Diff.Coef(A) | Diffusion Coefficient in Air |