

## Dates of important chemical events of 50, 100, 150 ... years ago from 2000

### Technical Chemistry

#### 5500 years ago

2500 BC

- Tools of copper and alloys, are made in *Persia, Egypt and Mesopotamia*

#### 3500 years ago

1500 BC

- Glass is made of natron, soda and lime in *Egypt, Fore-Asia*

#### 3475 years ago

1475 BC

- Bellows are constructed for melting metals and making glass a.o. with cobalt and copper under *King Thutmosis the 3<sup>rd</sup>*

#### 3425 years ago

1425 BC

- Painted textile is made with materials as red lead and white lead and with coloured plants as indigo, litmus, weed, safflower, madder and soot of wood of the pine tree under *King Thutmosis the 5<sup>th</sup>*

#### 2250 years ago

250 BC

- Glassblowing begins in *Syria*

#### 1700 years ago

300

- Artificial precious metals and stones are made and chemicals are prepared (e.g. alum, antimony sulphide, litharge, black manganese, copper carbonate, copper sulphate, sodium carbonate and sulphur)

#### 1400 years ago

600

- *Isidorus Hispaliensis* uses hops in making beer

#### 900 years ago

1100

- *Moors* in Spain introduces papermaking

### **800 years ago**

1200

- In *Venice* the start of glassmaking

### **700 years ago**

1300

- In *Venice* spectacles-making
- In *South Babylonia* preparing of perfume by liquid-liquid extraction
- *Giovanni Pisani* invents the preparation of coloured enamel

### **600 years ago**

1400

- Metals such as copper, lead, tin, cobalt and bismuth are obtained from ores in the *Saxon* mountain region

### **550 years ago**

1450

- *Nessler of Joachimsthal* teaches in Germany the preparation of copper by roasting of ores, treating with sulphuric acid and precipitating with iron

### **350 years ago**

1650

- In *Nordhausen* on Harz a factory for making sulphuric acid from iron sulphate is started. Also a factor for making brandy from corn is established

### **300 years ago**

1700

- *Georg Memmendorfer* invents cast-steel

### **250 years ago**

1750

- *Andreas Huber* in Fürth prepares bronze-paints from leaf-metal
- *Joshua Ward* suggests preparing sulphuric acid by burning sulphur with saltpetre
- *J Roebucks* constructs the lead chamber
- *André Rhodiwonowitsch Balaschef* improves the pour furnace in the iron foundry

## 150 years ago

1850

- The manufacturer *Wolf* in Schweinfurt prepares for the first time nickel steel
- *Parkes* in Birmingham applies for a patent to win silver from rough lead
- *Gorrie* constructs an open machine to freeze up air
- *Du Trembly* constructs a refrigerator on the basis of ether
- In *Oranienburg* a factory for fertiliser (ammonia-alum) is established
- *James Blackhall* prepares large quantities of bone meal without fats and organic substances
- *F A Müller* prepares a composition of glass for artificial eyes
- *J Dubrunfaut* in Vienna makes glass wool
- *Henri Regnault* uses pyrogallol acid as a photographic developer

## 100 years ago

1900

- *J Bueb* invents a method to remove naphthalene and cyanogen from coal gas
- *Karl Zschörner* makes paper from peat
- *The Ampère Electro Chemical Company* in Port Chester prepares artificial camphor by heating oil of turpentine with anhydrous oxalic acid
- *The Chemical Laundry* from *Barbe* in Toulouse constructs an apparatus for dry cleaning with excluding petrol vapour outside the machine, so without fire danger and danger for the workers
- *S Jay & Co* in Paris produces alcohol from acetylene and hydrogen in particular cold apparatus with ozone
- *C F Bödhringer & Sohne* use lactic acid in the cotton printer as a solvent for dyes
- *Karl von Linde* produces oxyliquid (liquid oxygen) for using as an explosive
- *The Schimmel & Co Werke* synthesises attar of roses
- *Rudolf Th J Knietsch* in Ludwigshafen prepares sulphuric acid with the contact process
- *Taylor* prepares steel with tungsten
- *Paul-Louis Toussaint Héroult* uses the carbon light arch for melting steel in the preparation of very pure steel. At the same time *Ernesto Stassano* and *F A Kjellin* use an analogous method
- *The Vereinigten Kunstseidenfabriken Aktien Gesellschaft* in Frankfurt a/m puts artificial horse hair ("meteor") onto the market
- *F A Kjellin* constructs an electric furnace with 30,000 Ampère for preparing a very pure electro steel
- *F Kurlbaum* and *L Holborn* construct a pyrometer, which compares the radiating body with a light bulb with changing intensity
- *Bremer* constructs a carbon light arch with calcium fluoride added on the carbon for becoming better light effects
- *Richard Neuhauss* and *Worel* obtain colours by bleaching artificial (aniline) dyestuffs on a photographic way

- *G Krebs* puts "time light" cartridge for photographic use onto the market filled with magnesium, aluminium, glass powder, nitrates and carbonates of the alkaline earth metals. *Friedrich Bayer & Co* use tungsten acid as the oxygen source
- *Hans Mennicke* isolates tin from waste tinfoil by electrolysis in caustic solutions
- *Frederick W Taylor* and *Maunsel White* prepare steels including tungsten, titanium, molybdenum or chromium with a great resistance by a particular process of melting
- *F M Lyte* and *Georg Lunge* prepare nitric acid by heating sodium nitrate and iron oxide in a stream of steam and air

### **50 years ago**

1950

- *W Foerst* edits the 3<sup>rd</sup> edition of *Ulmans Enzyklopödie der Technischen Chemie*
- *Georg Masing* edits his *Lehrbuch der Allgemeinen Metallkunde*
- In *Oberbruch* near Aachen produce the first perlon threads
- *G Bayer* prepares the first insecticides of the syntex row