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Chemical compound (PO(OH)3] This article is about orthophosphoric acid. For other chemicals commonly called "phosphoric acid", see Phosphoric acids and phosphates. Not to be confused with Phosphorous acid. Phosphoric acid Structural formula of phosphoric acid, showing dimensions Ball-and-stick model Space-filling model Names IUPAC name Phosphoric acid Other names Orthophosphoric acid, hydrogen phosphate Identifiers CAS Number 7664-38-2 J3D model (JSmol) Interactive image CHEBI CHEBI:26078 Y ChEMBL ChEMBL1187 Y ChEMSPIDER 978 Y ECHA InfoCard 100.028.758 EC Number 231-653-2 E number E338 (antioxidants, ...) KEGG D050467 Y PubChem CID 1004 RTECS number TB6300000 NCI 54486800 UN Y UN number 1805 CompTox Dashboard (EPA) DTXSID0024263 InChI InChI=1S/H3PO4(=O)(=O)O/c1-5(2,3,4)/H(3,1,2,3,4)/YKey: NBIXUXUZAIBLCH-CHIFFFAOYSA Y N YInChI=1S/H3PO4(=O)(=O)O/c1-5(2,3,4)/H(3,1,2,3,4)/YKey: NBIXUXUZAIBLCH-CHIFFFAOYSA Y SMILES [O-]P(=O)([O-])O Properties Chemical formula H3PO4 Molar mass 97.974 g/mol UN hazard 6.09 Colorless solid Odor Colorless Density 1.6845 g/cm3 (25 °C, 85%)(11) 1.834 g/cm3 (solid)(12) Melting point 42.35 °C (108.23 °F; 315.50 K) Analytical data (DILH) Natural product (DILH) Safety data (DILH) GHS hazard pictograms (DILH) GHS hazard statements (DILH) GHS precautionary statements (DILH) 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Emperor Charles V decisively dismantles the Schmalkaldic League at the Battle of Mühlberg. 1547: Grand Prince Ivan the Terrible is crowned tsar of (All) Russia, thenceforth becoming the first Russian tsar. 1548: Battle of Uedahara: Firearms are used for the first time on the battlefield in Japan, and Takeda Shingen is defeated by Murakami Yoshikiyo. 1548: Askia Daoud, who reigned from 1548 to 1583, establishes public libraries in Timbuktu (in present-day Mali). 1548: The Ming dynasty government of China issues a decree banning all foreign trade and closes down all seaports along the coast; these Hai jin laws came during the Wokou wars with Japanese pirates. 1549: Tomé de Sousa establishes Salvador in Bahia, north-east of Brazil. 1549: Arya Penangsang with the support of his teacher, Sunan Kudus, avenges the death of Raden Kikin by sending an envoy named Rangkud to kill Sunan Prawoto by Keris Kyai Satan Kober (in present-day Indonesia). The Islamic gunpowder empires: Mughal Army artillerymen during the reign of Jalaluddin Akbar 1550: The architect Mimar Sinan builds the Süleymaniye Mosque in Istanbul. 1550: Mongols led by Altan Khan invade China and besiege Beijing. 1550–1551: Valladolid debate concerning the human rights of the Indigenous people of the Americas. 1551: Fifth outbreak of sweating sickness in England. John Caius of Shrewsbury writes the first full contemporary account of the symptoms of the disease. 1551: North African pirates enslave the entire population of the Maltese island Gozo, between 5,000 and 6,000, sending them to Libya. 1552: Russia conquers the Khanate of Kazan in central Asia. 1552: Jesuit China Mission, Francis Xavier dies. 1553: Mary Tudor becomes the first queen regnant of England and restores the Church of England under Papal authority. 1553: The Portuguese found a settlement at Macau. 1554: Missionaries José de Anchieta and Manuel da Nóbrega establishes São Paulo, southeast Brazil. 1554: Princess Elizabeth is imprisoned in the Tower of London upon the orders of Mary I for suspicion of being involved in the Wyatt rebellion. 1555: The Muscovy Company is the first major English joint stock trading company. 1556: Publication in Venice of Delle Navigazioni et Viaggi (terzo volume) by Giovanni Battista Ramusio, secretary of Council of Ten, with plan La Terra de Hochelaga.[13] 1556: The Shaanxi earthquake in China is history's deadliest known earthquake during the Ming dynasty. 1556: Georgius Agricola, the "Father of Mineralogy", publishes his De re metallica. 1556: Akbar defeats Hemu at the Second battle of Panipat. 1556: Russia conquers the Astrakhan Khanate. 1556–1605: During his reign, Akbar expands the Mughal Empire in a series of conquests (in the Indian subcontinent).Political map of the world in 1556 1556: Mir Chakar Khan Rind captures Delhi with Humayun. 1556: Pomponio Algerio, radical theologian, is executed by boiling in oil as part of the Roman Inquisition. 1557: Habsburg Spain declares bankruptcy. Philip II of Spain had to declare four state bankruptcies in 1557, 1560, 1575 and 1596. 1557: The Portuguese settle in Macau (on the western side of the Pearl River Delta across from present-day Hong Kong). 1557: The Ottomans capture Massawa, all but isolating Ethiopia from the rest of the world. 1558: Elizabeth Tudor becomes Queen Elizabeth I at age 25. 1558–1603: The Elizabethan era is considered the height of the English Renaissance. 1558–1583: Livonian War between Poland, Grand Principality of Lithuania, Sweden, Denmark and Russia. 1558: After 200 years, the Kingdom of England loses Calais to France. 1559: With the Peace of Cateau Cambrésis, the Italian Wars conclude. 1559: Sultan Hairun of Ternate (in present-day Indonesia) protests the Portuguese's Christianisation activities in his lands. Hostilities between Ternate and the Portuguese. The Mughal Emperor Akbar shoots the Rajput warrior Jaimal during the Siege of Chittorgarh in 1567 1560: Ottoman navy defeats the Spanish fleet at the Battle of Djerba. 1560: Elizabeth Bathory is born in Nyirbator, Hungary. 1560: By winning the Battle of Okehazama, Oda Nobunaga becomes one of the pre-eminent warlords of Japan. 1560: Jeanne d'Albret declares Calvinism the official religion of Navarre. 1560: Lazarus Church, Macau 1561: Sir Francis Bacon is born in London. 1561: The fourth battle of Kawanakajima between the Uesugi and Takeda at Hachimanbara takes place. 1561: Guido de Bres draws up the Belgic Confession of Protestant faith. 1562: Mughal emperor Akbar reconciles the Muslim and Hindu factions by marrying into the powerful Rajput Hindu caste. 1562–1598: French Wars of Religion between Catholics and Huguenots. 1562: Massacre of Wassy and Battle of Dreux in the French Wars of Religion. 1562: Portuguese Dominican priests build a palm-trunk fortress which Javanese Muslims burned down the following year. The fort was rebuilt from more durable materials and the Dominicans commenced the Christianisation of the local population.[12] 1563: Plague outbreak claimed 80,000 people in Elizabethan England. In London alone, over 20,000 people died of the disease. 1564: Galileo Galilei born on February 15 1564: William Shakespeare baptized 26 April 1565: Deccan sultanates defeat the Vijayanagara Empire at the Battle of Talikota. 1565: Mir Chakar Khan Rind dies at aged 97. 1565: Estácio de Sá establishes Rio de Janeiro in Brazil. 1565: The Hospitallers, a Crusading Order, defeat the Ottoman Empire at the siege of Malta (1565). 1565: Miguel López de Legazpi establishes in Cebu the first Spanish settlement in the Philippines starting a period of Spanish colonization that would last over three hundred years. 1565: Spanish navigator Andres de Urdaneta discovers the maritime route from Asia to the Americas across the Pacific Ocean, also known as the tornaviaje. 1565: Royal Exchange is founded by Thomas Gresham. 1566: Suleiman the Magnificent, ruler of the Ottoman Empire, dies on September 7, during the battle of Szigetvar.Siege of Valenciennes during the Dutch War of Independence in 1567 1566–1648: Eighty Years' War between Spain and the Netherlands. 1566: Da le Balle Contrade d'Oriente, composed by Cipriano de Rore. 1567: After 45 years' reign, Jiajing Emperor died in the Forbidden City, Longqing Emperor ascended the throne of Ming dynasty. 1567: Mary, Queen of Scots, is imprisoned by Elizabeth I. 1568: The Transylvanian Diet, under the patronage of the prince John Sigismund Zápolya, the former king of Hungary, inspired by the teachings of Ferenc Dávid, the founder of the Unitarian Church of Transylvania, promulgates the Edict of Torda, the first law of freedom of religion and of conscience in the World. 1568–1571: Morisco Revolt in Spain. 1568–1600: The Azuchi-Momoyama period in Japan. 1568: Hadiwijaya sent his adopted son and son in-law Sutawijaya, who would later become the first ruler of the Mataram dynasty of Indonesia, to kill Arya Penangsang. 1569: Rising of the North in England. 1569: Mercator 1569 world map published by Gerardus Mercator. 1569: The Polish–Lithuanian Commonwealth is created with the Union of Lublin which lasts until 1795. 1569: Peace treaty signed by Sultan Hairun of Ternate and Governor Lopez De Mesquita of Portugal. The Battle of Lepanto 1570: Ivan the Terrible, tsar of Russia, orders the massacre of inhabitants of Novgorod. 1570: Pope Pius V issues Regnans in Excelsis, a papal bull excommunicating all who obeyed Elizabeth I and calling on all Catholics to rebel against her. 1570: Sultan Hairun of Ternate (in present-day Indonesia) is killed by the Portuguese.[12] Babullah becomes the next Sultan. 1570: 20,000 inhabitants of Nicosia in Cyprus were massacred and every church, public building, and palace was looted. Cyprus fell to the Ottoman Turks the following year. 1571: Pope Pius V completes the Holy League as a united front against the Ottoman Turks, responding to the fall of Cyprus to the Ottomans. 1571: The Spanish-led Holy League navy destroys the Ottoman Empire navy at the Battle of Lepanto. 1571: Crimean Tatars attack and sack Moscow, burning everything but the Kremlin. 1571: American Indians kill Spanish missionaries in what would later be Jamestown, Virginia. 1571: Spanish conquistador Miguel López de Legazpi establishes Manila, Philippines as the capital of the Spanish East Indies. 1572: Brielle is taken from Habsburg Spain by Protestant Watergeuzen in the Capture of Brielle, in the Eighty Years' War. 1572: Spanish conquistadores apprehend the last Inca leader Tupak Amaru at Vilcabamba, Peru, and execute him in Cuzco. 1572: Jeanne d'Albret dies aged 43 and is succeeded by Henry of Navarre. 1572: Catherine de' Medici instigates the St. Bartholomew's Day massacre which takes the lives of Protestant leader Gaspard de Coligny and thousands of Huguenots. The violence spreads from Paris to other cities and the countryside. 1572: First edition of the epic The Lusids of Luis Vaz de Camões, three years after the author returned from the East.[14] 1572: The 9 years old Taizū, Zhu Yijun ascended the throne of Ming dynasty, known as Wanli Emperor. 1573: After heavy losses on both sides the siege of Haarlem ends in a Spanish victory.St. Bartholomew's Day massacre of French Protestants 1574: in the Eighty Years' War the capital of Zeeland, Middelburg declares for the Protestants. 1574: After a siege of 4 months the siege of Leiden ends in a comprehensive Dutch rebel victory. 1575: Oda Nobunaga finally captures Nagashima fortress. 1575: Following a five-year war, the Ternatenses under Sultan Babullah defeated the Portuguese. 1576: Tahmasp I, Safavid shah, dies. 1576: The Battle of Haldighati is fought between the ruler of Mewar, Maharana Pratap and the Mughal Empire's forces under Emperor Akbar led by Raja Man Singh. 1576: Sack of Antwerp by badly paid Spanish soldiers. 1577–1580: Francis Drake circles the world. 1577: Ki Ageng Pemanahan built his palace in Pasargede or Kotagede. 1578: King Sebastian of Portugal is killed at the Battle of Alcazarquivir. 1578: The Portuguese establish a fort on Tidore but the main centre for Portuguese activities in Maluku becomes Ambon.[12] 1578: Sonam Gyatso is conferred the title of Dalai Lama by Tumed Mongol ruler, Altan Khan. Recognised as the reincarnation of two previous Lamas, Sonam Gyatso becomes the third Dalai Lama in the lineage.[15] 1578: Governor-General Francisco de Sande officially declared war against Brunei in 1578, starting the Castilian War of 1578. 1579: The Union of Utrecht unifies the northern Netherlands, a foundation for the later Dutch Republic. 1579: The Union of Arras unifies the southern Netherlands, a foundation for the later states of the Spanish Netherlands, the Austrian Netherlands and Belgium. The Irish Gaelic chieftain's feast, from the Image of Ireland 1579: The British navigator Sir Francis Drake passes through Maluku and transit in Ternate on his circumnavigation of the world. The Portuguese establish a fort on Tidore but the main centre for Portuguese activities in Maluku becomes Ambon.[16] The fall of Spanish Armada 1580: Drake's royal reception after his attacks on Spanish possessions influences Philip II of Spain to build up the Spanish Armada. English ships in Spanish harbours are impounded. 1580: Spain unifies with Portugal under Philip II. The struggle for the throne of Portugal ends the Portuguese Empire. The Spanish and Portuguese crowns are united for 60 years, i.e. until 1640. 1580–1587: Nagasaki comes under control of the Jesuits. 1581: Dutch Act of Abjuration, declaring abjuring allegiance to Philip II of Spain. 1581: Bayinnaung dies at the age of 65. 1582: Oda Nobunaga commits seppuku during the Honnō-ji Incident coup by his general, Akechi Mitsuhide. 1582: Pope Gregory XIII issues the Gregorian calendar. The last day of the Julian calendar was Thursday, 4 October 1582 and this was followed by the first day of the Gregorian calendar, Friday, 15 October 1582 1582: Yermak Timofeyevich conquers the Siberia Khanate on behalf of the Stroganovs. 1583: Denmark builds the world's first theme park, Bakken. 1583: Death of Sultan Babullah of Ternate. 1584–1585: After the siege of Antwerp, many of its merchants flee to Amsterdam. According to Luc-Normand Tellier, "At its peak, between 1510 and 1557, Antwerp concentrated about 40% of the world trade...It is estimated that the port of Antwerp was earning the Spanish crown seven times more revenues than the Americas."[17] 1584: Ki Ageng Pemanahan died. Sultan Pajang raised Sutawijaya, son of Ki Ageng Pemanahan as the new ruler in Mataram, titled "Loring Ngabehi Market" (because of his home in the north of the market). 1585: Akbar annexes Kashmir and adds it to the Kabul SubahPortuguese fusta in India from a book by Jan Huygen van Linschoten 1585: Colony at Roanoke founded in North America. 1585–1604: The Anglo-Spanish War is fought on both sides of the Atlantic. 1587: Mary, Queen of Scots is executed by Elizabeth I. 1587: The reign of Abbas I marks the zenith of the Safavid dynasty. 1587: Troops that would invade Pajang Mataram Sultanate storm ravaged the eruption of Mount Merapi. Sutawijaya and his men survived. 1588: Mataram into the kingdom with Sutawijaya as Sultan, titled "Senapati Inggalaga Sayidin Panatagama" means the warlord and cleric Manager Religious Life. 1588: England repulses the Spanish Armada. 1589: Spain repulses the English Armada. 1589: Catherine de' Medici dies at aged 69. Abu'l-Fazl ibn Mubarak presenting Akbarnama to Mughal Azam Akbar, Mughal miniature 1590: Siege of Odawara: the Go-Hojo clan surrender to Toyotomi Hideyoshi, and Japan is unified. 1591: Gazi Giray leads a huge Tatar expedition against Moscow. 1591: In Mali, Moroccan forces of the Sultan Ahmad al-Mansur led by Judar Pasha defeat the Songhai Empire at the Battle of Tondibi. 1592–1593: John Stow reports 10,675 plague deaths in London, a city of approximately 200,000 people. 1592–1598: Korea, with the help of Ming dynasty China, repels two Japanese invasions. 1593–1606: The Long War between the Habsburg monarchy and the Ottoman Turks. 1594: St. Paul's College, Macau, founded by Alessandro Valignano. 1595: First Dutch expedition to Indonesia sets sail for the East Indies with two hundred and forty-nine men and sixty-four cannons led by Cornelis de Houtman.[18] 1596: Birth of René Descartes. 1596: June, de Houtman's expedition reaches Banten the main pepper port of West Java where they clash with both the Portuguese and Indonesians. It then sails east along the north coast of Java losing twelve crew to a Javanese attack at Sidayu and killing a local ruler in Madura.[18] 1597: Romeo and Juliet is published. 1597: Cornelis de Houtman's expedition returns to the Netherlands with enough spices to make a considerable profit.[18] 1598: The Edict of Nantes ends the French Wars of Religion. 1598: Abbas I moves Safavids capital from Qazvin to Isfahan in 1598. 1598–1613: Russia descends into anarchy during the Time of Troubles. 1598: The Portuguese require an armada of 90 ships to put down a Solorese uprising.[12] (to 1599) 1598: More Dutch fleets leave for Indonesia and most are profitable.[18]Edo period screen depicting the Battle of Sekigahara 1598: The province of Santa Fe de Nuevo México is established in Northern New Spain. The region would later become a territory of Mexico, the New Mexico Territory in the United States, and the US State of New Mexico. 1598: Death of Toyotomi Hideyoshi, known as the unifier of Japan. 1599: The Mali Empire is defeated at the Battle of Jenné. 1599: The van Neck expedition returns to Europe. The expedition makes a 400 per cent profit.[18] (to 1600) 1599: March, Leaving Europe the previous year, a fleet of eight ships under Jacob van Neck was the first Dutch fleet to reach the 'Spice Islands' of Maluku.[18] 1600: Giordano Bruno is burned at the stake for heresy in Rome.Siege of Filakovo castle during the Long Turkish War 1600: Battle of Sekigahara in Japan. End of the Warring States period and beginning of the Edo period. 1600: The Portuguese win a major naval battle in the bay of Ambon.[19] Later in the year, the Dutch join forces with the local Hituese in an anti-Portuguese alliance, in return for which the Dutch would have the sole right to purchase spices from Hitu.[19] 1600: Elizabeth I grants a charter to the British East India Company beginning the English advance in Asia. 1600: Michael the Brave unifies the three principalities: Wallachia, Moldavia and Transylvania after the Battle of Șelimbăr from 1599. For later events, see Timeline of the 17th century. Polybius' The Histories translated into Italian, English, German and French.[20] Mississippian culture disappears. Medallion rug, variant Star Ushak style, Anatolia (modern Turkey), is made. It is now kept at the Saint Louis Art Museum. Hernan Cortes (1485–1547) Henry VIII, (1491–1547) King of England and Ireland Don Fernando Álvarez de Toledo (1507–1582) Suleiman the Magnificent, Sultan of the Ottoman Empire (1520–1566) Ivan IV the Terrible (1530–1584) Oda Nobunaga (1534–1582) Sir Francis Drake (c. 1540 – 1596) Alberico Gentili, (1552–1608) the Father of international law Philip II of Spain, King of Spain (1556–1598) Akbar the Great, Mughal emperor (1556–1605) Related article: List of 16th century inventions. The Columbian Exchange introduces many plants, animals and diseases to the Old and New Worlds. Introduction of the spinning wheel revolutionizes textile production in Europe. The letter J is introduced into the English alphabet. 1500: First portable watch is created by Peter Henlein of Germany.The Iberian Union in 1598, under Philip II, King of Spain and Portugal 1513: Juan Ponce de León sights Florida and Vasco Núñez de Balboa sights the eastern edge of the Pacific Ocean. 1519–1522: Ferdinand Magellan and Juan Sebastián Elcano lead the first circumnavigation of the world. 1519–1540: In America, Hernando de Soto expeditions map the Gulf of Mexico coastline and bays. 1525: Modern square root symbol (√) 1540: Francisco Vázquez de Coronado sights the Grand Canyon. 1541–42: Francisco de Orellana sails the length of the Amazon River. 1542–43: Firearms are introduced into Japan by the Portuguese. 1543: Copernicus publishes his theory that the Earth and the other planets revolve around the Sun 1545: Theory of complex numbers is first developed by Gerolamo Cardano of Italy. 1558: Camera obscura is first used in Europe by Giambattista della Porta of Italy. 1559–1562: Spanish settlements in Alabama/Florida and Georgia confirm dangers of hurricanes and local native warning tribes. 1565: Spanish settlers outside New Spain (Mexico) colonize Florida's coastline at St. Augustine. 1565: Invention of the graphite pencil (in a wooden holder) by Conrad Gessner. Modernized in 1812. 1568: Gerardus Mercator creates the first Mercator projection map. 1572: Supernova SN 1572 is observed by Tycho Brahe in the Milky Way. 1582: Gregorian calendar is introduced in Europe by Pope Gregory XIII and adopted by Catholic countries. c. 1583: Galileo Galilei of Pisa, Italy identifies the constant swing of a pendulum, leading to development of reliable timekeepers. 1585: earliest known reference to the 'sailing carriage' in China. 1589: William Lee invents the stocking frame. 1591: First flush toilet is introduced by Sir John Harrington of England, the design published under the title "The Metamorphosis of Ajax". 1593: Galileo Galilei invents a thermometer. 1596: William Barents discovers Spitsbergen. 1597: Opera in Florence by Jacopo Peri. Entertainment in the 16th century ^ a b Modern reference works on the period tend to follow the introduction of the Gregorian calendar for the sake of clarity; thus NASA's lunar eclipse catalogue states "The Gregorian calendar is used for all dates from 1582 Oct 15 onwards. Before that date, the Julian calendar is used." For dates after 15 October 1582, care must be taken to avoid confusion of the two styles. ^ de Vries, Jan (14 September 2009). "The limits of globalization in the early modern world". The Economic History Review. 63 (3): 710–733. CiteSeerX 10.1.1.186.2862. doi:10.1111/j.1468-0289.2009.00497.x. JSTOR 40929823. SZCID 219669360. SSRN 1635517. ^ Singh, Sarina; Lindsay Brown; Paul Clammer; Rodney Cocks; John Mock (2008). Pakistan & the Karakoram Highway. Vol. 7, illustrated. Lonely Planet. p. 137. ISBN 978-1-74104-542-0. Retrieved 23 August 2010. ^ Babur (2006). Babur Nama. Penguin Books. p. vii. 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An Encyclopedia of World History (5th ed. 1973); highly detailed outline of events online free Media related to 16th century at Wikimedia Commons Timelines of 16th century events, science, culture and persons Retrieved from " 4 The following pages link to 16th century External tools (link count transclusion count sorted list) · See help page for transcluding these entries Showing 50 items. View (previous 50 | next 50) (20 | 50 | 100 | 250 | 500) Retrieved from " WhatLinksHere/16th_century"