

Modul:Convert/data/sandbox

This page defines the conversion data used by [Module:Convert](#). All documentation (from [Module:Convert/doc](#)) is at that page.

Do not manually add units to this page. First add the unit definitions in [Module:Convert/documentation/conversion data](#). And then update this page by copying the results from [Module:Convert/makeunits](#) (those results appear at [Module talk:Convert/makeunits](#)).

Any changes should first be tested at [Module:Convert/data/sandbox](#)—see [Module:Convert/sandbox/testcases](#).

New units can be manually added at [Module:Convert/extra](#) as a temporary measure before being incorporated into this main table.

```
-- Conversion data used by [[Module:Convert]] which uses mw.loadData() for
-- read-only access to this module so that it is loaded only once per page.
-- See [[:en:Template:Convert/Transwiki guide]] if copying to another wiki.
--
-- These data tables follow:
--   all_units          all properties for a unit, including default output
--   default_exceptions exceptions for default output ('kg' and 'g' have differ
--   link_exceptions    exceptions for links ('kg' and 'g' have different links)
--
-- These tables are generated by a script which reads the wikitext of a page that
-- documents the required properties of each unit; see [[:en:Module:Convert/doc]]
-----
-- Do not change the data in this table because it is created by running --
-- a script that reads the wikitext from a wiki page (see note above).  --
-----
local all_units = {
  ["Gy"] = {
    _name1 = "gray",
    _symbol = "Gy",
    utype = "absorbed radiation dose",
    scale = 1,
    prefixes = 1,
    default = "rad",
    link = "Gray (unit)",
  },
  ["rad"] = {
    _name1 = "rad",
    _symbol = "rad",
    utype = "absorbed radiation dose",
    scale = 0.01,
    prefixes = 1,
    default = "Gy",
    link = "Rad (unit)",
  },
  ["cm/s2"] = {
    name1 = "centimetre per second squared",
    name1_us = "centimeter per second squared",
    name2 = "centimetres per second squared",
    name2_us = "centimeters per second squared",
    symbol = "cm/s<sup>2</sup>",
    utype = "acceleration",
  },
}
```

```
        scale    = 0.01,
        default  = "ft/s2",
        link     = "Gal (unit)",
    },
    ["ft/s2"] = {
        name1     = "foot per second squared",
        name2     = "feet per second squared",
        symbol    = "ft/s<sup>2</sup>",
        utype     = "acceleration",
        scale     = 0.3048,
        default   = "m/s2",
    },
    ["g0"] = {
        name1     = "standard gravity",
        name2     = "standard gravities",
        symbol    = "'g'<sub>0</sub>",
        utype     = "acceleration",
        scale     = 9.80665,
        default   = "m/s2",
    },
    ["g-force"] = {
        name2     = "'g'",
        symbol    = "'g'",
        utype     = "acceleration",
        scale     = 9.80665,
        default   = "m/s2",
        link     = "g-force",
    },
    ["km/hs"] = {
        name1     = "kilometre per hour per second",
        name1_us  = "kilometer per hour per second",
        name2     = "kilometres per hour per second",
        name2_us  = "kilometers per hour per second",
        symbol    = "km/(h·s)",
        utype     = "acceleration",
        scale     = 0.2777777777777779,
        default   = "mph/s",
        link     = "Acceleration",
    },
    ["km/s2"] = {
        name1     = "kilometre per second squared",
        name1_us  = "kilometer per second squared",
        name2     = "kilometres per second squared",
        name2_us  = "kilometers per second squared",
        symbol    = "km/s<sup>2</sup>",
        utype     = "acceleration",
        scale     = 1000,
        default   = "mph/s",
        link     = "Acceleration",
    },
    ["m/s2"] = {
        name1     = "metre per second squared",
        name1_us  = "meter per second squared",
        name2     = "metres per second squared",
        name2_us  = "meters per second squared",
        symbol    = "m/s<sup>2</sup>",
        utype     = "acceleration",
        scale     = 1,
        default   = "ft/s2",
    },
    ["mph/s"] = {
        name1     = "mile per hour per second",
        name2     = "miles per hour per second",
        symbol    = "mph/s",
    },
```

```
        utype    = "acceleration",
        scale    = 0.44704,
        default  = "km/hs",
        link     = "Acceleration",
    },
    ["km/h/s"] = {
        target   = "km/hs",
    },
    ["standard gravity"] = {
        target   = "g0",
    },
    ["1000sqft"] = {
        name1    = "thousand square feet",
        name2    = "thousand square feet",
        symbol   = "1000&nbsp;sq&nbsp;ft",
        utype    = "area",
        scale    = 92.90304,
        default  = "m2",
        link     = "Square foot",
    },
    ["a"] = {
        _name1   = "are",
        _symbol  = "a",
        utype    = "area",
        scale    = 100,
        prefixes = 1,
        default  = "sqft",
        link     = "Hectare#Are",
    },
    ["acre"] = {
        symbol   = "acre",
        username = 1,
        utype    = "area",
        scale    = 4046.8564224,
        default  = "ha",
        subdivs = { ["rood"] = { 4, default = "ha" }, ["sqperch"] = { 160, default = "ha" } },
    },
    ["acre-sing"] = {
        target   = "acre",
    },
    ["arpent"] = {
        symbol   = "arpent",
        username = 1,
        utype    = "area",
        scale    = 3418.89,
        default  = "ha",
    },
    ["cda"] = {
        name1    = "cuerda",
        symbol   = "cda",
        utype    = "area",
        scale    = 3930.395625,
        default  = "ha acre",
    },
    ["daa"] = {
        name1    = "decare",
        symbol   = "daa",
        utype    = "area",
        scale    = 1000,
        default  = "km2 sqmi",
    },
    ["dunam"] = {
        symbol   = "dunam",
        username = 1,
    },
```

```
        utype    = "area",
        scale    = 1000,
        default  = "km2 sqmi",
    },
    ["dunum"] = {
        symbol    = "dunum",
        username  = 1,
        utype     = "area",
        scale     = 1000,
        default   = "km2 sqmi",
        link      = "Dunam",
    },
    ["ha"] = {
        name1     = "hectare",
        symbol    = "ha",
        utype     = "area",
        scale     = 10000,
        default   = "acre",
    },
    ["hectare"] = {
        name1     = "hectare",
        symbol    = "ha",
        username  = 1,
        utype     = "area",
        scale     = 10000,
        default   = "acre",
    },
    ["Irish acre"] = {
        name1     = "Irish acre",
        symbol    = "Irish&nbsp;acres",
        utype     = "area",
        scale     = 6555.2385024,
        default   = "ha",
        link      = "Acre (Irish)",
    },
    ["m2"] = {
        _name1    = "square metre",
        _name1_us = "square meter",
        _symbol   = "m<sup>2</sup>",
        prefix_position= 8,
        utype     = "area",
        scale     = 1,
        prefixes  = 2,
        default   = "sqft",
        link      = "Square metre",
    },
    ["pondemaat"] = {
        name1     = "pondemaat",
        name2     = "pondemaat",
        symbol    = "pond",
        utype     = "area",
        scale     = 3674.363358816,
        default   = "m2",
        link      = ":nl:pondemaat",
    },
    ["pyeong"] = {
        name2     = "pyeong",
        symbol    = "pyeong",
        username  = 1,
        utype     = "area",
        scale     = 3.3057851239669422,
        default   = "m2",
    },
    ["rai"] = {
```

```
        name2    = "rai",
        symbol   = "rai",
        utype    = "area",
        scale    = 1600,
        default  = "m2",
        link     = "Rai (unit)",
    },
    ["rood"] = {
        symbol   = "rood",
        username = 1,
        utype    = "area",
        scale    = 1011.7141056,
        default  = "sqft m2",
        subdivs = { ["sqperch"] = { 40, default = "m2" } },
        link     = "Rood (unit)",
    },
    ["sqfoot"] = {
        name1    = "square foot",
        name2    = "square foot",
        symbol   = "sq&nbsp;ft",
        utype    = "area",
        scale    = 0.09290304,
        default  = "m2",
    },
    ["sqft"] = {
        name1    = "square foot",
        name2    = "square feet",
        symbol   = "sq&nbsp;ft",
        utype    = "area",
        scale    = 0.09290304,
        default  = "m2",
    },
    ["sqin"] = {
        name1    = "square inch",
        name2    = "square inches",
        symbol   = "sq&nbsp;in",
        utype    = "area",
        scale    = 0.00064516,
        default  = "cm2",
    },
    ["sqmi"] = {
        name1    = "square mile",
        symbol   = "sq&nbsp;mi",
        utype    = "area",
        scale    = 2589988.110336,
        default  = "km2",
    },
    ["sqnmi"] = {
        name1    = "square nautical mile",
        symbol   = "sq&nbsp;nmi",
        utype    = "area",
        scale    = 3429904,
        default  = "km2 sqmi",
        link     = "Nautical mile",
    },
    ["sqperch"] = {
        name2    = "perches",
        symbol   = "perch",
        username = 1,
        utype    = "area",
        scale    = 25.29285264,
        default  = "m2",
        link     = "Rod (unit)#Area and volume",
    },
},
```

```
["sqverst"] = {
  symbol = "square verst",
  username = 1,
  utype = "area",
  scale = 1138062.24,
  default = "km2 sqmi",
  link = "Verst",
},
["sqyd"] = {
  name1 = "square yard",
  symbol = "sq&nbsp;yd",
  utype = "area",
  scale = 0.83612736,
  default = "m2",
},
["tsubo"] = {
  name2 = "tsubo",
  symbol = "tsubo",
  username = 1,
  utype = "area",
  scale = 3.3057851239669422,
  default = "m2",
  link = "Japanese units of measurement#Area",
},
["acres"] = {
  target = "acre",
},
["are"] = {
  target = "a",
},
["decare"] = {
  target = "daa",
},
["foot2"] = {
  target = "sqfoot",
},
["ft2"] = {
  target = "sqft",
},
["in2"] = {
  target = "sqin",
  symbol = "in<sup>2</sup>",
},
["km²"] = {
  target = "km2",
},
["mi2"] = {
  target = "sqmi",
},
["million acre"] = {
  target = "e6acre",
},
["million acres"] = {
  target = "e6acre",
},
["million hectares"] = {
  target = "e6ha",
},
["m²"] = {
  target = "m2",
},
["nmi2"] = {
  target = "sqnmi",
},
},
```

```
["pond"] = {
  target = "pondemaat",
},
["sq arp"] = {
  target = "arpent",
},
["sqkm"] = {
  target = "km2",
},
["sqm"] = {
  target = "m2",
},
["square verst"] = {
  target = "sqverst",
},
["verst2"] = {
  target = "sqverst",
},
["yd2"] = {
  target = "sqyd",
},
["m2/ha"] = {
  name1 = "square metre per hectare",
  name1_us = "square meter per hectare",
  name2 = "square metres per hectare",
  name2_us = "square meters per hectare",
  symbol = "m<sup>2</sup>/ha",
  utype = "area per unit area",
  scale = 0.0001,
  default = "sqft/acre",
  link = "Basal area",
},
["sqft/acre"] = {
  name1 = "square foot per acre",
  name2 = "square feet per acre",
  symbol = "sq&nbsp;ft/acre",
  utype = "area per unit area",
  scale = 2.295684113865932e-5,
  default = "m2/ha",
  link = "Basal area",
},
["cent"] = {
  name1 = "cent",
  symbol = "¢",
  utype = "cent",
  scale = 1,
  default = "cent",
  link = "Cent (currency)",
},
["¢"] = {
  target = "cent",
},
["A.h"] = {
  name1 = "ampere hour",
  symbol = "A·h",
  utype = "charge",
  scale = 3600,
  default = "coulomb",
},
["coulomb"] = {
  _name1 = "coulomb",
  _symbol = "C",
  utype = "charge",
  scale = 1,
```

```
    prefixes = 1,
    default   = "e",
    link      = "Coulomb",
},
["e"] = {
    name1     = "elementary charge",
    symbol    = "'e'",
    utype     = "charge",
    scale     = 1.602176487e-19,
    default   = "coulomb",
},
["g-mol"] = {
    name1     = "gram-mole",
    symbol    = "g#8209;mol",
    utype     = "chemical amount",
    scale     = 1,
    default   = "lbmol",
    link      = "Mole (unit)",
},
["gmol"] = {
    name1     = "gram-mole",
    symbol    = "gmol",
    utype     = "chemical amount",
    scale     = 1,
    default   = "lbmol",
    link      = "Mole (unit)",
},
["kmol"] = {
    name1     = "kilomole",
    symbol    = "kmol",
    utype     = "chemical amount",
    scale     = 1000,
    default   = "lbmol",
    link      = "Mole (unit)",
},
["lb-mol"] = {
    name1     = "pound-mole",
    symbol    = "lb#8209;mol",
    utype     = "chemical amount",
    scale     = 453.59237,
    default   = "mol",
},
["lbmol"] = {
    name1     = "pound-mole",
    symbol    = "lbmol",
    utype     = "chemical amount",
    scale     = 453.59237,
    default   = "mol",
},
["mol"] = {
    name1     = "mole",
    symbol    = "mol",
    utype     = "chemical amount",
    scale     = 1,
    default   = "lbmol",
    link      = "Mole (unit)",
},
["kgCO2/L"] = {
    name1     = "kilogram per litre",
    name1_us  = "kilogram per liter",
    name2     = "kilograms per litre",
    name2_us  = "kilograms per liter",
    symbol    = "kg(CO<sub>2</sub>)/L",
    utype     = "co2 per unit volume",
}
```

```
        scale    = 1000,
        default  = "lbCO2/USgal",
        link     = "Exhaust gas",
    },
    ["lbCO2/USgal"] = {
        name1     = "pound per US gallon",
        name2     = "pounds per US gallon",
        symbol    = "lbCO2/US&nbsp;gal",
        utype     = "co2 per unit volume",
        scale     = 119.82642731689663,
        default   = "kgCO2/L",
        link     = "Exhaust gas",
    },
    ["oz/lb"] = {
        per       = { "oz", "lb" },
        utype     = "concentration",
        default   = "mg/kg",
    },
    ["mg/kg"] = {
        per       = { "mg", "kg" },
        utype     = "concentration",
        default   = "oz/lb",
    },
    ["g/dm3"] = {
        name1     = "gram per cubic decimetre",
        name1_us  = "gram per cubic decimeter",
        name2     = "grams per cubic decimetre",
        name2_us  = "grams per cubic decimeter",
        symbol    = "g/dm<sup>3</sup>",
        utype     = "density",
        scale     = 1,
        default   = "kg/m3",
        link     = "Density",
    },
    ["g/L"] = {
        name1     = "gram per litre",
        name1_us  = "gram per liter",
        name2     = "grams per litre",
        name2_us  = "grams per liter",
        symbol    = "g/L",
        utype     = "density",
        scale     = 1,
        default   = "lb/cuin",
        link     = "Density",
    },
    ["g/mL"] = {
        name1     = "gram per millilitre",
        name1_us  = "gram per milliliter",
        name2     = "grams per millilitre",
        name2_us  = "grams per milliliter",
        symbol    = "g/mL",
        utype     = "density",
        scale     = 1000,
        default   = "lb/cuin",
        link     = "Density",
    },
    ["g/ml"] = {
        name1     = "gram per millilitre",
        name1_us  = "gram per milliliter",
        name2     = "grams per millilitre",
        name2_us  = "grams per milliliter",
        symbol    = "g/ml",
        utype     = "density",
        scale     = 1000,
    },
```

```
        default = "lb/cuin",
        link     = "Density",
    },
    ["kg/dm3"] = {
        name1     = "kilogram per cubic decimetre",
        name1_us  = "kilogram per cubic decimeter",
        name2     = "kilograms per cubic decimetre",
        name2_us  = "kilograms per cubic decimeter",
        symbol    = "kg/dm<sup>3</sup>",
        utype     = "density",
        scale     = 1000,
        default   = "lb/cuft",
        link      = "Density",
    },
    ["kg/L"] = {
        name1     = "kilogram per litre",
        name1_us  = "kilogram per liter",
        name2     = "kilograms per litre",
        name2_us  = "kilograms per liter",
        symbol    = "kg/L",
        utype     = "density",
        scale     = 1000,
        default   = "lb/USgal",
        link      = "Density",
    },
    ["kg/l"] = {
        name1     = "kilogram per litre",
        name1_us  = "kilogram per liter",
        name2     = "kilograms per litre",
        name2_us  = "kilograms per liter",
        symbol    = "kg/l",
        utype     = "density",
        scale     = 1000,
        default   = "lb/USgal",
        link      = "Density",
    },
    ["kg/m3"] = {
        name1     = "kilogram per cubic metre",
        name1_us  = "kilogram per cubic meter",
        name2     = "kilograms per cubic metre",
        name2_us  = "kilograms per cubic meter",
        symbol    = "kg/m<sup>3</sup>",
        utype     = "density",
        scale     = 1,
        default   = "lb/cuyd",
        link      = "Density",
    },
    ["lb/cuft"] = {
        name1     = "pound per cubic foot",
        name2     = "pounds per cubic foot",
        symbol    = "lb/cu&nbsp;ft",
        utype     = "density",
        scale     = 16.018463373960142,
        default   = "g/cm3",
        link      = "Density",
    },
    ["lb/cuin"] = {
        name1     = "pound per cubic inch",
        name2     = "pounds per cubic inch",
        symbol    = "lb/cu&nbsp;in",
        utype     = "density",
        scale     = 27679.904710203122,
        default   = "g/cm3",
        link      = "Density",
    },
```

```
},
["lb/cuyd"] = {
  name1 = "pound per cubic yard",
  name2 = "pounds per cubic yard",
  symbol = "lb/cu&nbsp;yd",
  utype = "density",
  scale = 0.5932764212577829,
  default = "kg/m3",
  link = "Density",
},
["lb/impgal"] = {
  name1 = "pound per imperial gallon",
  name2 = "pounds per imperial gallon",
  symbol = "lb/imp&nbsp;gal",
  utype = "density",
  scale = 99.776372663101697,
  default = "kg/L",
  link = "Density",
},
["lb/in3"] = {
  name1 = "pound per cubic inch",
  name2 = "pounds per cubic inch",
  symbol = "lb/cu&thinsp;in",
  utype = "density",
  scale = 27679.904710203122,
  default = "g/cm3",
  link = "Density",
},
["lb/U.S.gal"] = {
  name1 = "pound per U.S. gallon",
  name2 = "pounds per U.S. gallon",
  symbol = "lb/U.S.&nbsp;gal",
  utype = "density",
  scale = 119.82642731689663,
  default = "kg/L",
  link = "Density",
},
["lb/USbu"] = {
  name1 = "pound per US bushel",
  name2 = "pounds per US bushel",
  symbol = "lb/US&nbsp;bu",
  utype = "density",
  scale = 12.871859780974471,
  default = "kg/m3",
  link = "Bushel",
},
["lb/USgal"] = {
  name1 = "pound per US gallon",
  name2 = "pounds per US gallon",
  symbol = "lb/US&nbsp;gal",
  utype = "density",
  scale = 119.82642731689663,
  default = "kg/L",
  link = "Density",
},
["lbm/cuin"] = {
  name1 = "pound mass per cubic inch",
  name2 = "pounds mass per cubic inch",
  symbol = "lbm/cu&thinsp;in",
  utype = "density",
  scale = 27679.904710203122,
  default = "g/cm3",
  link = "Density",
},
},
```



```
["mg/L"] = {
  name1    = "milligram per litre",
  name1_us = "milligram per liter",
  name2    = "milligrams per litre",
  name2_us = "milligrams per liter",
  symbol   = "mg/L",
  utype    = "density",
  scale    = 0.001,
  default  = "lb/cuin",
  link     = "Density",
},
["oz/cuin"] = {
  name1    = "ounce per cubic inch",
  name2    = "ounces per cubic inch",
  symbol   = "oz/cu&nbsp;in",
  utype    = "density",
  scale    = 1729.9940443876951,
  default  = "g/cm3",
  link     = "Density",
},
["g/cm3"] = {
  per      = { "g", "cm3" },
  utype    = "density",
  default  = "lb/cuin",
},
["g/m3"] = {
  per      = { "g", "m3" },
  utype    = "density",
  default  = "lb/cuyd",
  link     = "Density",
},
["Mg/m3"] = {
  per      = { "Mg", "m3" },
  utype    = "density",
  default  = "lb/cuft",
},
["mg/l"] = {
  per      = { "mg", "l" },
  utype    = "density",
  default  = "oz/cuin",
},
["µg/dL"] = {
  per      = { "µg", "dL" },
  utype    = "density",
  default  = "lb/cuin",
},
["µg/l"] = {
  per      = { "µg", "l" },
  utype    = "density",
  default  = "oz/cuin",
},
["lb/ft3"] = {
  target   = "lb/cuft",
},
["lb/yd3"] = {
  target   = "lb/cuyd",
},
["lbm/in3"] = {
  target   = "lbm/cuin",
},
["mcg/dL"] = {
  target   = "µg/dL",
},
["oz/in3"] = {
```

```
        target    = "oz/cuin",
    },
    ["ug/dL"] = {
        target    = "µg/dL",
    },
    ["ug/l"] = {
        target    = "µg/l",
    },
    ["B.O.T.U."] = {
        name1     = "Board of Trade Unit",
        symbol    = "B.O.T.U.",
        utype     = "energy",
        scale     = 3600000,
        default   = "MJ",
        link      = "Kilowatt-hour",
    },
    ["bboe"] = {
        name1     = "barrel of oil equivalent",
        name2     = "barrels of oil equivalent",
        symbol    = "bboe",
        utype     = "energy",
        scale     = 6117863200,
        default   = "GJ",
    },
    ["BOE"] = {
        name1     = "barrel of oil equivalent",
        name2     = "barrels of oil equivalent",
        symbol    = "BOE",
        utype     = "energy",
        scale     = 6117863200,
        default   = "GJ",
    },
    ["BTU"] = {
        name1     = "British thermal unit",
        symbol    = "BTU",
        utype     = "energy",
        scale     = 1055.05585262,
        default   = "kJ",
    },
    ["Btu"] = {
        name1     = "British thermal unit",
        symbol    = "Btu",
        utype     = "energy",
        scale     = 1055.05585262,
        default   = "kJ",
    },
    ["BTU-39F"] = {
        name1     = "British thermal unit (39°F)",
        name2     = "British thermal units (39°F)",
        symbol    = "BTU<sub>39°F</sub>",
        utype     = "energy",
        scale     = 1059.67,
        default   = "kJ",
        link      = "British thermal unit",
    },
    ["Btu-39F"] = {
        name1     = "British thermal unit (39°F)",
        name2     = "British thermal units (39°F)",
        symbol    = "Btu<sub>39°F</sub>",
        utype     = "energy",
        scale     = 1059.67,
        default   = "kJ",
        link      = "British thermal unit",
    },
},
```

```
["BTU-59F"] = {
    name1    = "British thermal unit (59°F)",
    name2    = "British thermal units (59°F)",
    symbol    = "BTU<sub>59°F</sub>",
    utype    = "energy",
    scale     = 1054.804,
    default  = "kJ",
    link     = "British thermal unit",
},
["Btu-59F"] = {
    name1    = "British thermal unit (59°F)",
    name2    = "British thermal units (59°F)",
    symbol    = "Btu<sub>59°F</sub>",
    utype    = "energy",
    scale     = 1054.804,
    default  = "kJ",
    link     = "British thermal unit",
},
["BTU-60F"] = {
    name1    = "British thermal unit (60°F)",
    name2    = "British thermal units (60°F)",
    symbol    = "BTU<sub>60°F</sub>",
    utype    = "energy",
    scale     = 1054.68,
    default  = "kJ",
    link     = "British thermal unit",
},
["Btu-60F"] = {
    name1    = "British thermal unit (60°F)",
    name2    = "British thermal units (60°F)",
    symbol    = "Btu<sub>60°F</sub>",
    utype    = "energy",
    scale     = 1054.68,
    default  = "kJ",
    link     = "British thermal unit",
},
["BTU-63F"] = {
    name1    = "British thermal unit (63°F)",
    name2    = "British thermal units (63°F)",
    symbol    = "BTU<sub>63°F</sub>",
    utype    = "energy",
    scale     = 1054.6,
    default  = "kJ",
    link     = "British thermal unit",
},
["Btu-63F"] = {
    name1    = "British thermal unit (63°F)",
    name2    = "British thermal units (63°F)",
    symbol    = "Btu<sub>63°F</sub>",
    utype    = "energy",
    scale     = 1054.6,
    default  = "kJ",
    link     = "British thermal unit",
},
["BTU-ISO"] = {
    name1    = "British thermal unit (ISO)",
    name2    = "British thermal units (ISO)",
    symbol    = "BTU<sub>ISO</sub>",
    utype    = "energy",
    scale     = 1055.056,
    default  = "kJ",
    link     = "British thermal unit",
},
["Btu-ISO"] = {
```

```
    target    = "BTU-ISO",
  },
  ["BTU-IT"] = {
    name1     = "British thermal unit (IT)",
    name2     = "British thermal units (IT)",
    symbol     = "BTU<sub>IT</sub>",
    utype     = "energy",
    scale     = 1055.05585262,
    default   = "kJ",
    link      = "British thermal unit",
  },
  ["Btu-IT"] = {
    name1     = "British thermal unit (IT)",
    name2     = "British thermal units (IT)",
    symbol     = "Btu<sub>IT</sub>",
    utype     = "energy",
    scale     = 1055.05585262,
    default   = "kJ",
    link      = "British thermal unit",
  },
  ["BTU-mean"] = {
    name1     = "British thermal unit (mean)",
    name2     = "British thermal units (mean)",
    symbol     = "BTU<sub>mean</sub>",
    utype     = "energy",
    scale     = 1055.87,
    default   = "kJ",
    link      = "British thermal unit",
  },
  ["Btu-mean"] = {
    name1     = "British thermal unit (mean)",
    name2     = "British thermal units (mean)",
    symbol     = "Btu<sub>mean</sub>",
    utype     = "energy",
    scale     = 1055.87,
    default   = "kJ",
    link      = "British thermal unit",
  },
  ["BTU-th"] = {
    name1     = "British thermal unit (thermochemical)",
    name2     = "British thermal units (thermochemical)",
    symbol     = "BTU<sub>th</sub>",
    utype     = "energy",
    scale     = 1054.35026444,
    default   = "kJ",
    link      = "British thermal unit",
  },
  ["Btu-th"] = {
    name1     = "British thermal unit (thermochemical)",
    name2     = "British thermal units (thermochemical)",
    symbol     = "Btu<sub>th</sub>",
    utype     = "energy",
    scale     = 1054.35026444,
    default   = "kJ",
    link      = "British thermal unit",
  },
  ["Cal"] = {
    name1     = "calorie",
    symbol     = "Cal",
    utype     = "energy",
    scale     = 4184,
    default   = "kJ",
  },
  ["cal"] = {
```

```
    name1    = "calorie",
    symbol   = "cal",
    utype    = "energy",
    scale    = 4.184,
    default  = "J",
  },
  ["Cal-15"] = {
    name1    = "Calorie (15°C)",
    name2    = "Calories (15°C)",
    symbol   = "Cal<sub>15</sub>",
    utype    = "energy",
    scale    = 4185.8,
    default  = "kJ",
    link     = "Calorie",
  },
  ["cal-15"] = {
    name1    = "calorie (15°C)",
    name2    = "calories (15°C)",
    symbol   = "cal<sub>15</sub>",
    utype    = "energy",
    scale    = 4.1858,
    default  = "J",
    link     = "Calorie",
  },
  ["Cal-IT"] = {
    name1    = "Calorie (International Steam Table)",
    name2    = "Calories (International Steam Table)",
    symbol   = "Cal<sub>IT</sub>",
    utype    = "energy",
    scale    = 4186.8,
    default  = "kJ",
    link     = "Calorie",
  },
  ["cal-IT"] = {
    name1    = "calorie (International Steam Table)",
    name2    = "calories (International Steam Table)",
    symbol   = "cal<sub>IT</sub>",
    utype    = "energy",
    scale    = 4.1868,
    default  = "J",
    link     = "Calorie",
  },
  ["Cal-th"] = {
    name1    = "Calorie (thermochemical)",
    name2    = "Calories (thermochemical)",
    symbol   = "Cal<sub>th</sub>",
    utype    = "energy",
    scale    = 4184,
    default  = "kJ",
    link     = "Calorie",
  },
  ["cal-th"] = {
    name1    = "calorie (thermochemical)",
    name2    = "calories (thermochemical)",
    symbol   = "cal<sub>th</sub>",
    utype    = "energy",
    scale    = 4.184,
    default  = "J",
    link     = "Calorie",
  },
  ["CHU-IT"] = {
    name1    = "Celsius heat unit (International Table)",
    name2    = "Celsius heat units (International Table)",
    symbol   = "CHU<sub>IT</sub>",
```

```
    utype    = "energy",
    scale    = 1899.100534716,
    default  = "kJ",
    link     = "Conversion of units#Energy",
},
["cufootnaturalgas"] = {
    name1    = "cubic foot of natural gas",
    name2    = "cubic foot of natural gas",
    symbol   = "cuftnaturalgas",
    username = 1,
    utype    = "energy",
    scale    = 1055055.85262,
    default  = "MJ",
    link     = "Conversion of units#Energy",
},
["cuftnaturalgas"] = {
    name1    = "cubic foot of natural gas",
    name2    = "cubic feet of natural gas",
    symbol   = "cuftnaturalgas",
    username = 1,
    utype    = "energy",
    scale    = 1055055.85262,
    default  = "MJ",
    link     = "Conversion of units#Energy",
},
["Eh"] = {
    name1    = "Hartree",
    symbol   = "'E'h",
    utype    = "energy",
    scale    = 4.35974417e-18,
    default  = "eV",
},
["erg"] = {
    symbol   = "erg",
    utype    = "energy",
    scale    = 0.0000001,
    default  = "µJ",
},
["eV"] = {
    name1    = "electronvolt",
    symbol   = "eV",
    utype    = "energy",
    scale    = 1.602176487e-19,
    default  = "aJ",
},
["feV"] = {
    name1    = "femtoelectronvolt",
    symbol   = "feV",
    utype    = "energy",
    scale    = 1.602176487e-34,
    default  = "yJ",
    link     = "Electronvolt",
},
["foe"] = {
    symbol   = "foe",
    utype    = "energy",
    scale    = 1e44,
    default  = "YJ",
    link     = "Foe (unit)",
},
["ftlb"] = {
    name1    = "foot-pound",
    symbol   = "ft·lb",
    utype    = "energy",
```

```
        alttype = "torque",
        scale   = 1.3558179483314004,
        default = "J",
        link    = "Foot-pound (energy)",
    },
    ["ftlb-f"] = {
        name1    = "foot-pound force",
        name2    = "foot-pounds force",
        symbol   = "ft·lb<sub>f</sub>",
        utype    = "energy",
        alttype  = "torque",
        scale    = 1.3558179483314004,
        default  = "J",
        link     = "Foot-pound (energy)",
    },
    ["ftlbf"] = {
        name1    = "foot-pound force",
        name2    = "foot-pounds force",
        symbol   = "ft·lbf",
        utype    = "energy",
        alttype  = "torque",
        scale    = 1.3558179483314004,
        default  = "J",
        link     = "Foot-pound (energy)",
    },
    ["ftpd"] = {
        name1    = "foot-poundal",
        symbol   = "ft·pd",
        utype    = "energy",
        scale    = 0.0421401100938048,
        default  = "J",
    },
    ["GeV"] = {
        name1    = "gigaelectronvolt",
        symbol   = "GeV",
        utype    = "energy",
        scale    = 1.602176487e-10,
        default  = "nJ",
        link     = "Electronvolt",
    },
    ["gTNT"] = {
        name2    = "grams of TNT",
        symbol   = "gram of TNT",
        username = 1,
        utype    = "energy",
        scale    = 4184,
        default  = "kJ",
        link     = "TNT equivalent",
    },
    ["Gtoe"] = {
        name1    = "gigatonne of oil equivalent",
        name2    = "gigatonnes of oil equivalent",
        symbol   = "Gtoe",
        utype    = "energy",
        scale    = 4.1868e19,
        default  = "EJ",
        link     = "Tonne of oil equivalent",
    },
    ["GtonTNT"] = {
        name2    = "gigatons of TNT",
        symbol   = "gigaton of TNT",
        username = 1,
        utype    = "energy",
        scale    = 4.184e18,
    },
```

```
        default = "EJ",
        link     = "TNT equivalent",
    },
    ["GtTNT"] = {
        name2    = "gigatonnes of TNT",
        symbol   = "gigatonne of TNT",
        username = 1,
        utype    = "energy",
        scale    = 4.184e18,
        default  = "EJ",
        link     = "TNT equivalent",
    },
    ["GW.h"] = {
        name1    = "gigawatt-hour",
        symbol   = "GW·h",
        utype    = "energy",
        scale    = 3.6e12,
        default  = "TJ",
        link     = "Kilowatt-hour",
    },
    ["GWh"] = {
        name1    = "gigawatt-hour",
        symbol   = "GWh",
        utype    = "energy",
        scale    = 3.6e12,
        default  = "TJ",
        link     = "Kilowatt-hour",
    },
    ["hph"] = {
        name1    = "horsepower-hour",
        symbol   = "hp·h",
        utype    = "energy",
        scale    = 2684519.537696172792,
        default  = "kWh",
        link     = "Horsepower",
    },
    ["inlb"] = {
        name1    = "inch-pound",
        symbol   = "in·lb",
        utype    = "energy",
        alttype  = "torque",
        scale    = 0.1129848290276167,
        default  = "mJ",
        link     = "Foot-pound (energy)",
    },
    ["inlb-f"] = {
        name1    = "inch-pound force",
        name2    = "inch-pounds force",
        symbol   = "in·lb<sub>f</sub>",
        utype    = "energy",
        alttype  = "torque",
        scale    = 0.1129848290276167,
        default  = "mJ",
        link     = "Foot-pound (energy)",
    },
    ["inlbf"] = {
        name1    = "inch-pound force",
        name2    = "inch-pounds force",
        symbol   = "in·lbf",
        utype    = "energy",
        alttype  = "torque",
        scale    = 0.1129848290276167,
        default  = "mJ",
        link     = "Foot-pound (energy)",
    },
```

```
},
["inoz-f"] = {
    name1    = "inch-ounce force",
    name2    = "inch-ounces force",
    symbol   = "in·oz<sub>f</sub>",
    utype    = "energy",
    alttype  = "torque",
    scale    = 0.00706155181422604375,
    default  = "mJ",
    link     = "Foot-pound (energy)",
},
["inozf"] = {
    name1    = "inch-ounce force",
    name2    = "inch-ounces force",
    symbol   = "in·ozf",
    utype    = "energy",
    alttype  = "torque",
    scale    = 0.00706155181422604375,
    default  = "mJ",
    link     = "Foot-pound (energy)",
},
["J"] = {
    _name1   = "joule",
    _symbol  = "J",
    utype    = "energy",
    scale    = 1,
    prefixes = 1,
    default  = "cal",
    link     = "Joule",
},
["kBOE"] = {
    name1    = "kilo barrel of oil equivalent",
    name2    = "kilo barrels of oil equivalent",
    symbol   = "kBOE",
    utype    = "energy",
    scale    = 6.1178632e12,
    default  = "TJ",
    link     = "Barrel of oil equivalent",
},
["kcal"] = {
    name1    = "kilocalorie",
    symbol   = "kcal",
    utype    = "energy",
    scale    = 4184,
    default  = "kJ",
    link     = "Calorie",
},
["kcal-15"] = {
    name1    = "kilocalorie (15°C)",
    name2    = "kilocalories (15°C)",
    symbol   = "kcal<sub>15</sub>",
    utype    = "energy",
    scale    = 4185.8,
    default  = "kJ",
    link     = "Calorie",
},
["kcal-IT"] = {
    name1    = "kilocalorie (International Steam Table)",
    name2    = "kilocalories (International Steam Table)",
    symbol   = "kcal<sub>IT</sub>",
    utype    = "energy",
    scale    = 4186.8,
    default  = "kJ",
    link     = "Calorie",
}
```

```
},
["kcal-th"] = {
  name1 = "kilocalorie (thermochemical)",
  name2 = "kilocalories (thermochemical)",
  symbol = "kcal<sub>th</sub>",
  utype = "energy",
  scale = 4184,
  default = "kJ",
  link = "Calorie",
},
["kerg"] = {
  name1 = "kiloerg",
  symbol = "kerg",
  utype = "energy",
  scale = 0.0001,
  default = "mJ",
  link = "Erg",
},
["keV"] = {
  name1 = "kiloelectronvolt",
  symbol = "keV",
  utype = "energy",
  scale = 1.602176487e-16,
  default = "fJ",
  link = "Electronvolt",
},
["kgTNT"] = {
  name2 = "kilograms of TNT",
  symbol = "kilogram of TNT",
  username = 1,
  utype = "energy",
  scale = 4184000,
  default = "MJ",
  link = "TNT equivalent",
},
["kt(TNT)"] = {
  name1 = "kilotonne",
  name1_us = "kiloton",
  symbol = "kt",
  utype = "energy",
  scale = 4.184e12,
  default = "TJ",
  link = "TNT equivalent",
},
["ktoe"] = {
  name1 = "kilotonne of oil equivalent",
  name2 = "kilotonnes of oil equivalent",
  symbol = "ktoe",
  utype = "energy",
  scale = 4.1868e13,
  default = "TJ",
  link = "Tonne of oil equivalent",
},
["ktonTNT"] = {
  name1 = "kiloton of TNT",
  name2 = "kilotons of TNT",
  symbol = "kt",
  utype = "energy",
  scale = 4.184e12,
  default = "TJ",
  link = "TNT equivalent",
},
["ktTNT"] = {
  name2 = "kilotonnes of TNT",
```

```
    symbol = "kilotonne of TNT",
    username = 1,
    utype = "energy",
    scale = 4.184e12,
    default = "TJ",
    link = "TNT equivalent",
},
["kW.h"] = {
    name1 = "kilowatt-hour",
    symbol = "kW·h",
    utype = "energy",
    scale = 3600000,
    default = "MJ",
},
["kWh"] = {
    name1 = "kilowatt-hour",
    symbol = "kWh",
    utype = "energy",
    scale = 3600000,
    default = "MJ",
},
["Mcal"] = {
    name1 = "megacalorie",
    symbol = "Mcal",
    utype = "energy",
    scale = 4184000,
    default = "MJ",
    link = "Calorie",
},
["mcal"] = {
    name1 = "millicalorie",
    symbol = "mcal",
    utype = "energy",
    scale = 0.004184,
    default = "mJ",
    link = "Calorie",
},
["Mcal-15"] = {
    name1 = "megacalorie (15°C)",
    name2 = "megacalories (15°C)",
    symbol = "Mcal<sub>15</sub>",
    utype = "energy",
    scale = 4185800,
    default = "MJ",
    link = "Calorie",
},
["mcal-15"] = {
    name1 = "millicalorie (15°C)",
    name2 = "millicalories (15°C)",
    symbol = "mcal<sub>15</sub>",
    utype = "energy",
    scale = 0.0041858,
    default = "mJ",
    link = "Calorie",
},
["Mcal-IT"] = {
    name1 = "megacalorie (International Steam Table)",
    name2 = "megacalories (International Steam Table)",
    symbol = "Mcal<sub>IT</sub>",
    utype = "energy",
    scale = 4186800,
    default = "MJ",
    link = "Calorie",
},
},
```



```
["mcal-IT"] = {
  name1 = "millicalorie (International Steam Table)",
  name2 = "millicalories (International Steam Table)",
  symbol = "mcal<sub>IT</sub>",
  utype = "energy",
  scale = 0.0041868,
  default = "mJ",
  link = "Calorie",
},
["Mcal-th"] = {
  name1 = "megacalorie (thermochemical)",
  name2 = "megacalories (thermochemical)",
  symbol = "Mcal<sub>th</sub>",
  utype = "energy",
  scale = 4184000,
  default = "MJ",
  link = "Calorie",
},
["mcal-th"] = {
  name1 = "millicalorie (thermochemical)",
  name2 = "millicalories (thermochemical)",
  symbol = "mcal<sub>th</sub>",
  utype = "energy",
  scale = 0.004184,
  default = "mJ",
  link = "Calorie",
},
["Merg"] = {
  name1 = "megaerg",
  symbol = "Merg",
  utype = "energy",
  scale = 0.1,
  default = "J",
  link = "Erg",
},
["merg"] = {
  name1 = "milliery",
  symbol = "merg",
  utype = "energy",
  scale = 0.0000000001,
  default = "µJ",
  link = "Erg",
},
["MeV"] = {
  name1 = "megaelectronvolt",
  symbol = "MeV",
  utype = "energy",
  scale = 1.602176487e-13,
  default = "pJ",
  link = "Electronvolt",
},
["meV"] = {
  name1 = "millielectronvolt",
  symbol = "meV",
  utype = "energy",
  scale = 1.602176487e-22,
  default = "zJ",
  link = "Electronvolt",
},
["MMBtu"] = {
  name1 = "million British thermal units",
  name2 = "million British thermal units",
  symbol = "MMBtu",
  utype = "energy",
}
```

```
        scale    = 1055055852.62,
        default  = "GJ",
        link     = "British thermal unit",
    },
    ["Mt(TNT)"] = {
        name1     = "megatonne",
        name1_us  = "megaton",
        symbol    = "Mt",
        utype     = "energy",
        scale     = 4.184e15,
        default   = "PJ",
        link      = "TNT equivalent",
    },
    ["Mtoe"] = {
        name1     = "megatonne of oil equivalent",
        name2     = "megatonnes of oil equivalent",
        symbol    = "Mtoe",
        utype     = "energy",
        scale     = 4.1868e16,
        default   = "PJ",
        link      = "Tonne of oil equivalent",
    },
    ["MtonTNT"] = {
        name1     = "megaton of TNT",
        name2     = "megatons of TNT",
        symbol    = "Mt",
        utype     = "energy",
        scale     = 4.184e15,
        default   = "PJ",
        link      = "TNT equivalent",
    },
    ["mtonTNT"] = {
        name2     = "millitons of TNT",
        symbol    = "milliton of TNT",
        username  = 1,
        utype     = "energy",
        scale     = 4184000,
        default   = "MJ",
        link      = "TNT equivalent",
    },
    ["MtTNT"] = {
        name2     = "megatonnes of TNT",
        symbol    = "megatonne of TNT",
        username  = 1,
        utype     = "energy",
        scale     = 4.184e15,
        default   = "PJ",
        link      = "TNT equivalent",
    },
    ["mtTNT"] = {
        name2     = "millitonnes of TNT",
        symbol    = "millitonne of TNT",
        username  = 1,
        utype     = "energy",
        scale     = 4184000,
        default   = "MJ",
        link      = "TNT equivalent",
    },
    ["MW.h"] = {
        name1     = "megawatt-hour",
        symbol    = "MW·h",
        utype     = "energy",
        scale     = 3600000000,
        default   = "GJ",
    },
```

```
    link      = "Kilowatt-hour",
  },
  ["mW.h"] = {
    name1     = "milliwatt-hour",
    symbol    = "mW·h",
    utype     = "energy",
    scale     = 3.6,
    default   = "J",
    link      = "Kilowatt-hour",
  },
  ["MWh"] = {
    name1     = "megawatt-hour",
    symbol    = "MWh",
    utype     = "energy",
    scale     = 3600000000,
    default   = "GJ",
    link      = "Kilowatt-hour",
  },
  ["mWh"] = {
    name1     = "milliwatt-hour",
    symbol    = "mWh",
    utype     = "energy",
    scale     = 3.6,
    default   = "J",
    link      = "Kilowatt-hour",
  },
  ["neV"] = {
    name1     = "nanoelectronvolt",
    symbol    = "neV",
    utype     = "energy",
    scale     = 1.602176487e-28,
    default   = "yJ",
    link      = "Electronvolt",
  },
  ["PeV"] = {
    name1     = "petaelectronvolt",
    symbol    = "PeV",
    utype     = "energy",
    scale     = 0.0001602176487,
    default   = "mJ",
    link      = "Electronvolt",
  },
  ["peV"] = {
    name1     = "picoelectronvolt",
    symbol    = "peV",
    utype     = "energy",
    scale     = 1.602176487e-31,
    default   = "yJ",
    link      = "Electronvolt",
  },
  ["PSh"] = {
    name1     = "Pferdestärkenstunde",
    symbol    = "PSh",
    utype     = "energy",
    scale     = 2647795.5,
    default   = "kWh",
  },
  ["quad"] = {
    name1     = "quadrillion British thermal units",
    name2     = "quadrillion British thermal units",
    symbol    = "quad",
    utype     = "energy",
    scale     = 1.054804e18,
    default   = "EJ",
  },
```

```
    link      = "Quad (unit)",
  },
  ["Ry"] = {
    name1     = "rydberg",
    symbol    = "Ry",
    utype     = "energy",
    scale     = 2.1798741e-18,
    default   = "eV",
    link      = "Rydberg constant",
  },
  ["scf"] = {
    name1     = "standard cubic foot",
    name2     = "standard cubic feet",
    symbol    = "scf",
    utype     = "energy",
    scale     = 2869.2044809344,
    default   = "kJ",
  },
  ["scfoot"] = {
    name1     = "standard cubic foot",
    name2     = "standard cubic foot",
    symbol    = "scf",
    utype     = "energy",
    scale     = 2869.2044809344,
    default   = "kJ",
  },
  ["t(TNT)"] = {
    name1     = "tonne",
    name1_us  = "ton",
    symbol    = "t",
    utype     = "energy",
    scale     = 4184000000,
    default   = "GJ",
    link      = "TNT equivalent",
  },
  ["TeV"] = {
    name1     = "teraelectronvolt",
    symbol    = "TeV",
    utype     = "energy",
    scale     = 1.602176487e-7,
    default   = "µJ",
    link      = "Electronvolt",
  },
  ["th"] = {
    name1     = "thermie",
    symbol    = "th",
    utype     = "energy",
    scale     = 4186800,
    default   = "MJ",
    link      = "Conversion of units#Energy",
  },
  ["thm-EC"] = {
    name1     = "therm (EC)",
    name2     = "therms (EC)",
    symbol    = "thm (EC)",
    utype     = "energy",
    scale     = 105506000,
    default   = "MJ",
    link      = "Therm",
  },
  ["thm-UK"] = {
    name1     = "therm (UK)",
    name2     = "therms (UK)",
    symbol    = "thm (UK)",
  },
```

```
        utype    = "energy",
        scale    = 105505585.257348,
        default  = "MJ",
        link     = "Therm",
    },
    ["thm-US"] = {
        name1    = "therm (US)",
        name1_us = "therm (U.S.)",
        name2    = "therms (US)",
        name2_us = "therms (U.S.)",
        symbol   = "thm (US)",
        sym_us   = "thm (U.S.)",
        utype    = "energy",
        scale    = 105480400,
        default  = "MJ",
        link     = "Therm",
    },
    ["toe"] = {
        name1    = "tonne of oil equivalent",
        name2    = "tonnes of oil equivalent",
        symbol   = "toe",
        utype    = "energy",
        scale    = 41868000000,
        default  = "GJ",
    },
    ["tonTNT"] = {
        name2    = "tons of TNT",
        symbol   = "ton of TNT",
        username = 1,
        utype    = "energy",
        scale    = 4184000000,
        default  = "GJ",
        link     = "TNT equivalent",
    },
    ["tTNT"] = {
        name2    = "tonnes of TNT",
        symbol   = "tonne of TNT",
        username = 1,
        utype    = "energy",
        scale    = 4184000000,
        default  = "GJ",
        link     = "TNT equivalent",
    },
    ["TtonTNT"] = {
        name2    = "teratons of TNT",
        symbol   = "teraton of TNT",
        username = 1,
        utype    = "energy",
        scale    = 4.184e21,
        default  = "ZJ",
        link     = "TNT equivalent",
    },
    ["TtTNT"] = {
        name2    = "teratonnes of TNT",
        symbol   = "teratonne of TNT",
        username = 1,
        utype    = "energy",
        scale    = 4.184e21,
        default  = "ZJ",
        link     = "TNT equivalent",
    },
    ["TW.h"] = {
        name1    = "terawatt-hour",
        symbol   = "TW·h",
    },
```

```
        utype      = "energy",
        scale      = 3.6e15,
        default    = "PJ",
        link       = "Kilowatt-hour",
    },
    ["TWh"] = {
        name1      = "terawatt-hour",
        symbol     = "TWh",
        utype      = "energy",
        scale      = 3.6e15,
        default    = "PJ",
        link       = "Kilowatt-hour",
    },
    ["W.h"] = {
        name1      = "watt-hour",
        symbol     = "W·h",
        utype      = "energy",
        scale      = 3600,
        default    = "kJ",
        link       = "Kilowatt-hour",
    },
    ["Wh"] = {
        name1      = "watt-hour",
        symbol     = "Wh",
        utype      = "energy",
        scale      = 3600,
        default    = "kJ",
        link       = "Kilowatt-hour",
    },
    ["µerg"] = {
        name1      = "microerg",
        symbol     = "µerg",
        utype      = "energy",
        scale      = 1e-13,
        default    = "nJ",
        link       = "Erg",
    },
    ["µeV"] = {
        name1      = "microelectronvolt",
        symbol     = "µeV",
        utype      = "energy",
        scale      = 1.602176487e-25,
        default    = "yJ",
        link       = "Electronvolt",
    },
    ["µW.h"] = {
        name1      = "microwatt-hour",
        symbol     = "µW·h",
        utype      = "energy",
        scale      = 0.0036,
        default    = "mJ",
        link       = "Kilowatt-hour",
    },
    ["µWh"] = {
        name1      = "microwatt-hour",
        symbol     = "µWh",
        utype      = "energy",
        scale      = 0.0036,
        default    = "mJ",
        link       = "Kilowatt-hour",
    },
    ["-kW.h"] = {
        target     = "kW.h",
        link       = "Kilowatt hour",
    },
```

```
},
["btu"] = {
    target = "BTU",
},
["Calorie"] = {
    target = "Cal",
},
["ft.lbf"] = {
    target = "ftlbf",
},
["ft·lbf"] = {
    target = "ftlbf",
},
["g-cal-15"] = {
    target = "cal-15",
},
["g-cal-IT"] = {
    target = "cal-IT",
},
["g-cal-th"] = {
    target = "cal-th",
},
["g-kcal-15"] = {
    target = "kcal-15",
},
["g-kcal-IT"] = {
    target = "kcal-IT",
},
["g-kcal-th"] = {
    target = "kcal-th",
},
["g-Mcal-15"] = {
    target = "Mcal-15",
},
["g-mcal-15"] = {
    target = "mcal-15",
},
["g-Mcal-IT"] = {
    target = "Mcal-IT",
},
["g-mcal-IT"] = {
    target = "mcal-IT",
},
["g-Mcal-th"] = {
    target = "Mcal-th",
},
["g-mcal-th"] = {
    target = "mcal-th",
},
["GW-h"] = {
    target = "GW.h",
},
["GW·h"] = {
    target = "GW.h",
},
["Hartree"] = {
    target = "Eh",
},
["hp.h"] = {
    target = "hph",
},
["in.lb-f"] = {
    target = "inlb-f",
},
},
```

```
["in.lbf"] = {
  target = "inlbf",
},
["in.oz-f"] = {
  target = "inoz-f",
},
["in.ozf"] = {
  target = "inozf",
},
["kbboe"] = {
  target = "kBOE",
  symbol = "kbboe",
},
["kg-cal-15"] = {
  target = "Cal-15",
},
["kg-cal-IT"] = {
  target = "Cal-IT",
},
["kg-cal-th"] = {
  target = "Cal-th",
},
["kW-h"] = {
  target = "kW.h",
},
["kW·h"] = {
  target = "kW.h",
},
["MW-h"] = {
  target = "MW.h",
},
["mW-h"] = {
  target = "mW.h",
},
["MW·h"] = {
  target = "MW.h",
},
["TW-h"] = {
  target = "TW.h",
},
["uerg"] = {
  target = "μerg",
},
["ueV"] = {
  target = "μeV",
},
["uW-h"] = {
  target = "μW.h",
},
["uW.h"] = {
  target = "μW.h",
},
["uWh"] = {
  target = "μWh",
},
["W-h"] = {
  target = "W.h",
},
["eVpar"] = {
  _name1 = "electronvolt",
  _symbol = "eV",
  utype = "energy per chemical amount",
  scale = 96485.329522144166,
  prefixes = 1,
}
```

```
        default = "kcal/mol",
        link     = "Electronvolt",
    },
    ["kcal/mol"] = {
        per      = { "kcal", "mol" },
        utype    = "energy per chemical amount",
        default  = "kJ/mol",
        link     = "Kilocalorie per mole",
    },
    ["kJ/mol"] = {
        per      = { "kJ", "mol" },
        utype    = "energy per chemical amount",
        default  = "kcal/mol",
        link     = "Joule per mole",
    },
    ["kWh/100 km"] = {
        name1    = "kilowatt-hour per 100 kilometres",
        name1_us = "kilowatt-hour per 100 kilometers",
        name2    = "kilowatt-hours per 100 kilometres",
        name2_us = "kilowatt-hours per 100 kilometers",
        symbol   = "kW·h/100&nbsp;km",
        utype    = "energy per unit length",
        scale    = 36,
        default  = "MJ/km kWh/mi",
        link     = "Kilowatt-hour",
    },
    ["kWh/100 mi"] = {
        name1    = "kilowatt-hour per 100 miles",
        name2    = "kilowatt-hours per 100 miles",
        symbol   = "kW·h/100&nbsp;mi",
        utype    = "energy per unit length",
        scale    = 22.3694,
        default  = "mpge",
        link     = "Miles per gallon gasoline equivalent",
    },
    ["MJ/100 km"] = {
        name1    = "megajoule per 100 kilometres",
        name1_us = "megajoule per 100 kilometers",
        name2    = "megajoules per 100 kilometres",
        name2_us = "megajoules per 100 kilometers",
        symbol   = "MJ/100&nbsp;km",
        utype    = "energy per unit length",
        scale    = 10,
        default  = "BTU/mi",
        link     = "British thermal unit",
    },
    ["mpge"] = {
        name1    = "mile per gallon gasoline equivalent",
        name2    = "miles per gallon gasoline equivalent",
        symbol   = "mpg&#8209;e",
        utype    = "energy per unit length",
        scale    = 13e-6,
        invert   = -1,
        iscomplex= true,
        default  = "kWh/100 mi",
        link     = "Miles per gallon gasoline equivalent",
    },
    ["BTU/mi"] = {
        per      = { "BTU", "mi" },
        utype    = "energy per unit length",
        default  = "v > 1525 ! M ! k ! J/km",
    },
    ["kJ/km"] = {
        per      = { "kJ", "km" },
```

```
        utype    = "energy per unit length",
        default  = "BTU/mi",
    },
    ["kWh/km"] = {
        per      = { "-kW.h", "km" },
        utype    = "energy per unit length",
        default  = "MJ/km kWh/mi",
    },
    ["kWh/mi"] = {
        per      = { "-kW.h", "mi" },
        utype    = "energy per unit length",
        default  = "kWh/km MJ/km",
    },
    ["MJ/km"] = {
        per      = { "MJ", "km" },
        utype    = "energy per unit length",
        default  = "BTU/mi",
    },
    ["mpg-e"] = {
        target   = "mpge",
    },
    ["BTU/lb"] = {
        name1    = "British thermal unit per pound",
        name2    = "British thermal units per pound",
        symbol   = "BTU/lb",
        utype    = "energy per unit mass",
        scale    = 429.92261414790346,
        default  = "kJ/kg",
        link     = "British thermal unit",
    },
    ["cal/g"] = {
        name1    = "calorie per gram",
        name2    = "calories per gram",
        symbol   = "cal/g",
        utype    = "energy per unit mass",
        scale    = 4184,
        default  = "J/g",
    },
    ["GJ/kg"] = {
        name1    = "gigajoule per kilogram",
        name2    = "gigajoules per kilogram",
        symbol   = "GJ/kg",
        utype    = "energy per unit mass",
        scale    = 1e9,
        default  = "ktTNT/t",
        link     = "Specific energy",
    },
    ["J/g"] = {
        name1    = "joule per gram",
        name2    = "joules per gram",
        symbol   = "J/g",
        utype    = "energy per unit mass",
        scale    = 1000,
        default  = "kcal/g",
        link     = "Specific energy",
    },
    ["kcal/g"] = {
        name1    = "kilocalorie per gram",
        name2    = "kilocalories per gram",
        symbol   = "kcal/g",
        utype    = "energy per unit mass",
        scale    = 4184000,
        default  = "kJ/g",
    },
},
```

```
["kJ/g"] = {
  name1    = "kilojoule per gram",
  name2    = "kilojoules per gram",
  symbol   = "kJ/g",
  utype    = "energy per unit mass",
  scale    = 1000000,
  default  = "kcal/g",
  link     = "Specific energy",
},
["kJ/kg"] = {
  name1    = "kilojoule per kilogram",
  name2    = "kilojoules per kilogram",
  symbol   = "kJ/kg",
  utype    = "energy per unit mass",
  scale    = 1000,
  default  = "BTU/lb",
  link     = "Specific energy",
},
["ktonTNT/MT"] = {
  name2    = "kilotons of TNT per metric ton",
  symbol   = "kiloton of TNT per metric ton",
  username = 1,
  utype    = "energy per unit mass",
  scale    = 4184000000,
  default  = "GJ/kg",
  link     = "TNT equivalent",
},
["ktTNT/t"] = {
  name2    = "kilotonnes of TNT per tonne",
  symbol   = "kilotonne of TNT per tonne",
  username = 1,
  utype    = "energy per unit mass",
  scale    = 4184000000,
  default  = "GJ/kg",
  link     = "TNT equivalent",
},
["MtonTNT/MT"] = {
  name2    = "megatons of TNT per metric ton",
  symbol   = "megaton of TNT per metric ton",
  username = 1,
  utype    = "energy per unit mass",
  scale    = 4.184e12,
  default  = "TJ/kg",
  link     = "TNT equivalent",
},
["MtTNT/MT"] = {
  name2    = "megatonnes of TNT per tonne",
  symbol   = "megatonne of TNT per tonne",
  username = 1,
  utype    = "energy per unit mass",
  scale    = 4.184e12,
  default  = "TJ/kg",
  link     = "TNT equivalent",
},
["TJ/kg"] = {
  name1    = "terajoule per kilogram",
  name2    = "terajoules per kilogram",
  symbol   = "TJ/kg",
  utype    = "energy per unit mass",
  scale    = 1e12,
  default  = "MtTNT/MT",
  link     = "Specific energy",
},
["Cal/g"] = {
```

```
    per      = { "Cal", "g" },
    utype    = "energy per unit mass",
    default  = "kJ/g",
  },
  ["BTU/cuft"] = {
    per      = { "BTU", "cuft" },
    utype    = "energy per unit volume",
    default  = "kJ/L",
  },
  ["Cal/12USoz(mL)serve"] = {
    per      = { "Cal", "-12USoz(mL)serve" },
    utype    = "energy per unit volume",
    default  = "kJ/L",
  },
  ["Cal/12USoz(ml)serve"] = {
    per      = { "Cal", "-12USoz(ml)serve" },
    utype    = "energy per unit volume",
    default  = "kJ/l",
  },
  ["Cal/12USozserve"] = {
    per      = { "Cal", "-12USozserve" },
    utype    = "energy per unit volume",
    default  = "kJ/L",
  },
  ["Cal/USoz"] = {
    per      = { "Cal", "USoz" },
    utype    = "energy per unit volume",
    default  = "kJ/ml",
  },
  ["kJ/L"] = {
    per      = { "kJ", "L" },
    utype    = "energy per unit volume",
    default  = "BTU/cuft",
  },
  ["kJ/l"] = {
    per      = { "kJ", "l" },
    utype    = "energy per unit volume",
    default  = "BTU/cuft",
  },
  ["kJ/ml"] = {
    per      = { "kJ", "ml" },
    utype    = "energy per unit volume",
    default  = "Cal/USoz",
  },
  ["MJ/m3"] = {
    per      = { "MJ", "m3" },
    utype    = "energy per unit volume",
    default  = "BTU/cuft",
  },
  ["Sv"] = {
    _name1   = "sievert",
    _symbol  = "Sv",
    utype    = "equivalent radiation dose",
    scale    = 1,
    prefixes = 1,
    default  = "rem",
    link     = "Sievert",
  },
  ["rem"] = {
    _name1   = "rem",
    _symbol  = "rem",
    utype    = "equivalent radiation dose",
    scale    = 0.01,
    prefixes = 1,
  },
```

```
        default = "Sv",
        link     = "Roentgen equivalent man",
    },
    ["g/km"] = {
        name1     = "gram per kilometre",
        name1_us  = "gram per kilometer",
        name2     = "grams per kilometre",
        name2_us  = "grams per kilometer",
        symbol    = "g/km",
        utype     = "exhaust emission",
        scale     = 1e-6,
        default   = "oz/mi",
        link      = "Exhaust gas",
    },
    ["g/mi"] = {
        name1     = "gram per mile",
        name2     = "grams per mile",
        symbol    = "g/mi",
        utype     = "exhaust emission",
        scale     = 6.2137119223733397e-7,
        default   = "g/km",
        link      = "Exhaust gas",
    },
    ["gCO2/km"] = {
        name1     = "gram of CO<sub>2</sub> per kilometre",
        name1_us  = "gram of CO<sub>2</sub> per kilometer",
        name2     = "grams of CO<sub>2</sub> per kilometre",
        name2_us  = "grams of CO<sub>2</sub> per kilometer",
        symbol    = "g(CO<sub>2</sub>)/km",
        utype     = "exhaust emission",
        scale     = 1e-6,
        default   = "ozCO2/mi",
        link      = "Exhaust gas",
    },
    ["gCO2/mi"] = {
        name1     = "gram of CO<sub>2</sub> per mile",
        name2     = "grams of CO<sub>2</sub> per mile",
        symbol    = "g(CO<sub>2</sub>)/mi",
        utype     = "exhaust emission",
        scale     = 6.2137119223733397e-7,
        default   = "gCO2/km",
        link      = "Exhaust gas",
    },
    ["kg/km"] = {
        name1     = "kilogram per kilometre",
        name1_us  = "kilogram per kilometer",
        name2     = "kilograms per kilometre",
        name2_us  = "kilograms per kilometer",
        symbol    = "kg/km",
        utype     = "exhaust emission",
        scale     = 0.001,
        default   = "lb/mi",
        link      = "Exhaust gas",
    },
    ["kgCO2/km"] = {
        name1     = "kilogram of CO<sub>2</sub> per kilometre",
        name1_us  = "kilogram of CO<sub>2</sub> per kilometer",
        name2     = "kilograms of CO<sub>2</sub> per kilometre",
        name2_us  = "kilograms of CO<sub>2</sub> per kilometer",
        symbol    = "kg(CO<sub>2</sub>)/km",
        utype     = "exhaust emission",
        scale     = 0.001,
        default   = "lbCO2/mi",
        link      = "Exhaust gas",
    },
```

```
},
["lb/mi"] = {
  name1 = "pound per mile",
  name2 = "pounds per mile",
  symbol = "lb/mi",
  utype = "exhaust emission",
  scale = 0.00028184923173665794,
  default = "kg/km",
  link = "Exhaust gas",
},
["lbCO2/mi"] = {
  name1 = "pound of CO<sub>2</sub> per mile",
  name2 = "pounds of CO<sub>2</sub> per mile",
  symbol = "lb(CO<sub>2</sub>)/mi",
  utype = "exhaust emission",
  scale = 0.00028184923173665794,
  default = "kgCO2/km",
  link = "Exhaust gas",
},
["oz/mi"] = {
  name1 = "ounce per mile",
  name2 = "ounces per mile",
  symbol = "oz/mi",
  utype = "exhaust emission",
  scale = 1.7615576983541121e-5,
  default = "g/km",
  link = "Exhaust gas",
},
["ozCO2/mi"] = {
  name1 = "ounce of CO<sub>2</sub> per mile",
  name2 = "ounces of CO<sub>2</sub> per mile",
  symbol = "oz(CO<sub>2</sub>)/mi",
  utype = "exhaust emission",
  scale = 1.7615576983541121e-5,
  default = "gCO2/km",
  link = "Exhaust gas",
},
["cuft/a"] = {
  name1 = "cubic foot per annum",
  name2 = "cubic feet per annum",
  symbol = "cu&nbsp;ft/a",
  utype = "flow",
  scale = 8.9730672142368242e-10,
  default = "m3/a",
  link = "Cubic foot per second",
},
["cuft/d"] = {
  name1 = "cubic foot per day",
  name2 = "cubic feet per day",
  symbol = "cu&nbsp;ft/d",
  utype = "flow",
  scale = 3.2774128000000003e-7,
  default = "m3/d",
  link = "Cubic foot per second",
},
["cuft/h"] = {
  name1 = "cubic foot per hour",
  name2 = "cubic feet per hour",
  symbol = "cu&nbsp;ft/h",
  utype = "flow",
  scale = 7.8657907200000004e-6,
  default = "m3/h",
  link = "Cubic foot per second",
},
},
```

```
["cuft/min"] = {
  name1 = "cubic foot per minute",
  name2 = "cubic feet per minute",
  symbol = "cu&nbsp;ft/min",
  utype = "flow",
  scale = 0.00047194744319999999,
  default = "m3/min",
},
["cuft/s"] = {
  name1 = "cubic foot per second",
  name2 = "cubic feet per second",
  symbol = "cu&nbsp;ft/s",
  utype = "flow",
  scale = 28316846592e-12,
  default = "m3/s",
},
["cumi/a"] = {
  name1 = "cubic mile per annum",
  name2 = "cubic miles per annum",
  symbol = "cu&nbsp;mi/a",
  utype = "flow",
  scale = 132.08171170940057,
  default = "km3/a",
  link = "Cubic foot per second",
},
["cuyd/h"] = {
  name1 = "cubic yard per hour",
  name2 = "cubic yards per hour",
  symbol = "cuyd/h",
  utype = "flow",
  scale = 0.00021237634944000001,
  default = "m3/h",
  link = "Cubic foot per second",
},
["cuyd/s"] = {
  name1 = "cubic yard per second",
  name2 = "cubic yards per second",
  symbol = "cu&nbsp;yd/s",
  utype = "flow",
  scale = 0.76455485798400002,
  default = "m3/s",
},
["Goilbbl/a"] = {
  name1 = "billion barrels per year",
  name2 = "billion barrels per year",
  symbol = "Gdbl/a",
  utype = "flow",
  scale = 5.0380033629933836,
  default = "v * 1.58987294928 < 10 ! e6 ! e9 ! m3/a",
  link = "Barrel per day",
},
["impgal/h"] = {
  name1 = "imperial gallon per hour",
  name2 = "imperial gallons per hour",
  symbol = "imp&nbsp;gal/h",
  utype = "flow",
  scale = 1.2628027777777779e-6,
  default = "m3/h",
  link = "Gallon",
},
["impgal/min"] = {
  name1 = "imperial gallon per minute",
  name2 = "imperial gallons per minute",
  symbol = "imp gal/min",
```

```
        utype      = "flow",
        scale      = 7.5768166666666671e-5,
        default    = "m3/s",
        link       = "Gallon",
    },
    ["impgal/s"] = {
        name1      = "imperial gallon per second",
        name2      = "imperial gallons per second",
        symbol     = "impgal/s",
        utype      = "flow",
        scale      = 0.00454609,
        default    = "m3/s",
        link       = "Imperial gallons per second",
    },
    ["km3/a"] = {
        name1      = "cubic kilometre per annum",
        name1_us   = "cubic kilometer per annum",
        name2      = "cubic kilometres per annum",
        name2_us   = "cubic kilometers per annum",
        symbol     = "km<sup>3</sup>/a",
        utype      = "flow",
        scale      = 31.68808781402895,
        default    = "cumi/a",
        link       = "Cubic metre per second",
    },
    ["km3/d"] = {
        name1      = "cubic kilometre per day",
        name1_us   = "cubic kilometer per day",
        name2      = "cubic kilometres per day",
        name2_us   = "cubic kilometers per day",
        symbol     = "km<sup>3</sup>/d",
        utype      = "flow",
        scale      = 11574.074074074075,
        default    = "cuft/d",
        link       = "Cubic metre per second",
    },
    ["koilbbl/a"] = {
        name1      = "thousand barrels per year",
        name2      = "thousand barrels per year",
        symbol     = "kbbbl/a",
        utype      = "flow",
        scale      = 5.0380033629933841e-6,
        default    = "v * 1.58987294928 < 10 !! e3 ! m3/a",
        link       = "Barrel per day",
    },
    ["koilbbl/d"] = {
        name1      = "thousand barrels per day",
        name2      = "thousand barrels per day",
        symbol     = "kbbbl/d",
        utype      = "flow",
        scale      = 0.0018401307283333335,
        default    = "v * 1.58987294928 < 10 !! e3 ! m3/d",
        link       = "Barrel per day",
    },
    ["L/h"] = {
        name1      = "litre per hour",
        name1_us   = "liter per hour",
        name2      = "litres per hour",
        name2_us   = "liters per hour",
        symbol     = "L/h",
        utype      = "flow",
        scale      = 2.7777777777777776e-7,
        default    = "impgal/h USgal/h",
        link       = "Cubic metre per second",
    },
```



```
},
["L/min"] = {
    name1      = "litre per minute",
    name1_us   = "liter per minute",
    name2      = "litres per minute",
    name2_us   = "liters per minute",
    symbol     = "L/min",
    utype      = "flow",
    scale      = 1.6666666666666667e-5,
    default    = "impgal/min USgal/min",
    link       = "Cubic metre per second",
},
["L/s"] = {
    name1      = "litre per second",
    name1_us   = "liter per second",
    name2      = "litres per second",
    name2_us   = "liters per second",
    symbol     = "L/s",
    utype      = "flow",
    scale      = 0.001,
    default    = "cuft/s",
    link       = "Cubic metre per second",
},
["m3/a"] = {
    name1      = "cubic metre per annum",
    name1_us   = "cubic meter per annum",
    name2      = "cubic metres per annum",
    name2_us   = "cubic meters per annum",
    symbol     = "m<sup>3</sup>/a",
    utype      = "flow",
    scale      = 3.1688087814028947e-8,
    default    = "cuft/a",
    link       = "Cubic metre per second",
},
["m3/d"] = {
    name1      = "cubic metre per day",
    name1_us   = "cubic meter per day",
    name2      = "cubic metres per day",
    name2_us   = "cubic meters per day",
    symbol     = "m<sup>3</sup>/d",
    utype      = "flow",
    scale      = 1.1574074074074073e-5,
    default    = "cuft/d",
    link       = "Cubic metre per second",
},
["m3/h"] = {
    name1      = "cubic metre per hour",
    name1_us   = "cubic meter per hour",
    name2      = "cubic metres per hour",
    name2_us   = "cubic meters per hour",
    symbol     = "m<sup>3</sup>/h",
    utype      = "flow",
    scale      = 0.00027777777777777778,
    default    = "cuft/h",
    link       = "Cubic metre per second",
},
["m3/min"] = {
    name1      = "cubic metre per minute",
    name1_us   = "cubic meter per minute",
    name2      = "cubic metres per minute",
    name2_us   = "cubic meters per minute",
    symbol     = "m<sup>3</sup>/min",
    utype      = "flow",
    scale      = 0.016666666666666666,
```

```
        default = "cuft/min",
        link     = "Cubic metre per second",
    },
    ["m3/s"] = {
        name1     = "cubic metre per second",
        name1_us  = "cubic meter per second",
        name2     = "cubic metres per second",
        name2_us  = "cubic meters per second",
        symbol    = "m<sup>3</sup>/s",
        utype     = "flow",
        scale     = 1,
        default   = "cuft/s",
    },
    ["Moilbbl/a"] = {
        name1     = "million barrels per year",
        name2     = "million barrels per year",
        symbol    = "Mbbbl/a",
        utype     = "flow",
        scale     = 0.0050380033629933837,
        default   = "v * 1.58987294928 < 10 ! e3 ! e6 ! m3/a",
        link     = "Barrel per day",
    },
    ["Moilbbl/d"] = {
        name1     = "million barrels per day",
        name2     = "million barrels per day",
        symbol    = "Mbbbl/d",
        utype     = "flow",
        scale     = 1.8401307283333335,
        default   = "v * 1.58987294928 < 10 ! e3 ! e6 ! m3/d",
        link     = "Barrel per day",
    },
    ["oilbbl/a"] = {
        name1     = "barrel per year",
        name2     = "barrels per year",
        symbol    = "bbl/a",
        utype     = "flow",
        scale     = 5.0380033629933841e-9,
        default   = "m3/a",
        link     = "Barrel per day",
    },
    ["oilbbl/d"] = {
        name1     = "barrel per day",
        name2     = "barrels per day",
        symbol    = "bbl/d",
        utype     = "flow",
        scale     = 1.8401307283333336e-6,
        default   = "m3/d",
    },
    ["Toilbbl/a"] = {
        name1     = "trillion barrels per year",
        name2     = "trillion barrels per year",
        symbol    = "Tbbl/a",
        utype     = "flow",
        scale     = 5038.0033629933832,
        default   = "v * 1.58987294928 < 10 ! e9 ! e12 ! m3/a",
        link     = "Barrel per day",
    },
    ["U.S.gal/d"] = {
        name1     = "U.S. gallon per day",
        name2     = "U.S. gallons per day",
        symbol    = "U.S.&nbsp;gal/d",
        utype     = "flow",
        scale     = 4.3812636388888893e-8,
        default   = "m3/s",
    }
```



```
        customary= 1,
    },
    ["U.S.gal/h"] = {
        name1      = "gallon per hour",
        name2      = "gallons per hour",
        symbol     = "gal/h",
        utype      = "flow",
        scale      = 1.0515032733333334e-6,
        default    = "m3/h",
        link       = "Gallon",
        customary= 2,
    },
    ["U.S.gal/min"] = {
        name1      = "U.S. gallon per minute",
        name2      = "U.S. gallons per minute",
        symbol     = "U.S.&nbsp;gal/min",
        utype      = "flow",
        scale      = 6.3090196400000003e-5,
        default    = "m3/s",
        link       = "Gallon",
    },
    ["USgal/a"] = {
        name1      = "US gallon per year",
        name2      = "US gallons per year",
        symbol     = "US&nbsp;gal/a",
        utype      = "flow",
        scale      = 1.1995246102365199e-10,
        default    = "m3/s",
    },
    ["USgal/d"] = {
        name1      = "US gallon per day",
        name2      = "US gallons per day",
        symbol     = "US&nbsp;gal/d",
        utype      = "flow",
        scale      = 4.3812636388888893e-8,
        default    = "m3/s",
    },
    ["USgal/h"] = {
        name1      = "gallon per hour",
        name2      = "gallons per hour",
        symbol     = "gal/h",
        utype      = "flow",
        scale      = 1.0515032733333334e-6,
        default    = "m3/h",
        link       = "Gallon",
        customary= 1,
    },
    ["USgal/min"] = {
        name1      = "US gallon per minute",
        name2      = "US gallons per minute",
        symbol     = "US&nbsp;gal/min",
        utype      = "flow",
        scale      = 6.3090196400000003e-5,
        default    = "m3/s",
        link       = "Gallon",
    },
    ["USgal/s"] = {
        name1      = "US gallon per second",
        name1_us   = "U.S. gallon per second",
        name2      = "US gallons per second",
        name2_us   = "U.S. gallons per second",
        symbol     = "USgal/s",
        utype      = "flow",
        scale      = 0.003785411784,
```

```
        default = "m3/s",
        link    = "US gallons per second",
    },
    ["ft3/a"] = {
        target = "cuft/a",
    },
    ["ft3/d"] = {
        target = "cuft/d",
    },
    ["ft3/h"] = {
        target = "cuft/h",
    },
    ["ft3/s"] = {
        target = "cuft/s",
    },
    ["Gcuft/a"] = {
        target = "e9cuft/a",
    },
    ["Gcuft/d"] = {
        target = "e9cuft/d",
    },
    ["kcuft/a"] = {
        target = "e3cuft/a",
    },
    ["kcuft/d"] = {
        target = "e3cuft/d",
    },
    ["kcuft/s"] = {
        target = "e3cuft/s",
    },
    ["Mcuft/a"] = {
        target = "e6cuft/a",
    },
    ["Mcuft/d"] = {
        target = "e6cuft/d",
    },
    ["Mcuft/s"] = {
        target = "e6cuft/s",
    },
    ["m³/s"] = {
        target = "m3/s",
    },
    ["Tcuft/a"] = {
        target = "e12cuft/a",
    },
    ["Tcuft/d"] = {
        target = "e12cuft/d",
    },
    ["u.s.gal/min"] = {
        target = "U.S.gal/min",
    },
    ["usgal/min"] = {
        target = "USgal/min",
    },
    ["-LTf"] = {
        name1 = "long ton-force",
        name2 = "long tons-force",
        symbol = "LTf",
        utype = "force",
        scale = 9964.01641818352,
        default = "kN",
    },
    ["-STf"] = {
        name1 = "short ton-force",
```

```
        name2    = "short tons-force",
        symbol   = "STf",
        utype    = "force",
        scale    = 8896.443230521,
        default  = "kN",
    },
    ["dyn"] = {
        name1    = "dyne",
        symbol   = "dyn",
        utype    = "force",
        scale    = 0.00001,
        default  = "gr-f",
    },
    ["g-f"] = {
        name1    = "gram-force",
        name2    = "grams-force",
        symbol   = "g<sub>f</sub>",
        utype    = "force",
        scale    = 0.00980665,
        default  = "mN oz-f",
        link     = "Kilogram-force",
    },
    ["gf"] = {
        name1    = "gram-force",
        name2    = "grams-force",
        symbol   = "gf",
        utype    = "force",
        scale    = 0.00980665,
        default  = "mN ozf",
        link     = "Kilogram-force",
    },
    ["gr-f"] = {
        name1    = "grain-force",
        name2    = "grains-force",
        symbol   = "gr<sub>f</sub>",
        utype    = "force",
        scale    = 0.0006354602307515,
        default  = "µN",
        link     = "Pound (force)",
    },
    ["grf"] = {
        name1    = "grain-force",
        name2    = "grains-force",
        symbol   = "grf",
        utype    = "force",
        scale    = 0.0006354602307515,
        default  = "µN",
        link     = "Pound (force)",
    },
    ["kdyn"] = {
        name1    = "kilodyne",
        symbol   = "kdyn",
        utype    = "force",
        scale    = 0.01,
        default  = "oz-f",
        link     = "Dyne",
    },
    ["kg-f"] = {
        name1    = "kilogram-force",
        name2    = "kilograms-force",
        symbol   = "kg<sub>f</sub>",
        utype    = "force",
        scale    = 9.80665,
        default  = "N lb-f",
    },
```

```
},
["kgf"] = {
    name1    = "kilogram-force",
    name2    = "kilograms-force",
    symbol   = "kgf",
    utype    = "force",
    scale    = 9.80665,
    default  = "N lbf",
},
["kp"] = {
    name1    = "kilopond",
    symbol   = "kp",
    utype    = "force",
    scale    = 9.80665,
    default  = "N lb-f",
    link     = "Kilogram-force",
},
["L/T-f"] = {
    name1    = "long ton-force",
    name2    = "long tons-force",
    symbol   = "L/T<sub>f</sub>",
    utype    = "force",
    scale    = 9964.01641818352,
    default  = "kN",
},
["L/Tf"] = {
    name1    = "long ton-force",
    name2    = "long tons-force",
    symbol   = "L/Tf",
    utype    = "force",
    scale    = 9964.01641818352,
    default  = "kN",
},
["lb-f"] = {
    name1    = "pound-force",
    name2    = "pounds-force",
    symbol   = "lb<sub>f</sub>",
    utype    = "force",
    scale    = 4.4482216152605,
    default  = "N",
    link     = "Pound (force)",
},
["lbf"] = {
    name1    = "pound-force",
    name2    = "pounds-force",
    symbol   = "lbf",
    utype    = "force",
    scale    = 4.4482216152605,
    default  = "N",
    link     = "Pound (force)",
},
["lb(f)"] = {
    name1    = "pound",
    symbol   = "lb",
    utype    = "force",
    scale    = 4.4482216152605,
    default  = "N",
    link     = "Pound (force)",
},
["LT-f"] = {
    name1    = "long ton-force",
    name2    = "long tons-force",
    symbol   = "LT<sub>f</sub>",
    utype    = "force",
```

```
        scale = 9964.01641818352,
        default = "kN",
    },
    ["LTf"] = {
        name1 = "long ton-force",
        name2 = "long tons-force",
        symbol = "LTf",
        username = 1,
        utype = "force",
        scale = 9964.01641818352,
        default = "kN",
    },
    ["Mdyn"] = {
        name1 = "megadyne",
        symbol = "Mdyn",
        utype = "force",
        scale = 10,
        default = "lb-f",
        link = "Dyne",
    },
    ["mdyn"] = {
        name1 = "millidyne",
        symbol = "mdyn",
        utype = "force",
        scale = 0.00000001,
        default = "gr-f",
        link = "Dyne",
    },
    ["mg-f"] = {
        name1 = "milligram-force",
        name2 = "milligrams-force",
        symbol = "mg<sub>f</sub>",
        utype = "force",
        scale = 0.00000980665,
        default = "µN gr-f",
        link = "Kilogram-force",
    },
    ["mgf"] = {
        name1 = "milligram-force",
        name2 = "milligrams-force",
        symbol = "mgf",
        utype = "force",
        scale = 0.00000980665,
        default = "µN grf",
        link = "Kilogram-force",
    },
    ["Mp"] = {
        name1 = "megapond",
        symbol = "Mp",
        utype = "force",
        scale = 9806.65,
        default = "kN LT-f ST-f",
        link = "Kilogram-force",
    },
    ["mp"] = {
        name1 = "millipond",
        symbol = "mp",
        utype = "force",
        scale = 0.00000980665,
        default = "µN gr-f",
        link = "Kilogram-force",
    },
    ["N"] = {
        _name1 = "newton",
```

```
    _symbol = "N",
    utype   = "force",
    scale   = 1,
    prefixes = 1,
    default = "lb-f",
    link    = "Newton (unit)",
},
["oz-f"] = {
    name1 = "ounce-force",
    name2 = "ounces-force",
    symbol = "oz<sub>f</sub>",
    utype  = "force",
    scale  = 0.2780138203095378125,
    default = "mN",
    link   = "Pound (force)",
},
["ozf"] = {
    name1 = "ounce-force",
    name2 = "ounces-force",
    symbol = "ozf",
    utype  = "force",
    scale  = 0.2780138203095378125,
    default = "mN",
    link   = "Pound (force)",
},
["p"] = {
    name1 = "pond",
    symbol = "p",
    utype  = "force",
    scale  = 0.00980665,
    default = "mN oz-f",
    link   = "Kilogram-force",
},
["pdl"] = {
    name1 = "poundal",
    symbol = "pdl",
    utype  = "force",
    scale  = 0.138254954376,
    default = "N",
},
["S/T-f"] = {
    name1 = "short ton-force",
    name2 = "short tons-force",
    symbol = "S/T<sub>f</sub>",
    utype  = "force",
    scale  = 8896.443230521,
    default = "kN",
},
["S/Tf"] = {
    name1 = "short ton-force",
    name2 = "short tons-force",
    symbol = "S/Tf",
    utype  = "force",
    scale  = 8896.443230521,
    default = "kN",
},
["ST-f"] = {
    name1 = "short ton-force",
    name2 = "short tons-force",
    symbol = "ST<sub>f</sub>",
    utype  = "force",
    scale  = 8896.443230521,
    default = "kN",
},
},
```

```
["STf"] = {
  name1    = "short ton-force",
  name2    = "short tons-force",
  symbol   = "STf",
  username = 1,
  utype    = "force",
  scale    = 8896.443230521,
  default  = "kN",
},
["t-f"] = {
  name1    = "tonne-force",
  name2    = "tonnes-force",
  symbol   = "t<sub>f</sub>",
  utype    = "force",
  scale    = 9806.65,
  default  = "kN LT-f ST-f",
  link     = "Ton-force#Tonne-force",
},
["tf"] = {
  name1    = "tonne-force",
  name2    = "tonnes-force",
  symbol   = "tf",
  utype    = "force",
  scale    = 9806.65,
  default  = "kN LTf STf",
  link     = "Ton-force#Tonne-force",
},
["dyne"] = {
  target   = "dyn",
},
["newtons"] = {
  target   = "N",
},
["poundal"] = {
  target   = "pdl",
},
["tonne-force"] = {
  target   = "tf",
},
["impgal/mi"] = {
  per      = { "@impgal", "mi" },
  utype    = "fuel efficiency",
  invert   = 1,
  iscomplex= true,
  default  = "l/km USgal/mi",
},
["km/L"] = {
  per      = { "km", "L" },
  utype    = "fuel efficiency",
  invert   = -1,
  iscomplex= true,
  default  = "mpgimp mpgus",
},
["km/l"] = {
  per      = { "km", "l" },
  utype    = "fuel efficiency",
  invert   = -1,
  iscomplex= true,
  default  = "mpgimp mpgus",
},
["L/100 km"] = {
  per      = { "L", "100km" },
  utype    = "fuel efficiency",
  invert   = 1,
}
```

```
        iscomplex= true,
        default  = "mpgimp mpgus",
        symlink  = "[[Fuel economy in automobiles#Units of measure|L/100&nbsp;km]
    },
    ["l/100 km"] = {
        per      = { "l", "100km" },
        utype    = "fuel efficiency",
        invert   = 1,
        iscomplex= true,
        default  = "mpgimp mpgus",
        symlink  = "[[Fuel economy in automobiles#Units of measure|l/100&nbsp;km]
    },
    ["L/km"] = {
        per      = { "L", "km" },
        utype    = "fuel efficiency",
        invert   = 1,
        iscomplex= true,
        default  = "mpgimp mpgus",
    },
    ["l/km"] = {
        per      = { "l", "km" },
        utype    = "fuel efficiency",
        invert   = 1,
        iscomplex= true,
        default  = "mpgimp mpgus",
    },
    ["mi/impqt"] = {
        per      = { "mi", "impqt" },
        utype    = "fuel efficiency",
        invert   = -1,
        iscomplex= true,
        default  = "km/L",
    },
    ["mi/U.S.qt"] = {
        per      = { "mi", "U.S.qt" },
        utype    = "fuel efficiency",
        invert   = -1,
        iscomplex= true,
        default  = "km/L",
    },
    ["mi/USqt"] = {
        per      = { "mi", "USqt" },
        utype    = "fuel efficiency",
        invert   = -1,
        iscomplex= true,
        default  = "km/L",
    },
    ["mi/usqt"] = {
        per      = { "mi", "usqt" },
        utype    = "fuel efficiency",
        invert   = -1,
        iscomplex= true,
        default  = "km/L",
    },
    ["mpgimp"] = {
        per      = { "mi", "@impgal" },
        symbol   = "mpg<sub>&#8209;imp</sub>",
        utype    = "fuel efficiency",
        invert   = -1,
        iscomplex= true,
        default  = "L/100 km+mpgus",
        symlink  = "[[Fuel economy in automobiles#Units of measure|mpg]]<sub>&#8209;imp</sub>"
    },
    ["mpgus"] = {
```

```
    per      = { "mi", "+USgal" },
    symbol   = "mpg<sub>#8209;US</sub>",
    utype    = "fuel efficiency",
    invert   = -1,
    iscomplex= true,
    default  = "L/100 km+mpgimp",
    symlink  = "[[Fuel economy in automobiles#Units of measure|mpg]]<sub>#8209;US</sub>",
},
["U.S.gal/mi"] = {
    per      = { "*U.S.gal", "mi" },
    sp_us    = true,
    utype    = "fuel efficiency",
    invert   = 1,
    iscomplex= true,
    default  = "l/km impgal/mi",
},
["usgal/mi"] = {
    per      = { "+USgal", "mi" },
    utype    = "fuel efficiency",
    invert   = 1,
    iscomplex= true,
    default  = "l/km impgal/mi",
},
["L/100km"] = {
    target   = "L/100 km",
},
["l/100km"] = {
    target   = "l/100 km",
},
["mpg"] = {
    shouldbe = "Use %{mpgus%} for miles per US gallon or %{mpgimp%} for miles per imperial gallon",
},
["mpgU.S."] = {
    target    = "mpgus",
    symbol    = "mpg<sub>#8209;U.S.</sub>",
    sp_us     = true,
    symlink   = "[[Fuel economy in automobiles#Units of measure|mpg]]<sub>#8209;U.S.</sub>",
},
["mpgu.s."] = {
    target    = "mpgus",
    symbol    = "mpg<sub>#8209;U.S.</sub>",
    sp_us     = true,
    symlink   = "[[Fuel economy in automobiles#Units of measure|mpg]]<sub>#8209;U.S.</sub>",
},
["mpgUS"] = {
    target    = "mpgus",
},
["USgal/mi"] = {
    target    = "usgal/mi",
},
["kPa/m"] = {
    per      = { "kPa", "-m-frac" },
    utype    = "fracture gradient",
    default  = "psi/ft",
},
["psi/ft"] = {
    per      = { "psi", "-ft-frac" },
    utype    = "fracture gradient",
    default  = "kPa/m",
},
["cm/km"] = {
    name1     = "centimetre per kilometre",
    name1_us  = "centimeter per kilometer",
    name2     = "centimetres per kilometre",
}
```

```
        name2_us = "centimeters per kilometer",
        symbol   = "cm/km",
        utype    = "gradient",
        scale    = 0.00001,
        default  = "ft/mi",
        link     = "Grade (slope)",
    },
    ["ft/mi"] = {
        name1    = "foot per mile",
        name2    = "feet per mile",
        symbol   = "ft/mi",
        utype    = "gradient",
        scale    = 0.00018939393939393939,
        default  = "v < 5.28 ! c ! ! m/km",
        link     = "Grade (slope)",
    },
    ["ft/nmi"] = {
        name1    = "foot per nautical mile",
        name2    = "feet per nautical mile",
        symbol   = "ft/nmi",
        utype    = "gradient",
        scale    = 0.00016457883369330455,
        default  = "v < 6.076 ! c ! ! m/km",
        link     = "Grade (slope)",
    },
    ["in/ft"] = {
        name1    = "inch per foot",
        name2    = "inches per foot",
        symbol   = "in/ft",
        utype    = "gradient",
        scale    = 0.083333333333333329,
        default  = "mm/m",
        link     = "Grade (slope)",
    },
    ["in/mi"] = {
        name1    = "inch per mile",
        name2    = "inches per mile",
        symbol   = "in/mi",
        utype    = "gradient",
        scale    = 1.5782828282828283e-5,
        default  = "v < 0.6336 ! m ! c ! m/km",
        link     = "Grade (slope)",
    },
    ["m/km"] = {
        name1    = "metre per kilometre",
        name1_us = "meter per kilometer",
        name2    = "metres per kilometre",
        name2_us = "meters per kilometer",
        symbol   = "m/km",
        utype    = "gradient",
        scale    = 0.001,
        default  = "ft/mi",
        link     = "Grade (slope)",
    },
    ["mm/km"] = {
        name1    = "millimetre per kilometre",
        name1_us = "millimeter per kilometer",
        name2    = "millimetres per kilometre",
        name2_us = "millimeters per kilometer",
        symbol   = "mm/km",
        utype    = "gradient",
        scale    = 0.000001,
        default  = "in/mi",
        link     = "Grade (slope)",
    },
```

```
},
["mm/m"] = {
  name1      = "millimetre per metre",
  name1_us   = "millimeter per meter",
  name2      = "millimetres per metre",
  name2_us   = "millimeters per meter",
  symbol     = "mm/m",
  utype      = "gradient",
  scale      = 0.001,
  default    = "in/ft",
  link       = "Grade (slope)",
},
["admi"] = {
  name1      = "admiralty mile",
  symbol     = "nmi&nbsp;(admiralty)",
  utype      = "length",
  scale      = 1853.184,
  default    = "km mi",
  link       = "Nautical mile",
},
["AU"] = {
  name1      = "astronomical unit",
  symbol     = "AU",
  utype      = "length",
  scale      = 149597870700,
  default    = "km mi",
},
["Brnmi"] = {
  name1      = "British nautical mile",
  symbol     = "(Brit)&nbsp;nmi",
  utype      = "length",
  scale      = 1853.184,
  default    = "km mi",
  link       = "Nautical mile",
},
["bu"] = {
  name2      = "bu",
  symbol     = "bu",
  username   = 1,
  utype      = "length",
  scale      = 0.0030303030303030303,
  default    = "mm",
  link       = "Japanese units of measurement#Length",
},
["ch"] = {
  name1      = "chain",
  symbol     = "ch",
  utype      = "length",
  scale      = 20.1168,
  default    = "ft m",
  subdivs    = { ["ft"] = { 66, default = "m" }, ["yd"] = { 22, default = "m" } },
  link       = "Chain (unit)",
},
["chlk"] = {
  name1      = "[[Chain (unit)|chain]]",
  symbol     = "[[Chain (unit)|ch]]",
  utype      = "length",
  scale      = 20.1168,
  default    = "ft m",
  link       = "",
},
["chain"] = {
  symbol     = "chain",
  username   = 1,
}
```

```
    utype    = "length",
    scale    = 20.1168,
    default  = "ft m",
    subdivs  = { ["ft"] = { 66, default = "m" }, ["yd"] = { 22, default = "m" } },
    link     = "Chain (unit)",
},
["chainlk"] = {
    symbol    = "[[Chain (unit)|chain]]",
    username  = 1,
    utype    = "length",
    scale    = 20.1168,
    default  = "ft m",
    link     = "",
},
["dpcm"] = {
    name2    = "dot/cm",
    symbol    = "dot/cm",
    utype    = "length",
    scale    = 100,
    invert    = -1,
    iscomplex= true,
    default  = "dpi",
    link     = "Dots per inch",
},
["dpi"] = {
    name2    = "DPI",
    symbol    = "DPI",
    utype    = "length",
    scale    = 39.370078740157481,
    invert    = -1,
    iscomplex= true,
    default  = "pitch",
    link     = "Dots per inch",
},
["fathom"] = {
    symbol    = "fathom",
    username  = 1,
    utype    = "length",
    scale    = 1.8288,
    default  = "ft m",
},
["foot"] = {
    name1    = "foot",
    name2    = "foot",
    symbol    = "ft",
    utype    = "length",
    scale    = 0.3048,
    default  = "m",
    subdivs  = { ["in"] = { 12, default = "m" } },
    link     = "Foot (unit)",
},
["ft"] = {
    name1    = "foot",
    name2    = "feet",
    symbol    = "ft",
    utype    = "length",
    scale    = 0.3048,
    exception= "integer_more_precision",
    default  = "m",
    subdivs  = { ["in"] = { 12, default = "m" } },
    link     = "Foot (unit)",
},
["furlong"] = {
    symbol    = "furlong",
```

```
        username = 1,
        utype     = "length",
        scale     = 201.168,
        default   = "ft m",
    },
    ["Gly"] = {
        name1     = "gigalight-year",
        symbol    = "Gly",
        utype     = "length",
        scale     = 9.4607304725808e24,
        default   = "Mpc",
        link      = "Light-year#Definitions",
    },
    ["Gpc"] = {
        name1     = "gigaparsec",
        symbol    = "Gpc",
        utype     = "length",
        scale     = 3.0856775814671916e25,
        default   = "Gly",
        link      = "Parsec#Megaparsecs and gigaparsecs",
    },
    ["hand"] = {
        name1     = "hand",
        symbol    = "h",
        utype     = "length",
        builtin   = "hand",
        scale     = 0.1016,
        iscomplex = true,
        default   = "in cm",
        link      = "Hand (unit)",
    },
    ["in"] = {
        name1     = "inch",
        name2     = "inches",
        symbol    = "in",
        utype     = "length",
        scale     = 0.0254,
        exception = "subunit_more_precision",
        default   = "mm",
    },
    ["inabbreviated"] = {
        name2     = "in",
        symbol    = "in",
        utype     = "length",
        scale     = 0.0254,
        default   = "mm",
        link      = "Inch",
    },
    ["kly"] = {
        name1     = "kilolight-year",
        symbol    = "kly",
        utype     = "length",
        scale     = 9.4607304725808e18,
        default   = "pc",
        link      = "Light-year#Definitions",
    },
    ["kpc"] = {
        name1     = "kiloparsec",
        symbol    = "kpc",
        utype     = "length",
        scale     = 3.0856775814671916e19,
        default   = "kly",
        link      = "Parsec#Parsecs and kiloparsecs",
    },
},
```

```
["LD"] = {
  name1      = "lunar distance",
  symbol     = "LD",
  utype      = "length",
  scale      = 384403000,
  default    = "km mi",
  link       = "Lunar distance (astronomy)",
},
["league"] = {
  symbol     = "league",
  username   = 1,
  utype      = "length",
  scale      = 4828.032,
  default    = "km",
  link       = "League (unit)",
},
["ly"] = {
  name1      = "light-year",
  symbol     = "ly",
  utype      = "length",
  scale      = 9.4607304725808e15,
  default    = "AU",
},
["m"] = {
  _name1     = "metre",
  _name1_us  = "meter",
  _symbol    = "m",
  utype      = "length",
  scale      = 1,
  prefixes   = 1,
  default    = "v > 0 and v < 3 ! ftin ! ft",
  link       = "Metre",
},
["mi"] = {
  name1      = "mile",
  symbol     = "mi",
  utype      = "length",
  scale      = 1609.344,
  default    = "km",
  subdivs    = { ["ch"] = { 80, default = "km" }, ["chlk"] = { 80, default =
},
["mil"] = {
  symbol     = "mil",
  username   = 1,
  utype      = "length",
  scale      = 0.0000254,
  default    = "mm",
  link       = "Thousandth of an inch",
},
["Mly"] = {
  name1      = "megalight-year",
  symbol     = "Mly",
  utype      = "length",
  scale      = 9.4607304725808e21,
  default    = "kpc",
  link       = "Light-year#Definitions",
},
["Mpc"] = {
  name1      = "megaparsec",
  symbol     = "Mpc",
  utype      = "length",
  scale      = 3.0856775814671916e22,
  default    = "Mly",
  link       = "Parsec#Megaparsecs and gigaparsecs",
```

```
},
["NM"] = {
    name1    = "nautical mile",
    symbol   = "NM",
    utype    = "length",
    scale    = 1852,
    default  = "km mi",
},
["nmi"] = {
    name1    = "nautical mile",
    symbol   = "nmi",
    utype    = "length",
    scale    = 1852,
    default  = "km mi",
},
["oldUKnmi"] = {
    name1    = "nautical mile",
    symbol   = "nmi",
    utype    = "length",
    scale    = 1853.184,
    default  = "km mi",
},
["oldUSnmi"] = {
    name1    = "nautical mile",
    symbol   = "nmi",
    utype    = "length",
    scale    = 1853.24496,
    default  = "km mi",
},
["pc"] = {
    name1    = "parsec",
    symbol   = "pc",
    utype    = "length",
    scale    = 3.0856775814671916e16,
    default  = "ly",
},
["perch"] = {
    name2    = "perches",
    symbol   = "perch",
    username = 1,
    utype    = "length",
    scale    = 5.0292,
    default  = "ft m",
    link     = "Rod (unit)",
},
["pitch"] = {
    name2    = "µm",
    symbol   = "µm",
    utype    = "length",
    scale    = 1e-6,
    default  = "dpi",
    defkey   = "pitch",
    linkey   = "pitch",
    link     = "Dots per inch",
},
["pole"] = {
    symbol   = "pole",
    username = 1,
    utype    = "length",
    scale    = 5.0292,
    default  = "ft m",
    link     = "Rod (unit)",
},
["pre1954U.S.nmi"] = {
```

```
    name1    = "(pre-1954&nbsp;U.S.) nautical mile",
    symbol   = "(pre&#8209;1954&nbsp;U.S.) nmi",
    utype    = "length",
    scale    = 1853.24496,
    default  = "km mi",
    link     = "Nautical mile",
},
["pre1954USnmi"] = {
    name1    = "(pre-1954&nbsp;US) nautical mile",
    name1_us = "(pre-1954&nbsp;U.S.) nautical mile",
    symbol   = "(pre&#8209;1954&nbsp;US) nmi",
    sym_us   = "(pre&#8209;1954&nbsp;U.S.) nmi",
    utype    = "length",
    scale    = 1853.24496,
    default  = "km mi",
    link     = "Nautical mile",
},
["rd"] = {
    name1    = "rod",
    symbol   = "rd",
    utype    = "length",
    scale    = 5.0292,
    default  = "ft m",
    link     = "Rod (unit)",
},
["royal cubit"] = {
    name1    = "royal cubit",
    symbol   = "cu",
    utype    = "length",
    scale    = 0.524,
    default  = "mm",
},
["rtkm"] = {
    name1    = "route kilometre",
    name1_us = "route kilometer",
    symbol   = "km",
    utype    = "length",
    scale    = 1000,
    default  = "mi",
    link     = "Kilometre",
},
["rtmi"] = {
    name1    = "route mile",
    symbol   = "mi",
    utype    = "length",
    scale    = 1609.344,
    default  = "km",
    link     = "Mile",
},
["shaku"] = {
    name2    = "shaku",
    symbol   = "shaku",
    username = 1,
    utype    = "length",
    scale    = 0.30303030303030304,
    default  = "m",
    link     = "Shaku (unit)",
},
["sm"] = {
    name1    = "smoot",
    symbol   = "sm",
    utype    = "length",
    scale    = 1.70180,
    default  = "m",
}
```

```
    link      = "Smoot (unit)",
  },
  ["smi"] = {
    name1     = "statute mile",
    symbol    = "mi",
    utype     = "length",
    scale     = 1609.344,
    default   = "km",
    subdivs   = { ["chain"] = { 80, default = "km" } },
  },
  ["solar radius"] = {
    name1     = "solar radius",
    name2     = "solar radii",
    symbol    = "'R'<sub>☉</sub>",
    utype     = "length",
    scale     = 695700e3,
    default   = "km",
  },
  ["sun"] = {
    name2     = "sun",
    symbol    = "sun",
    username  = 1,
    utype     = "length",
    scale     = 0.030303030303030304,
    default   = "mm",
    link      = "Japanese units of measurement#Length",
  },
  ["thou"] = {
    name2     = "thou",
    symbol    = "thou",
    username  = 1,
    utype     = "length",
    scale     = 0.0000254,
    default   = "mm",
    link      = "Thousandth of an inch",
  },
  ["verst"] = {
    symbol    = "verst",
    username  = 1,
    utype     = "length",
    scale     = 1066.8,
    default   = "km mi",
  },
  ["yd"] = {
    name1     = "yard",
    symbol    = "yd",
    utype     = "length",
    scale     = 0.9144,
    default   = "m",
    subdivs   = { ["ft"] = { 3, default = "m" } },
  },
  ["μin"] = {
    name1     = "microinch",
    name2     = "microinches",
    symbol    = "μin",
    utype     = "length",
    scale     = 0.0000000254,
    default   = "nm",
    link      = "SI prefix#Non-metric units",
  },
  ["Å"] = {
    name1     = "ångström",
    symbol    = "Å",
    utype     = "length",
```

```
        scale    = 0.0000000001,
        default  = "in",
    },
    ["Hz"] = {
        _name1    = "hertz",
        _name2    = "hertz",
        _symbol   = "Hz",
        utype     = "length",
        scale     = 3.3356409519815204e-9,
        invert    = -1,
        iscomplex= true,
        prefixes  = 1,
        default   = "m",
        link      = "Hertz",
    },
    ["rpm"] = {
        name1     = "revolution per minute",
        name2     = "revolutions per minute",
        symbol    = "rpm",
        utype     = "length",
        scale     = 5.5594015866358675e-11,
        invert    = -1,
        iscomplex= true,
        default   = "Hz",
        link      = "Revolutions per minute",
    },
    ["-ft-frac"] = {
        target    = "ft",
        link      = "Fracture gradient",
    },
    ["-in-stiff"] = {
        target    = "in",
        link      = "Stiffness",
    },
    ["-m-frac"] = {
        target    = "m",
        link      = "Fracture gradient",
    },
    ["-m-stiff"] = {
        target    = "m",
        link      = "Stiffness",
    },
    ["100km"] = {
        target    = "km",
        multiplier= 100,
    },
    ["100mi"] = {
        target    = "mi",
        multiplier= 100,
    },
    ["100miles"] = {
        target    = "mi",
        symbol    = "miles",
        multiplier= 100,
    },
    ["admiralty nmi"] = {
        target    = "oldUKnmi",
    },
    ["angstrom"] = {
        target    = "Å",
    },
    ["au"] = {
        target    = "AU",
        symbol    = "au",
    },
```

```
},
["feet"] = {
    target    = "ft",
},
["hands"] = {
    target    = "hand",
},
["inch"] = {
    target    = "in",
},
["light-year"] = {
    target    = "ly",
},
["meter"] = {
    target    = "m",
    sp_us     = true,
},
["meters"] = {
    target    = "m",
    sp_us     = true,
},
["metre"] = {
    target    = "m",
},
["metres"] = {
    target    = "m",
},
["micrometre"] = {
    target    = "µm",
},
["micron"] = {
    target    = "µm",
    default   = "µin",
},
["mile"] = {
    target    = "mi",
},
["miles"] = {
    target    = "mi",
},
["parsec"] = {
    target    = "pc",
},
["rod"] = {
    target    = "rd",
},
["smoot"] = {
    target    = "sm",
},
["uin"] = {
    target    = "µin",
},
["yard"] = {
    target    = "yd",
},
["yards"] = {
    target    = "yd",
},
["yds"] = {
    target    = "yd",
},
["dtex"] = {
    name1     = "decitex",
    name2     = "decitex",
}
```

```
    symbol = "dtex",
    utype  = "linear density",
    scale  = 1e-7,
    default = "lb/yd",
    link   = "Units of textile measurement#Units",
},
["kg/cm"] = {
    name1 = "kilogram per centimetre",
    name1_us = "kilogram per centimeter",
    name2 = "kilograms per centimetre",
    name2_us = "kilograms per centimeter",
    symbol = "kg/cm",
    utype  = "linear density",
    scale  = 100,
    default = "lb/yd",
    link   = "Linear density",
},
["kg/m"] = {
    name1 = "kilogram per metre",
    name1_us = "kilogram per meter",
    name2 = "kilograms per metre",
    name2_us = "kilograms per meter",
    symbol = "kg/m",
    utype  = "linear density",
    scale  = 1,
    default = "lb/yd",
    link   = "Linear density",
},
["lb/ft"] = {
    name1 = "pound per foot",
    name2 = "pounds per foot",
    symbol = "lb/ft",
    utype  = "linear density",
    scale  = 1.4881639435695539,
    default = "kg/m",
    link   = "Linear density",
},
["lb/yd"] = {
    name1 = "pound per yard",
    name2 = "pounds per yard",
    symbol = "lb/yd",
    utype  = "linear density",
    scale  = 0.49605464785651798,
    default = "kg/m",
    link   = "Linear density",
},
["G"] = {
    _name1 = "gauss",
    _name2 = "gauss",
    _symbol = "G",
    utype  = "magnetic field strength",
    scale  = 0.0001,
    prefixes = 1,
    default = "T",
    link   = "Gauss (unit)",
},
["T"] = {
    _name1 = "tesla",
    _symbol = "T",
    utype  = "magnetic field strength",
    scale  = 1,
    prefixes = 1,
    default = "G",
    link   = "Tesla (unit)",
}
```

```
},
["A/m"] = {
  name1      = "ampere per metre",
  name1_us   = "ampere per meter",
  name2      = "amperes per metre",
  name2_us   = "amperes per meter",
  symbol     = "A/m",
  utype      = "magnetizing field",
  scale      = 1,
  default    = "0e",
},
["kA/m"] = {
  name1      = "kiloampere per metre",
  name1_us   = "kiloampere per meter",
  name2      = "kiloamperes per metre",
  name2_us   = "kiloamperes per meter",
  symbol     = "kA/m",
  utype      = "magnetizing field",
  scale      = 1000,
  default    = "k0e",
  link       = "Ampere per metre",
},
["MA/m"] = {
  name1      = "megaampere per metre",
  name1_us   = "megaampere per meter",
  name2      = "megaamperes per metre",
  name2_us   = "megaamperes per meter",
  symbol     = "MA/m",
  utype      = "magnetizing field",
  scale      = 1e6,
  default    = "k0e",
  link       = "Ampere per metre",
},
["0e"] = {
  _name1     = "oersted",
  _symbol    = "0e",
  utype      = "magnetizing field",
  scale      = 79.5774715,
  prefixes   = 1,
  default    = "kA/m",
  link       = "0ersted",
},
["-Lcwt"] = {
  name1      = "hundredweight",
  name2      = "hundredweight",
  symbol     = "cwt",
  utype      = "mass",
  scale      = 50.80234544,
  default    = "lb",
},
["-Scwt"] = {
  name1      = "hundredweight",
  name2      = "hundredweight",
  symbol     = "cwt",
  utype      = "mass",
  scale      = 45.359237,
  default    = "lb",
},
["-ST"] = {
  name1      = "short ton",
  symbol     = "ST",
  utype      = "mass",
  scale      = 907.18474,
  default    = "t",
}
```

```
},
["carat"] = {
  symbol = "carat",
  username = 1,
  utype = "mass",
  scale = 0.0002,
  default = "g",
  link = "Carat (mass)",
},
["drachm"] = {
  name1_us = "dram",
  symbol = "drachm",
  username = 1,
  utype = "mass",
  scale = 0.001771845195,
  default = "g",
  link = "Dram (unit)",
},
["dram"] = {
  target = "drachm",
},
["dwt"] = {
  name1 = "pennyweight",
  symbol = "dwt",
  utype = "mass",
  scale = 0.00155517384,
  default = "oz g",
},
["DWton"] = {
  symbol = "deadweight ton",
  username = 1,
  utype = "mass",
  scale = 1016.0469088,
  default = "DWtonne",
  link = "Deadweight tonnage",
},
["DWtonne"] = {
  symbol = "deadweight tonne",
  username = 1,
  utype = "mass",
  scale = 1000,
  default = "DWton",
  link = "Deadweight tonnage",
},
["g"] = {
  _name1 = "gram",
  _symbol = "g",
  _utype = "mass",
  scale = 0.001,
  prefixes = 1,
  default = "oz",
  link = "Gram",
},
["gr"] = {
  name1 = "grain",
  symbol = "gr",
  utype = "mass",
  scale = 0.00006479891,
  default = "g",
  link = "Grain (unit)",
},
["Gt"] = {
  name1 = "gigatonne",
  symbol = "Gt",
}
```

```
        utype      = "mass",
        scale      = 1000000000000,
        default    = "LT ST",
        link       = "Tonne",
    },
    ["impgalh2o"] = {
        name1      = "imperial gallon of water",
        name2      = "imperial gallons of water",
        symbol     = "imp&nbsp;gal H<sub>2</sub>0",
        utype      = "mass",
        scale      = 4.5359236999999499,
        default    = "lb kg",
        link       = "Imperial gallon",
    },
    ["kt"] = {
        name1      = "kilotonne",
        symbol     = "kt",
        utype      = "mass",
        scale      = 1000000,
        default    = "LT ST",
        link       = "Tonne",
    },
    ["lb"] = {
        name1      = "pound",
        symbol     = "lb",
        utype      = "mass",
        scale      = 0.45359237,
        exception  = "integer_more_precision",
        default    = "kg",
        subdivs   = { ["oz"] = { 16, default = "kg" } },
        link       = "Pound (mass)",
    },
    ["Lcwt"] = {
        name1      = "long hundredweight",
        name2      = "long hundredweight",
        symbol     = "Lcwt",
        username   = 1,
        utype      = "mass",
        scale      = 50.80234544,
        default    = "lb",
        subdivs   = { ["qtr"] = { 4, default = "kg" }, ["st"] = { 8, default = "kg" } },
        link       = "Hundredweight",
    },
    ["long cwt"] = {
        name1      = "long hundredweight",
        name2      = "long hundredweight",
        symbol     = "long&nbsp;cwt",
        utype      = "mass",
        scale      = 50.80234544,
        default    = "lb kg",
        subdivs   = { ["qtr"] = { 4, default = "kg" } },
        link       = "Hundredweight",
    },
    ["long qtr"] = {
        name1      = "long quarter",
        symbol     = "long&nbsp;qtr",
        utype      = "mass",
        scale      = 12.70058636,
        default    = "lb kg",
    },
    ["LT"] = {
        symbol     = "long ton",
        username   = 1,
        utype      = "mass",
    },
```

```
        scale      = 1016.0469088,
        default    = "t",
        subdivs    = { ["Lcwt"] = { 20, default = "t", unit = "-Lcwt" } },
    },
    ["lt"] = {
        name1      = "long ton",
        symbol     = "LT",
        utype      = "mass",
        scale      = 1016.0469088,
        default    = "t",
        subdivs    = { ["Lcwt"] = { 20, default = "t", unit = "-Lcwt" } },
    },
    ["metric ton"] = {
        symbol     = "metric ton",
        username   = 1,
        utype      = "mass",
        scale      = 1000,
        default    = "long ton",
        link       = "Tonne",
    },
    ["MT"] = {
        name1      = "metric ton",
        symbol     = "t",
        utype      = "mass",
        scale      = 1000,
        default    = "LT ST",
        link       = "Tonne",
    },
    ["Mt"] = {
        name1      = "megatonne",
        symbol     = "Mt",
        utype      = "mass",
        scale      = 1000000000,
        default    = "LT ST",
        link       = "Tonne",
    },
    },
    ["oz"] = {
        name1      = "ounce",
        symbol     = "oz",
        utype      = "mass",
        scale      = 0.028349523125,
        default    = "g",
    },
    },
    ["ozt"] = {
        name1      = "troy ounce",
        symbol     = "ozt",
        utype      = "mass",
        scale      = 0.0311034768,
        default    = "oz g",
    },
    },
    ["pdr"] = {
        name1      = "pounder",
        symbol     = "pdr",
        utype      = "mass",
        scale      = 0.45359237,
        default    = "kg",
        link       = "Pound (mass)",
    },
    },
    ["qtr"] = {
        name1      = "quarter",
        symbol     = "qtr",
        utype      = "mass",
        scale      = 12.70058636,
        default    = "lb kg",
    },
    },
```

```
        subdivs = { ["lb"] = { 28, default = "kg" } },
        link    = "Long quarter",
    },
    ["Scwt"] = {
        name1    = "short hundredweight",
        name2    = "short hundredweight",
        symbol   = "Scwt",
        username = 1,
        utype    = "mass",
        scale    = 45.359237,
        default  = "lb",
        link     = "Hundredweight",
    },
    ["short cwt"] = {
        name1    = "short hundredweight",
        name2    = "short hundredweight",
        symbol   = "short&nbsp;cwt",
        utype    = "mass",
        scale    = 45.359237,
        default  = "lb kg",
        link     = "Hundredweight",
    },
    ["short qtr"] = {
        name1    = "short quarter",
        symbol   = "short&nbsp;qtr",
        utype    = "mass",
        scale    = 11.33980925,
        default  = "lb kg",
    },
    ["ST"] = {
        symbol   = "short ton",
        username = 1,
        utype    = "mass",
        scale    = 907.18474,
        default  = "t",
        subdivs = { ["Scwt"] = { 20, default = "t", unit = "-Scwt" } },
    },
    ["shtn"] = {
        name1    = "short ton",
        symbol   = "sh&nbsp;tn",
        utype    = "mass",
        scale    = 907.18474,
        default  = "t",
    },
    ["shton"] = {
        symbol   = "ton",
        username = 1,
        utype    = "mass",
        scale    = 907.18474,
        default  = "t",
    },
    ["solar mass"] = {
        name1    = "solar mass",
        name2    = "solar masses",
        symbol   = "'M'☉",
        utype    = "mass",
        scale    = 1.98855e30,
        default  = "kg",
    },
    ["st"] = {
        name1    = "stone",
        name2    = "stone",
        symbol   = "st",
        utype    = "mass",
    },
```

```
    scale    = 6.35029318,
    default  = "lb kg",
    subdivs  = { ["lb"] = { 14, default = "kg lb" } },
    link     = "Stone (unit)",
},
["t"] = {
    name1     = "tonne",
    name1_us  = "metric ton",
    symbol    = "t",
    utype     = "mass",
    scale     = 1000,
    default   = "LT ST",
},
["tonne"] = {
    name1     = "tonne",
    name1_us  = "metric ton",
    symbol    = "t",
    utype     = "mass",
    scale     = 1000,
    default   = "shton",
},
["troy pound"] = {
    symbol    = "troy pound",
    username  = 1,
    utype     = "mass",
    scale     = 0.3732417216,
    default   = "lb kg",
    link     = "Troy weight",
},
["usgalh2o"] = {
    name1     = "US gallon of water",
    name1_us  = "U.S. gallon of water",
    name2     = "US gallons of water",
    name2_us  = "U.S. gallons of water",
    symbol    = "US&nbsp;gal H<sub>2</sub>",
    utype     = "mass",
    scale     = 3.7776215836051126,
    default   = "lb kg",
    link     = "United States customary units#Fluid volume",
},
["viss"] = {
    name2     = "viss",
    symbol    = "viss",
    utype     = "mass",
    scale     = 1.632932532,
    default   = "kg",
    link     = "Myanmar units of measurement#Mass",
},
["billion tonne"] = {
    target    = "e9t",
},
["kilogram"] = {
    target    = "kg",
},
["kilotonne"] = {
    target    = "kt",
},
["lbs"] = {
    target    = "lb",
},
["lbt"] = {
    target    = "troy pound",
},
["lcwt"] = {
```

```
    target    = "Lcwt",
  },
  ["long ton"] = {
    target    = "LT",
  },
  ["mcg"] = {
    target    = "µg",
  },
  ["million tonne"] = {
    target    = "e6t",
  },
  ["scwt"] = {
    target    = "Scwt",
  },
  ["short ton"] = {
    target    = "ST",
  },
  ["stone"] = {
    target    = "st",
  },
  ["thousand tonne"] = {
    target    = "e3t",
  },
  ["tonnes"] = {
    target    = "t",
  },
  ["kg/kW"] = {
    name1     = "kilogram per kilowatt",
    name2     = "kilograms per kilowatt",
    symbol    = "kg/kW",
    utype     = "mass per unit power",
    scale     = 0.001,
    default   = "lb/hp",
    link      = "Kilowatt",
  },
  ["lb/hp"] = {
    name1     = "pound per horsepower",
    name2     = "pounds per horsepower",
    symbol    = "lb/hp",
    utype     = "mass per unit power",
    scale     = 0.00060827738784176115,
    default   = "kg/kW",
    link      = "Horsepower",
  },
  ["kg/h"] = {
    per       = { "kg", "h" },
    utype     = "mass per unit time",
    default   = "lb/h",
  },
  ["lb/h"] = {
    per       = { "lb", "h" },
    utype     = "mass per unit time",
    default   = "kg/h",
  },
  ["g-mol/d"] = {
    name1     = "gram-mole per day",
    name2     = "gram-moles per day",
    symbol    = "g&#8209;mol/d",
    utype     = "molar rate",
    scale     = 1.1574074074074073e-5,
    default   = "µmol/s",
    link      = "Mole (unit)",
  },
  ["g-mol/h"] = {
```

```
    name1    = "gram-mole per hour",
    name2    = "gram-moles per hour",
    symbol   = "g&#8209;mol/h",
    utype    = "molar rate",
    scale    = 0.00027777777777777778,
    default  = "mmol/s",
    link     = "Mole (unit)",
},
["g-mol/min"] = {
    name1    = "gram-mole per minute",
    name2    = "gram-moles per minute",
    symbol   = "g&#8209;mol/min",
    utype    = "molar rate",
    scale    = 0.016666666666666666,
    default  = "g-mol/s",
    link     = "Mole (unit)",
},
["g-mol/s"] = {
    name1    = "gram-mole per second",
    name2    = "gram-moles per second",
    symbol   = "g&#8209;mol/s",
    utype    = "molar rate",
    scale    = 1,
    default  = "lb-mol/min",
    link     = "Mole (unit)",
},
["gmol/d"] = {
    name1    = "gram-mole per day",
    name2    = "gram-moles per day",
    symbol   = "gmol/d",
    utype    = "molar rate",
    scale    = 1.1574074074074073e-5,
    default  = "µmol/s",
    link     = "Mole (unit)",
},
["gmol/h"] = {
    name1    = "gram-mole per hour",
    name2    = "gram-moles per hour",
    symbol   = "gmol/h",
    utype    = "molar rate",
    scale    = 0.00027777777777777778,
    default  = "mmol/s",
    link     = "Mole (unit)",
},
["gmol/min"] = {
    name1    = "gram-mole per minute",
    name2    = "gram-moles per minute",
    symbol   = "gmol/min",
    utype    = "molar rate",
    scale    = 0.016666666666666666,
    default  = "gmol/s",
    link     = "Mole (unit)",
},
["gmol/s"] = {
    name1    = "gram-mole per second",
    name2    = "gram-moles per second",
    symbol   = "gmol/s",
    utype    = "molar rate",
    scale    = 1,
    default  = "lbmol/min",
    link     = "Mole (unit)",
},
["kmol/d"] = {
    name1    = "kilomole per day",
```

```
        name2    = "kilomoles per day",
        symbol   = "kmol/d",
        utype    = "molar rate",
        scale    = 0.011574074074074073,
        default  = "mmol/s",
        link     = "Mole (unit)",
    },
    ["kmol/h"] = {
        name1    = "kilomole per hour",
        name2    = "kilomoles per hour",
        symbol   = "kmol/h",
        utype    = "molar rate",
        scale    = 0.27777777777777779,
        default  = "mol/s",
        link     = "Mole (unit)",
    },
    ["kmol/min"] = {
        name1    = "kilomole per minute",
        name2    = "kilomoles per minute",
        symbol   = "kmol/min",
        utype    = "molar rate",
        scale    = 16.666666666666668,
        default  = "mol/s",
        link     = "Kilomole (unit)",
    },
    ["kmol/s"] = {
        name1    = "kilomole per second",
        name2    = "kilomoles per second",
        symbol   = "kmol/s",
        utype    = "molar rate",
        scale    = 1000,
        default  = "lb-mol/s",
        link     = "Mole (unit)",
    },
    ["lb-mol/d"] = {
        name1    = "pound-mole per day",
        name2    = "pound-moles per day",
        symbol   = "lb#8209;mol/d",
        utype    = "molar rate",
        scale    = 0.0052499116898148141,
        default  = "mmol/s",
        link     = "Pound-mole",
    },
    ["lb-mol/h"] = {
        name1    = "pound-mole per hour",
        name2    = "pound-moles per hour",
        symbol   = "lb#8209;mol/h",
        utype    = "molar rate",
        scale    = 0.12599788055555555,
        default  = "mol/s",
        link     = "Pound-mole",
    },
    ["lb-mol/min"] = {
        name1    = "pound-mole per minute",
        name2    = "pound-moles per minute",
        symbol   = "lb#8209;mol/min",
        utype    = "molar rate",
        scale    = 7.55987283333333334,
        default  = "mol/s",
        link     = "Pound-mole",
    },
    ["lb-mol/s"] = {
        name1    = "pound-mole per second",
        name2    = "pound-moles per second",
```

```
    symbol = "lb&#8209;mol/s",
    utype  = "molar rate",
    scale  = 453.59237,
    default = "kmol/s",
    link   = "Pound-mole",
},
["lbmol/d"] = {
    name1 = "pound-mole per day",
    name2 = "pound-moles per day",
    symbol = "lbmol/d",
    utype  = "molar rate",
    scale  = 0.0052499116898148141,
    default = "mmol/s",
    link   = "Pound-mole",
},
["lbmol/h"] = {
    name1 = "pound-mole per hour",
    name2 = "pound-moles per hour",
    symbol = "lbmol/h",
    utype  = "molar rate",
    scale  = 0.12599788055555555,
    default = "mol/s",
    link   = "Pound-mole",
},
["lbmol/min"] = {
    name1 = "pound-mole per minute",
    name2 = "pound-moles per minute",
    symbol = "lbmol/min",
    utype  = "molar rate",
    scale  = 7.55987283333333334,
    default = "mol/s",
    link   = "Pound-mole",
},
["lbmol/s"] = {
    name1 = "pound-mole per second",
    name2 = "pound-moles per second",
    symbol = "lbmol/s",
    utype  = "molar rate",
    scale  = 453.59237,
    default = "kmol/s",
    link   = "Pound-mole",
},
["mmol/s"] = {
    name1 = "millimole per second",
    name2 = "millimoles per second",
    symbol = "mmol/s",
    utype  = "molar rate",
    scale  = 0.001,
    default = "lb-mol/d",
    link   = "Mole (unit)",
},
["mol/d"] = {
    name1 = "mole per day",
    name2 = "moles per day",
    symbol = "mol/d",
    utype  = "molar rate",
    scale  = 1.1574074074074073e-5,
    default = "µmol/s",
    link   = "Mole (unit)",
},
["mol/h"] = {
    name1 = "mole per hour",
    name2 = "moles per hour",
    symbol = "mol/h",
```

```
        utype      = "molar rate",
        scale      = 0.00027777777777777778,
        default    = "mmol/s",
        link       = "Mole (unit)",
    },
    ["mol/min"] = {
        name1      = "mole per minute",
        name2      = "moles per minute",
        symbol     = "mol/min",
        utype      = "molar rate",
        scale      = 0.016666666666666666,
        default    = "mol/s",
        link       = "Mole (unit)",
    },
    ["mol/s"] = {
        name1      = "mole per second",
        name2      = "moles per second",
        symbol     = "mol/s",
        utype      = "molar rate",
        scale      = 1,
        default    = "lb-mol/min",
        link       = "Mole (unit)",
    },
    ["µmol/s"] = {
        name1      = "micromole per second",
        name2      = "micromoles per second",
        symbol     = "µmol/s",
        utype      = "molar rate",
        scale      = 0.000001,
        default    = "lb-mol/d",
        link       = "Mole (unit)",
    },
    ["umol/s"] = {
        target     = "µmol/s",
    },
    ["/acre"] = {
        name1      = "per acre",
        name2      = "per acre",
        symbol     = "/acre",
        utype      = "per unit area",
        scale      = 0.00024710538146716532,
        default    = "/ha",
        link       = "Acre",
    },
    ["/ha"] = {
        name1      = "per hectare",
        name2      = "per hectare",
        symbol     = "/ha",
        utype      = "per unit area",
        scale      = 100e-6,
        default    = "/acre",
        link       = "Hectare",
    },
    ["/sqcm"] = {
        name1      = "per square centimetre",
        name1_us   = "per square centimeter",
        name2      = "per square centimetre",
        name2_us   = "per square centimeter",
        symbol     = "/cm<sup>2</sup>",
        utype      = "per unit area",
        scale      = 1e4,
        default    = "/sqin",
        link       = "Square centimetre",
    },
},
```

```
["/sqin"] = {
  name1    = "per square inch",
  name2    = "per square inch",
  symbol   = "/in<sup>2</sup>",
  utype    = "per unit area",
  scale    = 1550.0031000062002,
  default  = "/sqcm",
  link     = "Square inch",
},
["/sqkm"] = {
  name1    = "per square kilometre",
  name1_us = "per square kilometer",
  name2    = "per square kilometre",
  name2_us = "per square kilometer",
  symbol   = "/km<sup>2</sup>",
  utype    = "per unit area",
  scale    = 1e-6,
  default  = "/sqmi",
  link     = "Square kilometre",
},
["/sqmi"] = {
  name1    = "per square mile",
  name2    = "per square mile",
  symbol   = "/sq&nbsp;mi",
  utype    = "per unit area",
  scale    = 3.8610215854244582e-7,
  default  = "/sqkm",
  link     = "Square mile",
},
["PD/acre"] = {
  name1    = "inhabitant per acre",
  name2    = "inhabitants per acre",
  symbol   = "/acre",
  utype    = "per unit area",
  scale    = 0.00024710538146716532,
  default  = "PD/ha",
  link     = "Acre",
},
["PD/ha"] = {
  name1    = "inhabitant per hectare",
  name2    = "inhabitants per hectare",
  symbol   = "/ha",
  utype    = "per unit area",
  scale    = 100e-6,
  default  = "PD/acre",
  link     = "Hectare",
},
["PD/sqkm"] = {
  name1    = "inhabitant per square kilometre",
  name1_us = "inhabitant per square kilometer",
  name2    = "inhabitants per square kilometre",
  name2_us = "inhabitants per square kilometer",
  symbol   = "/km<sup>2</sup>",
  utype    = "per unit area",
  scale    = 1e-6,
  default  = "PD/sqmi",
  link     = "Square kilometre",
},
["PD/sqmi"] = {
  name1    = "inhabitant per square mile",
  name2    = "inhabitants per square mile",
  symbol   = "/sq&nbsp;mi",
  utype    = "per unit area",
  scale    = 3.8610215854244582e-7,
```

```
        default = "PD/sqkm",
        link     = "Square mile",
    },
    ["/cm2"] = {
        target = "/sqcm",
    },
    ["/in2"] = {
        target = "/sqin",
    },
    ["/km2"] = {
        target = "/sqkm",
    },
    ["pd/acre"] = {
        target = "PD/acre",
    },
    ["pd/ha"] = {
        target = "PD/ha",
    },
    ["PD/km2"] = {
        target = "PD/sqkm",
    },
    ["pd/km2"] = {
        target = "PD/sqkm",
    },
    ["PD/km2"] = {
        target = "PD/sqkm",
    },
    ["pd/sqkm"] = {
        target = "PD/sqkm",
    },
    ["pd/sqmi"] = {
        target = "PD/sqmi",
    },
    ["/l"] = {
        name1     = "per litre",
        name1_us  = "per liter",
        name2     = "per litre",
        name2_us  = "per liter",
        symbol    = "/l",
        utype     = "per unit volume",
        scale     = 1000,
        default   = "/usgal",
        link      = "Litre",
    },
    ["/USgal"] = {
        name1     = "per gallon",
        name2     = "per gallon",
        symbol    = "/gal",
        utype     = "per unit volume",
        scale     = 264.172052,
        default   = "/l",
        link      = "US gallon",
        customary= 2,
    },
    ["/usgal"] = {
        target = "/USgal",
    },
    ["bhp"] = {
        name1     = "brake horsepower",
        name2     = "brake horsepower",
        symbol    = "bhp",
        utype     = "power",
        scale     = 745.69987158227022,
        default   = "kW",
    },
```

```
    link      = "Horsepower#Brake horsepower",
  },
  ["Cal/d"] = {
    name1     = "large calorie per day",
    name2     = "large calories per day",
    symbol    = "Cal/d",
    utype     = "power",
    scale     = 0.048425925925925928,
    default   = "kJ/d",
    link      = "Calorie",
  },
  ["Cal/h"] = {
    name1     = "large calorie per hour",
    name2     = "large calories per hour",
    symbol    = "Cal/h",
    utype     = "power",
    scale     = 1.1622222222222223,
    default   = "kJ/h",
    link      = "Calorie",
  },
  ["cal/h"] = {
    name1     = "calorie per hour",
    name2     = "calories per hour",
    symbol    = "cal/h",
    utype     = "power",
    scale     = 0.0011622222222222223,
    default   = "W",
    link      = "Calorie",
  },
  ["CV"] = {
    name1     = "metric horsepower",
    name2     = "metric horsepower",
    symbol    = "CV",
    utype     = "power",
    scale     = 735.49875,
    default   = "kW",
  },
  ["hk"] = {
    name1     = "metric horsepower",
    name2     = "metric horsepower",
    symbol    = "hk",
    utype     = "power",
    scale     = 735.49875,
    default   = "kW",
  },
  ["hp"] = {
    name1     = "horsepower",
    name2     = "horsepower",
    symbol    = "hp",
    utype     = "power",
    scale     = 745.69987158227022,
    default   = "kW",
  },
  ["hp-electric"] = {
    name1     = "electric horsepower",
    name2     = "electric horsepower",
    symbol    = "hp",
    utype     = "power",
    scale     = 746,
    default   = "kW",
    link      = "Horsepower#Electrical horsepower",
  },
  ["hp-electrical"] = {
    name1     = "electrical horsepower",
```

```
        name2    = "electrical horsepower",
        symbol   = "hp",
        utype    = "power",
        scale    = 746,
        default  = "kW",
        link     = "Horsepower#Electrical horsepower",
    },
    ["hp-metric"] = {
        name1    = "metric horsepower",
        name2    = "metric horsepower",
        symbol   = "hp",
        utype    = "power",
        scale    = 735.49875,
        default  = "kW",
    },
    ["ihp"] = {
        name1    = "indicated horsepower",
        name2    = "indicated horsepower",
        symbol   = "ihp",
        utype    = "power",
        scale    = 745.69987158227022,
        default  = "kW",
        link     = "Horsepower#Indicated horsepower",
    },
    ["kcal/h"] = {
        name1    = "kilocalorie per hour",
        name2    = "kilocalories per hour",
        symbol   = "kcal/h",
        utype    = "power",
        scale    = 1.1622222222222223,
        default  = "kW",
        link     = "Calorie",
    },
    ["kJ/d"] = {
        name1    = "kilojoule per day",
        name2    = "kilojoules per day",
        symbol   = "kJ/d",
        utype    = "power",
        scale    = 0.011574074074074073,
        default  = "Cal/d",
        link     = "Kilojoule",
    },
    ["kJ/h"] = {
        name1    = "kilojoule per hour",
        name2    = "kilojoules per hour",
        symbol   = "kJ/h",
        utype    = "power",
        scale    = 0.27777777777777779,
        default  = "W",
        link     = "Kilojoule",
    },
    ["PS"] = {
        name1    = "metric horsepower",
        name2    = "metric horsepower",
        symbol   = "PS",
        utype    = "power",
        scale    = 735.49875,
        default  = "kW",
    },
    ["shp"] = {
        name1    = "shaft horsepower",
        name2    = "shaft horsepower",
        symbol   = "shp",
        utype    = "power",
    },
```

```
        scale    = 745.69987158227022,  
        default  = "kW",  
        link     = "Horsepower#Shaft horsepower",  
    },  
    ["W"] = {  
        _name1    = "watt",  
        _symbol   = "W",  
        utype     = "power",  
        scale     = 1,  
        prefixes  = 1,  
        default   = "hp",  
        link      = "Watt",  
    },  
    ["BTU/h"] = {  
        per       = { "BTU", "h" },  
        utype     = "power",  
        default   = "W",  
    },  
    ["Btu/h"] = {  
        per       = { "Btu", "h" },  
        utype     = "power",  
        default   = "W",  
    },  
    ["BHP"] = {  
        target    = "bhp",  
    },  
    ["btu/h"] = {  
        target    = "BTU/h",  
    },  
    ["HP"] = {  
        target    = "hp",  
    },  
    ["Hp"] = {  
        target    = "hp",  
    },  
    ["hp-mechanical"] = {  
        target    = "hp",  
    },  
    ["IHP"] = {  
        target    = "ihp",  
    },  
    ["SHP"] = {  
        target    = "shp",  
    },  
    ["whp"] = {  
        target    = "hp",  
    },  
    ["hp/lb"] = {  
        name1     = "horsepower per pound",  
        name2     = "horsepower per pound",  
        symbol    = "hp/lb",  
        utype     = "power per unit mass",  
        scale     = 1643.986806,  
        default   = "kW/kg",  
        link      = "Power-to-weight ratio",  
    },  
    ["hp/LT"] = {  
        name1     = "horsepower per long ton",  
        name2     = "horsepower per long ton",  
        symbol    = "hp/LT",  
        utype     = "power per unit mass",  
        scale     = 0.73392268125000004,  
        default   = "kW/t",  
        link      = "Power-to-weight ratio",  
    },
```

```
},
["hp/ST"] = {
  name1 = "horsepower per short ton",
  name2 = "horsepower per short ton",
  symbol = "hp/ST",
  utype = "power per unit mass",
  scale = 0.821993403,
  default = "kW/t",
  link = "Power-to-weight ratio",
},
["hp/t"] = {
  name1 = "horsepower per tonne",
  name2 = "horsepower per tonne",
  symbol = "hp/t",
  utype = "power per unit mass",
  scale = 0.74569987158227022,
  default = "kW/t",
  link = "Power-to-weight ratio",
},
["kW/kg"] = {
  name1 = "kilowatt per kilogram",
  name2 = "kilowatts per kilogram",
  symbol = "kW/kg",
  utype = "power per unit mass",
  scale = 1000,
  default = "hp/lb",
  link = "Power-to-weight ratio",
},
["kW/t"] = {
  name1 = "kilowatt per tonne",
  name2 = "kilowatts per tonne",
  symbol = "kW/t",
  utype = "power per unit mass",
  scale = 1,
  default = "PS/t",
  link = "Power-to-weight ratio",
},
["PS/t"] = {
  name1 = "metric horsepower per tonne",
  name2 = "metric horsepower per tonne",
  symbol = "PS/t",
  utype = "power per unit mass",
  scale = 0.73549875,
  default = "kW/t",
  link = "Power-to-weight ratio",
},
["shp/lb"] = {
  name1 = "shaft horsepower per pound",
  name2 = "shaft horsepower per pound",
  symbol = "shp/lb",
  utype = "power per unit mass",
  scale = 1643.986806,
  default = "kW/kg",
  link = "Power-to-weight ratio",
},
["hp/tonne"] = {
  target = "hp/t",
  symbol = "hp/tonne",
  default = "kW/tonne",
},
["kW/tonne"] = {
  target = "kW/t",
  symbol = "kW/tonne",
},
},
```

```
["-lb/in2"] = {
  name1    = "pound per square inch",
  name2    = "pounds per square inch",
  symbol   = "lb/in<sup>2</sup>",
  utype    = "pressure",
  scale    = 6894.7572931683608,
  default  = "kPa kgf/cm2",
},
["atm"] = {
  name1    = "standard atmosphere",
  symbol   = "atm",
  utype    = "pressure",
  scale    = 101325,
  default  = "kPa",
  link     = "Atmosphere (unit)",
},
["Ba"] = {
  name1    = "barye",
  symbol   = "Ba",
  utype    = "pressure",
  scale    = 0.1,
  default  = "Pa",
},
["bar"] = {
  symbol   = "bar",
  utype    = "pressure",
  scale    = 100000,
  default  = "kPa",
  link     = "Bar (unit)",
},
["dbar"] = {
  name1    = "decibar",
  symbol   = "dbar",
  utype    = "pressure",
  scale    = 10000,
  default  = "kPa",
  link     = "Bar (unit)",
},
["inHg"] = {
  name1    = "inch of mercury",
  name2    = "inches of mercury",
  symbol   = "inHg",
  utype    = "pressure",
  scale    = 3386.388640341,
  default  = "kPa",
},
["kBa"] = {
  name1    = "kilobarye",
  symbol   = "kBa",
  utype    = "pressure",
  scale    = 100,
  default  = "hPa",
  link     = "Barye",
},
["kg-f/cm2"] = {
  name1    = "kilogram-force per square centimetre",
  name1_us = "kilogram-force per square centimeter",
  name2    = "kilograms-force per square centimetre",
  name2_us = "kilograms-force per square centimeter",
  symbol   = "kg<sub>f</sub>/cm<sup>2</sup>",
  utype    = "pressure",
  scale    = 98066.5,
  default  = "psi",
  link     = "Kilogram-force",
}
```

```
},
["kg/cm2"] = {
  name1      = "kilogram per square centimetre",
  name1_us   = "kilogram per square centimeter",
  name2      = "kilograms per square centimetre",
  name2_us   = "kilograms per square centimeter",
  symbol     = "kg/cm<sup>2</sup>",
  utype      = "pressure",
  scale      = 98066.5,
  default    = "psi",
  link       = "Kilogram-force",
},
["kgf/cm2"] = {
  name1      = "kilogram-force per square centimetre",
  name1_us   = "kilogram-force per square centimeter",
  name2      = "kilograms-force per square centimetre",
  name2_us   = "kilograms-force per square centimeter",
  symbol     = "kgf/cm<sup>2</sup>",
  utype      = "pressure",
  scale      = 98066.5,
  default    = "psi",
  link       = "Kilogram-force",
},
["ksi"] = {
  name1      = "kilopound per square inch",
  name2      = "kilopounds per square inch",
  symbol     = "ksi",
  utype      = "pressure",
  scale      = 6894757.2931683613,
  default    = "MPa",
  link       = "Pound per square inch",
},
["lbf/in2"] = {
  name1      = "pound-force per square inch",
  name2      = "pounds-force per square inch",
  symbol     = "lbf/in<sup>2</sup>",
  utype      = "pressure",
  scale      = 6894.7572931683608,
  default    = "kPa kgf/cm2",
},
["mb"] = {
  name1      = "millibar",
  symbol     = "mb",
  utype      = "pressure",
  scale      = 100,
  default    = "hPa",
  link       = "Bar (unit)",
},
["mbar"] = {
  name1      = "millibar",
  symbol     = "mbar",
  utype      = "pressure",
  scale      = 100,
  default    = "hPa",
  link       = "Bar (unit)",
},
["mmHg"] = {
  name1      = "millimetre of mercury",
  name1_us   = "millimeter of mercury",
  name2      = "millimetres of mercury",
  name2_us   = "millimeters of mercury",
  symbol     = "mmHg",
  utype      = "pressure",
  scale      = 133.322387415,
}
```

```
    default = "kPa",
  },
  ["Pa"] = {
    _name1 = "pascal",
    _symbol = "Pa",
    utype = "pressure",
    scale = 1,
    prefixes = 1,
    default = "psi",
    link = "Pascal (unit)",
  },
  ["psf"] = {
    name1 = "pound per square foot",
    name2 = "pounds per square foot",
    symbol = "psf",
    utype = "pressure",
    scale = 47.880258980335839,
    default = "kPa",
    link = "Pound per square inch",
  },
  ["psi"] = {
    name1 = "pound per square inch",
    name2 = "pounds per square inch",
    symbol = "psi",
    utype = "pressure",
    scale = 6894.7572931683608,
    default = "kPa",
  },
  ["Torr"] = {
    name1 = "torr",
    symbol = "Torr",
    utype = "pressure",
    scale = 133.32236842105263,
    default = "kPa",
  },
  ["N/cm2"] = {
    per = { "N", "cm2" },
    utype = "pressure",
    default = "psi",
  },
  ["N/m2"] = {
    per = { "N", "m2" },
    utype = "pressure",
    default = "psi",
  },
  ["g/cm2"] = {
    per = { "g", "cm2" },
    utype = "pressure",
    default = "lb/sqft",
    multiplier= 9.80665,
  },
  ["g/m2"] = {
    per = { "g", "m2" },
    utype = "pressure",
    default = "lb/sqft",
    multiplier= 9.80665,
  },
  ["kg/ha"] = {
    per = { "kg", "ha" },
    utype = "pressure",
    default = "lb/acre",
    multiplier= 9.80665,
  },
  ["kg/m2"] = {
```

```
    per      = { "kg", "m2" },
    utype    = "pressure",
    default  = "lb/sqft",
    multiplier= 9.80665,
  },
  ["lb/1000sqft"] = {
    per      = { "lb", "1000sqft" },
    utype    = "pressure",
    default  = "g/m2",
    multiplier= 9.80665,
  },
  ["lb/acre"] = {
    per      = { "lb", "acre" },
    utype    = "pressure",
    default  = "kg/ha",
    multiplier= 9.80665,
  },
  ["lb/sqft"] = {
    per      = { "lb", "sqft" },
    utype    = "pressure",
    default  = "kg/m2",
    multiplier= 9.80665,
  },
  ["lb/sqyd"] = {
    per      = { "lb", "sqyd" },
    utype    = "pressure",
    default  = "kg/m2",
    multiplier= 9.80665,
  },
  ["LT/acre"] = {
    per      = { "LT", "acre" },
    utype    = "pressure",
    default  = "t/ha",
    multiplier= 9.80665,
  },
  ["MT/ha"] = {
    per      = { "MT", "ha" },
    utype    = "pressure",
    default  = "LT/acre ST/acre",
    multiplier= 9.80665,
  },
  ["oz/sqft"] = {
    per      = { "oz", "sqft" },
    utype    = "pressure",
    default  = "g/m2",
    multiplier= 9.80665,
  },
  ["oz/sqyd"] = {
    per      = { "oz", "sqyd" },
    utype    = "pressure",
    default  = "g/m2",
    multiplier= 9.80665,
  },
  ["ST/acre"] = {
    per      = { "ST", "acre" },
    utype    = "pressure",
    default  = "t/ha",
    multiplier= 9.80665,
  },
  ["t/ha"] = {
    per      = { "t", "ha" },
    utype    = "pressure",
    default  = "LT/acre ST/acre",
    multiplier= 9.80665,
```

```
},
["tonne/acre"] = {
  per      = { "tonne", "acre" },
  utype    = "pressure",
  default  = "tonne/ha",
  multiplier= 9.80665,
},
["tonne/ha"] = {
  per      = { "tonne", "ha" },
  utype    = "pressure",
  default  = "tonne/acre",
  multiplier= 9.80665,
},
["kgfpsqcm"] = {
  target   = "kgf/cm2",
},
["kgpsqcm"] = {
  target   = "kg/cm2",
},
["kN/m2"] = {
  target   = "kPa",
},
["lb/in2"] = {
  target   = "lbf/in2",
},
["torr"] = {
  target   = "Torr",
},
["Bq"] = {
  _name1   = "becquerel",
  _symbol  = "Bq",
  utype    = "radioactivity",
  scale    = 1,
  prefixes = 1,
  default  = "pCi",
  link     = "Becquerel",
},
["Ci"] = {
  _name1   = "curie",
  _symbol  = "Ci",
  utype    = "radioactivity",
  scale    = 3.7e10,
  prefixes = 1,
  default  = "GBq",
  link     = "Curie (unit)",
},
["Rd"] = {
  _name1   = "rutherford",
  _symbol  = "Rd",
  utype    = "radioactivity",
  scale    = 1e6,
  prefixes = 1,
  default  = "MBq",
  link     = "Rutherford (unit)",
},
["cm/h"] = {
  name1    = "centimetre per hour",
  name1_us = "centimeter per hour",
  name2    = "centimetres per hour",
  name2_us = "centimeters per hour",
  symbol   = "cm/h",
  utype    = "speed",
  scale    = 2.7777777777777775e-6,
  default  = "in/h",
}
```

```
    link      = "Metre per second",
  },
  ["cm/s"] = {
    name1     = "centimetre per second",
    name1_us  = "centimeter per second",
    name2     = "centimetres per second",
    name2_us  = "centimeters per second",
    symbol    = "cm/s",
    utype     = "speed",
    scale     = 0.01,
    default   = "in/s",
    link      = "Metre per second",
  },
  ["cm/year"] = {
    name1     = "centimetre per year",
    name1_us  = "centimeter per year",
    name2     = "centimetres per year",
    name2_us  = "centimeters per year",
    symbol    = "cm/year",
    utype     = "speed",
    scale     = 3.168873850681143e-10,
    default   = "in/year",
    link      = "Orders of magnitude (speed)",
  },
  ["foot/s"] = {
    name1     = "foot per second",
    name2     = "foot per second",
    symbol    = "ft/s",
    utype     = "speed",
    scale     = 0.3048,
    default   = "m/s",
  },
  ["ft/min"] = {
    name1     = "foot per minute",
    name2     = "feet per minute",
    symbol    = "ft/min",
    utype     = "speed",
    scale     = 0.00508,
    default   = "m/min",
    link      = "Feet per second",
  },
  ["ft/s"] = {
    name1     = "foot per second",
    name2     = "feet per second",
    symbol    = "ft/s",
    utype     = "speed",
    scale     = 0.3048,
    default   = "m/s",
    link      = "Feet per second",
  },
  ["furlong per fortnight"] = {
    name2     = "furlongs per fortnight",
    symbol    = "furlong per fortnight",
    username  = 1,
    utype     = "speed",
    scale     = 0.00016630952380952381,
    default   = "km/h mph",
    link      = "FFF system",
  },
  ["in/h"] = {
    name1     = "inch per hour",
    name2     = "inches per hour",
    symbol    = "in/h",
    utype     = "speed",
  }
```

```
        scale    = 7.055555555555559e-6,
        default  = "cm/h",
        link     = "Inch",
    },
    ["in/s"] = {
        name1    = "inch per second",
        name2    = "inches per second",
        symbol   = "in/s",
        utype    = "speed",
        scale    = 0.0254,
        default  = "cm/s",
        link     = "Inch",
    },
    ["in/year"] = {
        name1    = "inch per year",
        name2    = "inches per year",
        symbol   = "in/year",
        utype    = "speed",
        scale    = 8.0489395807301024e-10,
        default  = "cm/year",
        link     = "Orders of magnitude (speed)",
    },
    ["isp"] = {
        name1    = "second",
        symbol   = "s",
        utype    = "speed",
        scale    = 9.80665,
        default  = "km/s",
        link     = "Specific impulse",
    },
    ["km/d"] = {
        name1    = "kilometre per day",
        name1_us = "kilometer per day",
        name2    = "kilometres per day",
        name2_us = "kilometers per day",
        symbol   = "km/d",
        utype    = "speed",
        scale    = 1.1574074074074074e-2,
        default  = "mi/d",
        link     = "Orders of magnitude (speed)",
    },
    ["km/h"] = {
        name1    = "kilometre per hour",
        name1_us = "kilometer per hour",
        name2    = "kilometres per hour",
        name2_us = "kilometers per hour",
        symbol   = "km/h",
        utype    = "speed",
        scale    = 0.2777777777777779,
        default  = "mph",
        link     = "Kilometres per hour",
    },
    ["km/s"] = {
        name1    = "kilometre per second",
        name1_us = "kilometer per second",
        name2    = "kilometres per second",
        name2_us = "kilometers per second",
        symbol   = "km/s",
        utype    = "speed",
        scale    = 1000,
        default  = "mi/s",
        link     = "Metre per second",
    },
    ["kn"] = {
```

```
    name1    = "knot",
    symbol   = "kn",
    utype    = "speed",
    scale    = 0.514444444444444448,
    default  = "km/h mph",
    link     = "Knot (unit)",
},
["kNs/kg"] = {
    name2    = "kNs#8209;s/kg",
    symbol   = "kNs#8209;s/kg",
    utype    = "speed",
    scale    = 1000,
    default  = "isp",
    link     = "Specific impulse",
},
["m/min"] = {
    name1    = "metre per minute",
    name1_us = "meter per minute",
    name2    = "metres per minute",
    name2_us = "meters per minute",
    symbol   = "m/min",
    utype    = "speed",
    scale    = 0.016666666666666666,
    default  = "ft/min",
    link     = "Metre per second",
},
["m/s"] = {
    name1    = "metre per second",
    name1_us = "meter per second",
    name2    = "metres per second",
    name2_us = "meters per second",
    symbol   = "m/s",
    utype    = "speed",
    scale    = 1,
    default  = "ft/s",
},
["Mach"] = {
    name2    = "Mach",
    symbol   = "Mach",
    utype    = "speed",
    builtin  = "mach",
    scale    = 0,
    iscomplex= true,
    default  = "km/h mph",
    link     = "Mach number",
},
["mi/d"] = {
    name1    = "mile per day",
    name2    = "miles per day",
    symbol   = "mi/d",
    utype    = "speed",
    scale    = 1.8626666666666667e-2,
    default  = "km/d",
    link     = "Orders of magnitude (speed)",
},
["mi/s"] = {
    name1    = "mile per second",
    name2    = "miles per second",
    symbol   = "mi/s",
    utype    = "speed",
    scale    = 1609.344,
    default  = "km/s",
    link     = "Mile",
},
},
```

```
["mm/h"] = {
  name1      = "millimetre per hour",
  name1_us   = "millimeter per hour",
  name2      = "millimetres per hour",
  name2_us   = "millimeters per hour",
  symbol     = "mm/h",
  utype      = "speed",
  scale      = 2.777777777777781e-7,
  default    = "in/h",
  link       = "Metre per second",
},
["mph"] = {
  name1      = "mile per hour",
  name2      = "miles per hour",
  symbol     = "mph",
  utype      = "speed",
  scale      = 0.44704,
  default    = "km/h",
  link       = "Miles per hour",
},
["Ns/kg"] = {
  name2      = "N&#8209;s/kg",
  symbol     = "N&#8209;s/kg",
  utype      = "speed",
  scale      = 1,
  default    = "isp",
  link       = "Specific impulse",
},
["si tsfc"] = {
  name2      = "g/(kN·s)",
  symbol     = "g/(kN·s)",
  utype      = "speed",
  scale      = 9.9999628621379242e-7,
  invert     = -1,
  iscomplex = true,
  default    = "tsfc",
  link       = "Thrust specific fuel consumption",
},
["tsfc"] = {
  name2      = "lb/(lbf·h)",
  symbol     = "lb/(lbf·h)",
  utype      = "speed",
  scale      = 2.832545036049801e-5,
  invert     = -1,
  iscomplex = true,
  default    = "si tsfc",
  link       = "Thrust specific fuel consumption",
},
["cm/y"] = {
  target     = "cm/year",
},
["cm/yr"] = {
  target     = "cm/year",
},
["in/y"] = {
  target     = "in/year",
},
["in/yr"] = {
  target     = "in/year",
},
["knot"] = {
  target     = "kn",
},
["knots"] = {
```

```
        target    = "kn",
    },
    ["kph"] = {
        target    = "km/h",
    },
    ["mi/h"] = {
        target    = "mph",
    },
    ["mm/s"] = {
        per       = { "mm", "s" },
        utype     = "speed",
        default   = "in/s",
        link      = "Metre per second",
    },
    ["C"] = {
        name1     = "degree Celsius",
        name2     = "degrees Celsius",
        symbol    = "°C",
        usesymbol= 1,
        utype     = "temperature",
        scale     = 1,
        offset    = -273.15,
        iscomplex= true,
        istemperature= true,
        default   = "F",
        link      = "Celsius",
    },
    ["F"] = {
        name1     = "degree Fahrenheit",
        name2     = "degrees Fahrenheit",
        symbol    = "°F",
        usesymbol= 1,
        utype     = "temperature",
        scale     = 0.55555555555555558,
        offset    = 32-273.15*(9/5),
        iscomplex= true,
        istemperature= true,
        default   = "C",
        link      = "Fahrenheit",
    },
    ["K"] = {
        _name1    = "kelvin",
        _symbol   = "K",
        usesymbol= 1,
        utype     = "temperature",
        scale     = 1,
        offset    = 0,
        iscomplex= true,
        istemperature= true,
        prefixes  = 1,
        default   = "C F",
        link      = "Kelvin",
    },
    ["keVT"] = {
        name1     = "kiloelectronvolt",
        symbol    = "keV",
        utype     = "temperature",
        scale     = 11.604505e6,
        offset    = 0,
        iscomplex= true,
        default   = "MK",
        link      = "Electronvolt",
    },
    ["R"] = {
```

```
    name1    = "degree Rankine",
    name2    = "degrees Rankine",
    symbol   = "°R",
    usesymbol= 1,
    utype    = "temperature",
    scale    = 0.55555555555555558,
    offset   = 0,
    iscomplex= true,
    istemperature= true,
    default  = "K F C",
    link     = "Rankine scale",
},
["Celsius"] = {
    target   = "C",
},
["°C"] = {
    target   = "C",
},
["°F"] = {
    target   = "F",
},
["°R"] = {
    target   = "R",
},
["C-change"] = {
    name1    = "degree Celsius change",
    name2    = "degrees Celsius change",
    symbol   = "°C",
    usesymbol= 1,
    utype    = "temperature change",
    scale    = 1,
    default  = "F-change",
    link     = "Celsius",
},
["F-change"] = {
    name1    = "degree Fahrenheit change",
    name2    = "degrees Fahrenheit change",
    symbol   = "°F",
    usesymbol= 1,
    utype    = "temperature change",
    scale    = 0.55555555555555558,
    default  = "C-change",
    link     = "Fahrenheit",
},
["K-change"] = {
    name1    = "kelvin change",
    name2    = "kelvins change",
    symbol   = "K",
    usesymbol= 1,
    utype    = "temperature change",
    scale    = 1,
    default  = "F-change",
    link     = "Kelvin",
},
["°C-change"] = {
    target   = "C-change",
},
["°F-change"] = {
    target   = "F-change",
},
["century"] = {
    name1    = "century",
    name2    = "centuries",
    symbol   = "ha",
}
```

```
        utype      = "time",
        scale      = 3155760000,
        default    = "Gs",
    },
    ["d"] = {
        name1      = "day",
        symbol     = "d",
        utype      = "time",
        scale      = 86400,
        default    = "ks",
    },
    ["decade"] = {
        name1      = "decade",
        symbol     = "daa",
        utype      = "time",
        scale      = 315576000,
        default    = "Ms",
    },
    ["dog year"] = {
        name1      = "dog year",
        symbol     = "dog yr",
        utype      = "time",
        scale      = 220903200,
        default    = "years",
        link       = "List of unusual units of measurement#Dog year",
    },
    ["fortnight"] = {
        symbol     = "fortnight",
        username   = 1,
        utype      = "time",
        scale      = 1209600,
        default    = "week",
    },
    ["h"] = {
        name1      = "hour",
        symbol     = "h",
        utype      = "time",
        scale      = 3600,
        default    = "ks",
    },
    ["long billion year"] = {
        name1      = "billion years",
        name2      = "billion years",
        symbol     = "Ta",
        utype      = "time",
        scale      = 31557600000000000000,
        default    = "Es",
        link       = "Annum",
    },
    ["millennium"] = {
        name1      = "millennium",
        name2      = "millennia",
        symbol     = "ka",
        utype      = "time",
        scale      = 31557600000,
        default    = "Gs",
    },
    ["milliard year"] = {
        name1      = "milliard years",
        name2      = "milliard years",
        symbol     = "Ga",
        utype      = "time",
        scale      = 315576000000000000,
        default    = "Ps",
    },
```

```
    link      = "Annum",
  },
  ["million year"] = {
    name1     = "million years",
    name2     = "million years",
    symbol    = "Ma",
    utype     = "time",
    scale     = 31557600000000,
    default   = "Ts",
    link      = "Annum",
  },
  ["min"] = {
    name1     = "minute",
    symbol    = "min",
    utype     = "time",
    scale     = 60,
    default   = "s",
  },
  ["month"] = {
    symbol    = "month",
    username  = 1,
    utype     = "time",
    scale     = 2629800,
    default   = "Ms",
  },
  ["months"] = {
    name1     = "month",
    symbol    = "mo",
    utype     = "time",
    scale     = 2629800,
    default   = "year",
  },
  ["s"] = {
    _name1    = "second",
    _symbol   = "s",
    _utype    = "time",
    scale     = 1,
    prefixes  = 1,
    default   = "min",
    link      = "Second",
  },
  ["short billion year"] = {
    name1     = "billion years",
    name2     = "billion years",
    symbol    = "Ga",
    utype     = "time",
    scale     = 3155760000000000,
    default   = "Ps",
    link      = "Annum",
  },
  ["short trillion year"] = {
    name1     = "trillion years",
    name2     = "trillion years",
    symbol    = "Ta",
    utype     = "time",
    scale     = 315576000000000000,
    default   = "Es",
    link      = "Annum",
  },
  ["thousand million year"] = {
    name1     = "thousand million years",
    name2     = "thousand million years",
    symbol    = "Ga",
    utype     = "time",
```

```
        scale    = 315576000000000000,
        default  = "Ps",
        link     = "Annum",
    },
    ["wk"] = {
        symbol    = "week",
        username  = 1,
        utype     = "time",
        scale     = 604800,
        default   = "Ms",
    },
    ["year"] = {
        name1     = "year",
        symbol    = "a",
        utype     = "time",
        scale     = 31557600,
        default   = "Ms",
        link     = "Annum",
    },
    ["years"] = {
        name1     = "year",
        symbol    = "yr",
        utype     = "time",
        scale     = 31557600,
        default   = "Ms",
        link     = "Annum",
    },
    ["byr"] = {
        target    = "short billion year",
    },
    ["day"] = {
        target    = "d",
    },
    ["days"] = {
        target    = "d",
    },
    ["dog yr"] = {
        target    = "dog year",
    },
    ["Gyr"] = {
        target    = "thousand million year",
    },
    ["hour"] = {
        target    = "h",
    },
    ["hours"] = {
        target    = "h",
    },
    ["kMyr"] = {
        target    = "thousand million year",
    },
    ["kmyr"] = {
        target    = "thousand million year",
    },
    ["kyr"] = {
        target    = "millennium",
    },
    ["long byr"] = {
        target    = "long billion year",
    },
    ["minute"] = {
        target    = "min",
    },
    ["minutes"] = {
```

```
        target    = "min",
    },
    ["mth"] = {
        target    = "month",
    },
    ["Myr"] = {
        target    = "million year",
    },
    ["myr"] = {
        target    = "million year",
    },
    ["second"] = {
        target    = "s",
    },
    ["seconds"] = {
        target    = "s",
    },
    ["tmyr"] = {
        target    = "thousand million year",
    },
    ["tryr"] = {
        target    = "short trillion year",
    },
    ["tyr"] = {
        target    = "millennium",
    },
    ["week"] = {
        target    = "wk",
    },
    ["weeks"] = {
        target    = "wk",
    },
    ["yr"] = {
        target    = "year",
    },
    ["kg.m"] = {
        name1     = "kilogram metre",
        name1_us  = "kilogram meter",
        symbol    = "kg·m",
        utype     = "torque",
        scale     = 9.80665,
        default   = "Nm lbfft",
        link      = "Kilogram metre (torque)",
    },
    ["kgf.m"] = {
        name1     = "kilogram force-metre",
        name1_us  = "kilogram force-meter",
        symbol    = "kgf·m",
        utype     = "torque",
        scale     = 9.80665,
        default   = "Nm lbfft",
        link      = "Kilogram metre (torque)",
    },
    ["kgm"] = {
        name1     = "kilogram metre",
        name1_us  = "kilogram meter",
        symbol    = "kg·m",
        utype     = "torque",
        scale     = 9.80665,
        default   = "Nm lbfft",
        link      = "Kilogram metre (torque)",
    },
    ["kpm"] = {
        name1     = "kilopond metre",
```

```
        name1_us = "kilopond meter",
        symbol   = "kp·m",
        utype    = "torque",
        scale    = 9.80665,
        default  = "Nm lbft",
        link     = "Kilogram metre (torque)",
    },
    ["lb-fft"] = {
        name1    = "pound force-foot",
        name2    = "pound force-feet",
        symbol   = "ft·lb<sub>f</sub>",
        utype    = "torque",
        scale    = 1.3558179483314004,
        default  = "Nm",
        link     = "Pound-foot (torque)",
    },
    ["lb.ft"] = {
        name1    = "pound force-foot",
        name2    = "pound force-feet",
        symbol   = "lb·ft",
        utype    = "torque",
        scale    = 1.3558179483314004,
        default  = "Nm",
        link     = "Pound-foot (torque)",
    },
    ["lb.in"] = {
        name1    = "pound force-inch",
        symbol   = "lb·in",
        utype    = "torque",
        scale    = 0.1129848290276167,
        default  = "mN.m",
        link     = "Pound-foot (torque)",
    },
    ["lbfft"] = {
        name1    = "pound force-foot",
        name2    = "pound force-feet",
        symbol   = "lbf·ft",
        utype    = "torque",
        scale    = 1.3558179483314004,
        default  = "Nm",
        link     = "Pound-foot (torque)",
    },
    ["lbft"] = {
        name1    = "pound-foot",
        name2    = "pound-feet",
        symbol   = "lb·ft",
        utype    = "torque",
        scale    = 1.3558179483314004,
        default  = "Nm",
        link     = "Pound-foot (torque)",
    },
    ["m.kg-f"] = {
        name1    = "metre kilogram-force",
        name1_us = "meter kilogram-force",
        name2    = "metre kilograms-force",
        name2_us = "meter kilograms-force",
        symbol   = "m·kg<sub>f</sub>",
        utype    = "torque",
        scale    = 9.80665,
        default  = "Nm lbfft",
        link     = "Kilogram metre (torque)",
    },
    ["m.kgf"] = {
        name1    = "metre kilogram-force",
```

```
    name1_us = "meter kilogram-force",
    name2     = "metre kilograms-force",
    name2_us  = "meter kilograms-force",
    symbol    = "m·kgf",
    utype     = "torque",
    scale     = 9.80665,
    default   = "Nm lbfft",
    link      = "Kilogram metre (torque)",
},
["mN.m"] = {
    name1     = "millinewton-metre",
    name1_us  = "millinewton-meter",
    symbol    = "mN·m",
    utype     = "torque",
    scale     = 0.001,
    default   = "lb.in",
    link      = "Newton-metre",
},
["Nm"] = {
    _name1    = "newton-metre",
    _name1_us = "newton-meter",
    _symbol   = "N·m",
    utype     = "torque",
    alttype   = "energy",
    scale     = 1,
    prefixes  = 1,
    default   = "lbfft",
    link      = "Newton-metre",
},
["kN/m"] = {
    per       = { "kN", "-m-stiff" },
    utype     = "torque",
    default   = "lbf/in",
},
["lbf/in"] = {
    per       = { "lbf", "-in-stiff" },
    utype     = "torque",
    default   = "kN/m",
},
["lb-f.ft"] = {
    target    = "lb-fft",
},
["lbf.ft"] = {
    target    = "lbfft",
},
["lbf·ft"] = {
    target    = "lbfft",
},
["lb·ft"] = {
    target    = "lb.ft",
},
["mkg-f"] = {
    target    = "m.kg-f",
},
["mkgf"] = {
    target    = "m.kgf",
},
["N.m"] = {
    target    = "Nm",
},
["N·m"] = {
    target    = "Nm",
},
["ton-mile"] = {
```

```
        symbol = "ton-mile",
        username = 1,
        utype = "transportation",
        scale = 1.4599723182105602,
        default = "tkm",
    },
    ["tkm"] = {
        name1 = "tonne-kilometre",
        name1_us = "tonne-kilometer",
        symbol = "tkm",
        utype = "transportation",
        scale = 1,
        default = "ton-mile",
    },
    ["-12USoz(mL)serve"] = {
        name1_us = "12&nbsp;U.S.&nbsp;fl&nbsp;oz (355&nbsp;mL) serving",
        symbol = "12&nbsp;US&nbsp;fl&nbsp;oz (355&nbsp;mL) serving",
        sym_us = "12&nbsp;U.S.&nbsp;fl&nbsp;oz (355&nbsp;mL) serving",
        utype = "volume",
        scale = 0.00035488235475000004,
        default = "mL",
        link = "Beverage can#Standard sizes",
    },
    ["-12USoz(ml)serve"] = {
        name1_us = "12&nbsp;U.S.&nbsp;fl&nbsp;oz (355&nbsp;ml) serving",
        symbol = "12&nbsp;US&nbsp;fl&nbsp;oz (355&nbsp;ml) serving",
        sym_us = "12&nbsp;U.S.&nbsp;fl&nbsp;oz (355&nbsp;ml) serving",
        utype = "volume",
        scale = 0.00035488235475000004,
        default = "ml",
        link = "Beverage can#Standard sizes",
    },
    ["-12USozserve"] = {
        name1_us = "12&nbsp;U.S.&nbsp;fl&nbsp;oz serving",
        symbol = "12&nbsp;US&nbsp;fl&nbsp;oz serving",
        sym_us = "12&nbsp;U.S.&nbsp;fl&nbsp;oz serving",
        utype = "volume",
        scale = 0.00035488235475000004,
        default = "mL",
        link = "Beverage can#Standard sizes",
    },
    ["acre-foot"] = {
        name1 = "acre-foot",
        name2 = "acre-foot",
        symbol = "acre·ft",
        utype = "volume",
        scale = 1233.48183754752,
        default = "m3",
    },
    ["acre-ft"] = {
        name1 = "acre-foot",
        name2 = "acre-feet",
        symbol = "acre·ft",
        utype = "volume",
        scale = 1233.48183754752,
        default = "m3",
    },
    ["AUtbsp"] = {
        name1 = "Australian tablespoon",
        symbol = "AU&nbsp;tbsp",
        utype = "volume",
        scale = 0.000020,
        default = "ml",
    },
},
```



```
["Bcuft"] = {
  name1    = "billion cubic foot",
  name2    = "billion cubic feet",
  symbol   = "billion cu&nbsp;ft",
  utype    = "volume",
  scale    = 28316846.592,
  default  = "Gl",
  link     = "Cubic foot",
},
["bdft"] = {
  name1    = "board foot",
  name2    = "board feet",
  symbol   = "bd&nbsp;ft",
  utype    = "volume",
  scale    = 0.0023597372167,
  default  = "m3",
},
["board feet"] = {
  name2    = "board feet",
  symbol   = "board foot",
  username = 1,
  utype    = "volume",
  scale    = 0.0023597372167,
  default  = "m3",
},
["board foot"] = {
  name2    = "board foot",
  symbol   = "board foot",
  username = 1,
  utype    = "volume",
  scale    = 0.0023597372167,
  default  = "m3",
},
["cc"] = {
  name1    = "cubic centimetre",
  name1_us = "cubic centimeter",
  symbol   = "cc",
  utype    = "volume",
  scale    = 0.000001,
  default  = "cuin",
},
["CID"] = {
  name1    = "cubic inch",
  name2    = "cubic inches",
  symbol   = "cu&nbsp;in",
  utype    = "volume",
  scale    = 0.000016387064,
  default  = "cc",
  link     = "Cubic inch#Engine displacement",
},
["cord"] = {
  symbol   = "cord",
  utype    = "volume",
  scale    = 3.624556363776,
  default  = "m3",
  link     = "Cord (unit)",
},
["cufoot"] = {
  name1    = "cubic foot",
  name2    = "cubic foot",
  symbol   = "cu&nbsp;ft",
  utype    = "volume",
  scale    = 0.028316846592,
  default  = "m3",
}
```



```
},
["cuft"] = {
    name1    = "cubic foot",
    name2    = "cubic feet",
    symbol    = "cu&nbsp;ft",
    utype    = "volume",
    scale    = 0.028316846592,
    default  = "m3",
},
["cuin"] = {
    name1    = "cubic inch",
    name2    = "cubic inches",
    symbol    = "cu&nbsp;in",
    utype    = "volume",
    scale    = 0.000016387064,
    default  = "cm3",
},
["cumi"] = {
    name1    = "cubic mile",
    symbol    = "cu&nbsp;mi",
    utype    = "volume",
    scale    = 4168181825.440579584,
    default  = "km3",
},
["cuyd"] = {
    name1    = "cubic yard",
    symbol    = "cu&nbsp;yd",
    utype    = "volume",
    scale    = 0.764554857984,
    default  = "m3",
},
["firkin"] = {
    symbol    = "firkin",
    username  = 1,
    utype    = "volume",
    scale    = 0.04091481,
    default  = "l impgal USgal",
    link     = "Firkin (unit)",
},
["foot3"] = {
    target    = "cufoot",
},
["Goilbbl"] = {
    name1    = "billion barrels",
    name2    = "billion barrels",
    symbol    = "Gdbl",
    utype    = "volume",
    scale    = 158987294.928,
    default  = "v * 1.58987294928 < 10 ! e6 ! e9 ! m3",
    link     = "Barrel (unit)#Oil barrel",
},
["gr water"] = {
    name1    = "grains water",
    name2    = "grains water",
    symbol    = "gr H<sub>2</sub>0",
    utype    = "volume",
    scale    = 0.00000006479891,
    default  = "cm3",
    link     = "Grain (unit)",
},
["grt"] = {
    name1    = "gross register ton",
    symbol    = "grt",
    utype    = "volume",
}
```

```
        scale    = 2.8316846592,
        default  = "m3",
        link     = "Gross register tonnage",
    },
    ["impbbl"] = {
        name1    = "imperial barrel",
        symbol   = "imp&nbsp;bbl",
        utype    = "volume",
        scale    = 0.16365924,
        default  = "l impgal USgal",
        link     = "Barrel (unit)",
    },
    ["impbsh"] = {
        name1    = "imperial bushel",
        symbol   = "imp&nbsp;bsh",
        utype    = "volume",
        scale    = 0.03636872,
        default  = "l impgal USdrygal",
    },
    ["impbu"] = {
        name1    = "imperial bushel",
        symbol   = "imp&nbsp;bu",
        utype    = "volume",
        scale    = 0.03636872,
        default  = "m3",
    },
    ["impgal"] = {
        name1    = "imperial gallon",
        symbol   = "imp&nbsp;gal",
        utype    = "volume",
        scale    = 0.00454609,
        default  = "l USgal",
    },
    ["impgi"] = {
        name1    = "gill",
        symbol   = "gi",
        utype    = "volume",
        scale    = 0.0001420653125,
        default  = "ml USoz",
        link     = "Gill (unit)",
    },
    ["impkenning"] = {
        name1    = "imperial kenning",
        symbol   = "kenning",
        utype    = "volume",
        scale    = 0.01818436,
        default  = "l USdrygal",
        link     = "Kenning (unit)",
    },
    ["impoz"] = {
        name1    = "imperial fluid ounce",
        symbol   = "imp&nbsp;fl&nbsp;oz",
        utype    = "volume",
        scale    = 0.0000284130625,
        default  = "ml USoz",
    },
    ["imppk"] = {
        name1    = "imperial peck",
        symbol   = "pk",
        utype    = "volume",
        scale    = 0.00909218,
        default  = "l USdrygal",
        link     = "Peck",
    },
},
```

```
["imppt"] = {
  name1    = "imperial pint",
  symbol   = "imp&nbsp;pt",
  utype    = "volume",
  scale    = 0.00056826125,
  default  = "l",
},
["impqt"] = {
  name1    = "imperial quart",
  symbol   = "imp&nbsp;qt",
  utype    = "volume",
  scale    = 0.0011365225,
  default  = "ml USoz",
  customary= 3,
},
["kilderkin"] = {
  symbol   = "kilderkin",
  username = 1,
  utype    = "volume",
  scale    = 0.08182962,
  default  = "l impgal USgal",
},
["koilbbl"] = {
  name1    = "thousand barrels",
  name2    = "thousand barrels",
  symbol   = "kbbbl",
  utype    = "volume",
  scale    = 158.987294928,
  default  = "v * 1.58987294928 < 10 !! e3 ! m3",
  link     = "Barrel (unit)#Oil barrel",
},
["L"] = {
  _name1   = "litre",
  _name1_us= "liter",
  _symbol  = "L",
  utype    = "volume",
  scale    = 0.001,
  prefixes = 1,
  default  = "impgal USgal",
  link     = "Litre",
},
["l"] = {
  _name1   = "litre",
  _name1_us= "liter",
  _symbol  = "l",
  utype    = "volume",
  scale    = 0.001,
  prefixes = 1,
  default  = "impgal USgal",
  link     = "Litre",
},
["m3"] = {
  _name1   = "cubic metre",
  _name1_us= "cubic meter",
  _symbol  = "m<sup>3</sup>",
  prefix_position= 7,
  utype    = "volume",
  scale    = 1,
  prefixes = 3,
  default  = "cuft",
  link     = "Cubic metre",
},
["Mbbbl"] = {
  name1    = "thousand barrels",
```



```
        name2      = "thousand barrels",
        symbol     = "Mbbbl",
        utype      = "volume",
        scale      = 158.987294928,
        default    = "v * 1.58987294928 < 10 ! e3 ! ! m3",
        link       = "Barrel (unit)#Oil barrel",
    },
    ["MMoilbbl"] = {
        name1      = "million barrels",
        name2      = "million barrels",
        symbol     = "MMbbbl",
        utype      = "volume",
        scale      = 158987.294928,
        default    = "v * 1.58987294928 < 10 ! e3 ! e6 ! m3",
        link       = "Barrel (unit)#Oil barrel",
    },
    ["Moilbbl"] = {
        name1      = "million barrels",
        name2      = "million barrels",
        symbol     = "Mbbbl",
        utype      = "volume",
        scale      = 158987.294928,
        default    = "v * 1.58987294928 < 10 ! e3 ! e6 ! m3",
        link       = "Barrel (unit)#Oil barrel",
    },
    ["MTON"] = {
        name1      = "measurement ton",
        symbol     = "MTON",
        utype      = "volume",
        scale      = 1.13267386368,
        default    = "m3",
    },
    ["MUSgal"] = {
        name1      = "million US gallons",
        name1_us   = "million U.S. gallons",
        name2      = "million US gallons",
        name2_us   = "million U.S. gallons",
        symbol     = "million US&nbsp;gal",
        sym_us     = "million U.S.&nbsp;gal",
        utype      = "volume",
        scale      = 3785.411784,
        default    = "ML",
        link       = "US gallon",
    },
    ["oilbbl"] = {
        name1      = "barrel",
        symbol     = "bbl",
        utype      = "volume",
        scale      = 0.158987294928,
        default    = "m3",
        link       = "Barrel (unit)#Oil barrel",
    },
    ["stere"] = {
        symbol     = "stere",
        username   = 1,
        utype      = "volume",
        scale      = 1,
        default    = "cuft",
    },
    ["Toilbbl"] = {
        name1      = "trillion barrels",
        name2      = "trillion barrels",
        symbol     = "Tbbl",
        utype      = "volume",
    },
```

```
    scale = 158987294928,
    default = "v * 1.58987294928 < 10 ! e9 ! e12 ! m3",
    link = "Barrel (unit)#oil barrel",
},
["USbbl"] = {
    name1 = "US barrel",
    name1_us = "U.S. barrel",
    symbol = "US&nbsp;bbl",
    sym_us = "U.S.&nbsp;bbl",
    utype = "volume",
    scale = 0.119240471196,
    default = "l USgal impgal",
    link = "Barrel (unit)",
},
["USbeerbbl"] = {
    name1 = "US beer barrel",
    name1_us = "U.S. beer barrel",
    symbol = "US&nbsp;bbl",
    sym_us = "U.S.&nbsp;bbl",
    utype = "volume",
    scale = 0.117347765304,
    default = "l USgal impgal",
    link = "Barrel (unit)",
},
["USbsh"] = {
    name1 = "US bushel",
    name1_us = "U.S. bushel",
    symbol = "US&nbsp;bsh",
    sym_us = "U.S.&nbsp;bsh",
    utype = "volume",
    scale = 0.03523907016688,
    default = "l USdrygal impgal",
    link = "Bushel",
},
["USbu"] = {
    name1 = "US bushel",
    name1_us = "U.S. bushel",
    symbol = "US&nbsp;bu",
    sym_us = "U.S.&nbsp;bu",
    utype = "volume",
    scale = 0.03523907016688,
    default = "l USdrygal impgal",
    link = "Bushel",
},
["USdrybbl"] = {
    name1 = "US dry barrel",
    name1_us = "U.S. dry barrel",
    symbol = "US&nbsp;dry&nbsp;bbl",
    sym_us = "U.S.&nbsp;dry&nbsp;bbl",
    utype = "volume",
    scale = 0.11562819898508,
    default = "m3",
    link = "Barrel (unit)",
},
["USdrygal"] = {
    name1 = "US dry gallon",
    name1_us = "U.S. dry gallon",
    symbol = "US&nbsp;dry&nbsp;gal",
    sym_us = "U.S.&nbsp;dry&nbsp;gal",
    utype = "volume",
    scale = 0.00440488377086,
    default = "l",
    link = "Gallon",
},
},
```



```
["USdrypt"] = {
    name1      = "US dry pint",
    name1_us   = "U.S. dry pint",
    symbol     = "US&nbsp;dry&nbsp;pt",
    sym_us     = "U.S.&nbsp;dry&nbsp;pt",
    utype      = "volume",
    scale      = 0.0005506104713575,
    default    = "ml",
    link       = "Pint",
},
["USdryqt"] = {
    name1      = "US dry quart",
    name1_us   = "U.S. dry quart",
    symbol     = "US&nbsp;dry&nbsp;qt",
    sym_us     = "U.S.&nbsp;dry&nbsp;qt",
    utype      = "volume",
    scale      = 0.001101220942715,
    default    = "ml",
    link       = "Quart",
},
["USflgal"] = {
    name1      = "US gallon",
    name1_us   = "U.S. gallon",
    symbol     = "US fl gal",
    sym_us     = "U.S.&nbsp;fl&nbsp;gal",
    utype      = "volume",
    scale      = 0.003785411784,
    default    = "l impgal",
    link       = "Gallon",
},
["USgal"] = {
    name1      = "US gallon",
    name1_us   = "U.S. gallon",
    symbol     = "US&nbsp;gal",
    sym_us     = "U.S.&nbsp;gal",
    utype      = "volume",
    scale      = 0.003785411784,
    default    = "l impgal",
},
["USgi"] = {
    name1      = "gill",
    symbol     = "gi",
    utype      = "volume",
    scale      = 0.0001182941183,
    default    = "ml impoz",
    link       = "Gill (unit)",
},
["USkenning"] = {
    name1      = "US kenning",
    name1_us   = "U.S. kenning",
    symbol     = "US&nbsp;kenning",
    sym_us     = "U.S.&nbsp;kenning",
    utype      = "volume",
    scale      = 0.01761953508344,
    default    = "l impgal",
    link       = "Kenning (unit)",
},
["USmin"] = {
    name1      = "US minim",
    name1_us   = "U.S. minim",
    symbol     = "US&nbsp;min",
    sym_us     = "U.S.&nbsp;min",
    utype      = "volume",
    scale      = 0.000000061611519921875,
```

```
        default = "ml",
        link     = "Minim (unit)",
    },
    ["USoz"] = {
        name1     = "US fluid ounce",
        name1_us  = "U.S. fluid ounce",
        symbol    = "US&nbsp;fl&nbsp;oz",
        sym_us    = "U.S.&nbsp;fl&nbsp;oz",
        utype     = "volume",
        scale     = 0.0000295735295625,
        default   = "ml",
    },
    ["USpk"] = {
        name1     = "US peck",
        name1_us  = "U.S. peck",
        symbol    = "US&nbsp;pk",
        sym_us    = "U.S.&nbsp;pk",
        utype     = "volume",
        scale     = 0.00880976754172,
        default   = "l impgal",
        link     = "Peck",
    },
    ["USpt"] = {
        name1     = "US pint",
        name1_us  = "U.S. pint",
        symbol    = "US&nbsp;pt",
        sym_us    = "U.S.&nbsp;pt",
        utype     = "volume",
        scale     = 0.000473176473,
        default   = "l imppt",
        link     = "Pint",
    },
    ["USqt"] = {
        name1     = "US quart",
        name1_us  = "U.S. quart",
        symbol    = "US&nbsp;qt",
        sym_us    = "U.S.&nbsp;qt",
        utype     = "volume",
        scale     = 0.000946352946,
        default   = "ml",
        link     = "Quart",
        customary= 1,
    },
    ["USquart"] = {
        name1     = "US quart",
        name1_us  = "U.S. quart",
        symbol    = "US&nbsp;qt",
        sym_us    = "U.S.&nbsp;qt",
        utype     = "volume",
        scale     = 0.000946352946,
        default   = "ml impoz",
        link     = "Quart",
    },
    ["UStbsp"] = {
        name1     = "US tablespoon",
        name1_us  = "U.S. tablespoon",
        symbol    = "US&nbsp;tbsp",
        sym_us    = "U.S.&nbsp;tbsp",
        utype     = "volume",
        scale     = 1.4786764781250001e-5,
        default   = "ml",
    },
    ["winecase"] = {
        symbol    = "case",
    },
```

```
        username = 1,
        utype    = "volume",
        scale    = 0.009,
        default  = "l",
        link     = "Case (goods)",
    },
    ["*U.S.drygal"] = {
        target = "USdrygal",
        sp_us  = true,
        customary= 2,
    },
    ["*U.S.gal"] = {
        target = "USgal",
        sp_us  = true,
        default = "L impgal",
        customary= 2,
    },
    ["+USdrygal"] = {
        target = "USdrygal",
        customary= 1,
    },
    ["+usfloz"] = {
        target = "USoz",
        link   = "Fluid ounce",
        customary= 1,
    },
    ["+USgal"] = {
        target = "USgal",
        customary= 1,
    },
    ["+USoz"] = {
        target = "USoz",
        customary= 1,
    },
    ["@impgal"] = {
        target = "impgal",
        link   = "Gallon",
        customary= 3,
    },
    ["acre feet"] = {
        target = "acre-ft",
    },
    ["acre foot"] = {
        target = "acre-foot",
    },
    ["acre ft"] = {
        target = "acre-ft",
    },
    ["acre-feet"] = {
        target = "acre-ft",
    },
    ["acre.foot"] = {
        target = "acre-foot",
    },
    ["acre.ft"] = {
        target = "acre-ft",
    },
    ["acre·ft"] = {
        target = "acre-ft",
    },
    ["bushels"] = {
        target = "USbsh",
    },
    ["cid"] = {
```

```
        target    = "CID",
    },
    ["ft3"] = {
        target    = "cuft",
    },
    ["gal"] = {
        target    = "USgal",
    },
    ["gallon"] = {
        shouldbe = "Use %{USgal%} for US gallons or %{impgal%} for imperial galle
    },
    ["gallons"] = {
        shouldbe = "Use %{USgal%} for US gallons or %{impgal%} for imperial galle
    },
    ["Gcuft"] = {
        target    = "e9cuft",
    },
    ["impfloz"] = {
        target    = "impoz",
    },
    ["Impgal"] = {
        target    = "impgal",
    },
    ["in3"] = {
        target    = "cuin",
        symbol    = "in<sup>3</sup>",
    },
    ["kcuft"] = {
        target    = "e3cuft",
    },
    ["kcum"] = {
        target    = "e3m3",
    },
    ["km3"] = {
        target    = "km3",
    },
    ["liter"] = {
        target    = "L",
        sp_us    = true,
    },
    ["liters"] = {
        target    = "L",
        sp_us    = true,
    },
    ["litre"] = {
        target    = "L",
    },
    ["litres"] = {
        target    = "L",
    },
    ["Mcuft"] = {
        target    = "e6cuft",
    },
    ["Mcum"] = {
        target    = "e6m3",
    },
    ["Mft3"] = {
        target    = "e6cuft",
    },
    ["mi3"] = {
        target    = "cumi",
    },
    ["m3"] = {
        target    = "m3",
    },

```

```
},
["Pcuft"] = {
    target    = "e15cuft",
},
["pt"] = {
    shouldbe = "Use %{USpt%} for US pints or %{imppt%} for imperial pints (ne
},
["qt"] = {
    shouldbe = "Use %{USqt%} for US quarts or %{impqt%} for imperial quarts (
},
["Tcuft"] = {
    target    = "e12cuft",
},
["Tft3"] = {
    target    = "e12cuft",
},
["U.S.bbl"] = {
    target    = "USbbl",
    sp_us     = true,
    default   = "l U.S.gal impgal",
},
["U.S.beerbbl"] = {
    target    = "USbeerbbl",
    sp_us     = true,
    default   = "l U.S.gal impgal",
},
["U.S.bsh"] = {
    target    = "USbsh",
    sp_us     = true,
    default   = "l U.S.drygal impgal",
},
["U.S.bu"] = {
    target    = "USbu",
    sp_us     = true,
    default   = "l U.S.drygal impgal",
},
["U.S.drybbl"] = {
    target    = "USdrybbl",
    sp_us     = true,
},
["U.S.drygal"] = {
    target    = "USdrygal",
    sp_us     = true,
},
["U.S.drypt"] = {
    target    = "USdrypt",
    sp_us     = true,
},
["U.S.dryqt"] = {
    target    = "USdryqt",
    sp_us     = true,
},
["U.S.flgal"] = {
    target    = "USflgal",
    sp_us     = true,
},
["U.S.floz"] = {
    target    = "USoz",
    sp_us     = true,
},
["U.S.gal"] = {
    target    = "USgal",
    sp_us     = true,
    default   = "L impgal",
```

```
    link      = "U.S. gallon",
  },
  ["u.s.gal"] = {
    target    = "USgal",
    sp_us     = true,
    default   = "L impgal",
    link      = "U.S. gallon",
  },
  ["U.S.gi"] = {
    target    = "USgi",
    sp_us     = true,
  },
  ["U.S.kenning"] = {
    target    = "USkenning",
    sp_us     = true,
  },
  ["U.S.oz"] = {
    target    = "USoz",
    sp_us     = true,
  },
  ["U.S.pk"] = {
    target    = "USpk",
    sp_us     = true,
  },
  ["U.S.pt"] = {
    target    = "USpt",
    sp_us     = true,
  },
  ["U.S.qt"] = {
    target    = "USqt",
    sp_us     = true,
    default   = "L impqt",
    customary= 2,
  },
  ["usbbl"] = {
    target    = "USbbl",
  },
  ["usbeerbbl"] = {
    target    = "USbeerbbl",
  },
  ["usbsh"] = {
    target    = "USbsh",
  },
  ["usbu"] = {
    target    = "USbu",
  },
  ["usdrybbl"] = {
    target    = "USdrybbl",
  },
  ["usdrygal"] = {
    target    = "USdrygal",
  },
  ["usdrypt"] = {
    target    = "USdrypt",
  },
  ["usdryqt"] = {
    target    = "USdryqt",
  },
  ["USfloz"] = {
    target    = "USoz",
  },
  ["usfloz"] = {
    target    = "USoz",
  },
},
```

```
["USGAL"] = {
    target = "USgal",
},
["usgal"] = {
    target = "USgal",
},
["usgi"] = {
    target = "USgi",
},
["uskenning"] = {
    target = "USkenning",
},
["usoz"] = {
    target = "USoz",
},
["uspk"] = {
    target = "USpk",
},
["uspt"] = {
    target = "USpt",
},
["usqt"] = {
    target = "USqt",
},
["yd3"] = {
    target = "cuyd",
},
["cuft/sqmi"] = {
    per = { "cuft", "sqmi" },
    utype = "volume per unit area",
    default = "m3/km2",
},
["m3/ha"] = {
    name1 = "cubic metre per hectare",
    name1_us = "cubic meter per hectare",
    name2 = "cubic metres per hectare",
    name2_us = "cubic meters per hectare",
    symbol = "m<sup>3</sup>/ha",
    utype = "volume per unit area",
    scale = 0.0001,
    default = "USbu/acre",
    link = "Hectare",
},
["m3/km2"] = {
    per = { "m3", "km2" },
    utype = "volume per unit area",
    default = "cuft/sqmi",
},
["U.S.gal/acre"] = {
    per = { "U.S.gal", "acre" },
    utype = "volume per unit area",
    default = "m3/km2",
},
["USbu/acre"] = {
    name2 = "US bushels per acre",
    symbol = "US bushel per acre",
    username = 1,
    utype = "volume per unit area",
    scale = 8.7077638761350888e-6,
    default = "m3/ha",
    link = "Bushel",
},
["USgal/acre"] = {
    per = { "USgal", "acre" },
```

```
        utype    = "volume per unit area",
        default  = "m3/km2",
    },
    ["cuyd/mi"] = {
        per      = { "cuyd", "mi" },
        utype    = "volume per unit length",
        default  = "m3/km",
    },
    ["m3/km"] = {
        per      = { "m3", "km" },
        utype    = "volume per unit length",
        default  = "cuyd/mi",
    },
    ["mich"] = {
        combination= { "ch", "mi" },
        multiple   = { 80 },
        utype      = "length",
    },
    ["michlk"] = {
        combination= { "chlk", "mi" },
        multiple   = { 80 },
        utype      = "length",
    },
    ["michainlk"] = {
        combination= { "chainlk", "mi" },
        multiple   = { 80 },
        utype      = "length",
    },
    ["miyd"] = {
        combination= { "yd", "mi" },
        multiple   = { 1760 },
        utype      = "length",
    },
    ["miydftin"] = {
        combination= { "in", "ft", "yd", "mi" },
        multiple   = { 12, 3, 1760 },
        utype      = "length",
    },
    ["mift"] = {
        combination= { "ft", "mi" },
        multiple   = { 5280 },
        utype      = "length",
    },
    ["ydftin"] = {
        combination= { "in", "ft", "yd" },
        multiple   = { 12, 3 },
        utype      = "length",
    },
    ["ydft"] = {
        combination= { "ft", "yd" },
        multiple   = { 3 },
        utype      = "length",
    },
    ["ftin"] = {
        combination= { "in", "ft" },
        multiple   = { 12 },
        utype      = "length",
    },
    ["footin"] = {
        combination= { "in", "foot" },
        multiple   = { 12 },
        utype      = "length",
    },
    ["handin"] = {
```

```
        combination= { "in", "hand" },
        multiple = { 4 },
        utype      = "length",
    },
    ["lboz"] = {
        combination= { "oz", "lb" },
        multiple = { 16 },
        utype      = "mass",
    },
    ["stlb"] = {
        combination= { "lb", "st" },
        multiple = { 14 },
        utype      = "mass",
    },
    ["stlboz"] = {
        combination= { "oz", "lb", "st" },
        multiple = { 16, 14 },
        utype      = "mass",
    },
    ["st and lb"] = {
        combination= { "lb", "st" },
        multiple = { 14 },
        utype      = "mass",
    },
    ["GN LTf"] = {
        combination= { "GN", "-LTf" },
        utype      = "force",
    },
    ["GN LTf STf"] = {
        combination= { "GN", "-LTf", "-STf" },
        utype      = "force",
    },
    ["GN STf"] = {
        combination= { "GN", "-STf" },
        utype      = "force",
    },
    ["GN STf LTf"] = {
        combination= { "GN", "-STf", "-LTf" },
        utype      = "force",
    },
    ["kN LTf"] = {
        combination= { "kN", "-LTf" },
        utype      = "force",
    },
    ["kN LTf STf"] = {
        combination= { "kN", "-LTf", "-STf" },
        utype      = "force",
    },
    ["kN STf"] = {
        combination= { "kN", "-STf" },
        utype      = "force",
    },
    ["kN STf LTf"] = {
        combination= { "kN", "-STf", "-LTf" },
        utype      = "force",
    },
    ["LTf STf"] = {
        combination= { "-LTf", "-STf" },
        utype      = "force",
    },
    ["MN LTf"] = {
        combination= { "MN", "-LTf" },
        utype      = "force",
    },
},
```

```
["MN LTf STf"] = {
    combination= { "MN", "-LTf", "-STf" },
    utype      = "force",
},
["MN STf"] = {
    combination= { "MN", "-STf" },
    utype      = "force",
},
["MN STf LTf"] = {
    combination= { "MN", "-STf", "-LTf" },
    utype      = "force",
},
["STf LTf"] = {
    combination= { "-STf", "-LTf" },
    utype      = "force",
},
["L/100 km mpgimp"] = {
    combination= { "L/100 km", "mpgimp" },
    utype      = "fuel efficiency",
},
["l/100 km mpgimp"] = {
    combination= { "l/100 km", "mpgimp" },
    utype      = "fuel efficiency",
},
["L/100 km mpgUS"] = {
    combination= { "L/100 km", "mpgus" },
    utype      = "fuel efficiency",
},
["l/100 km mpgus"] = {
    combination= { "l/100 km", "mpgus" },
    utype      = "fuel efficiency",
},
["l/100 km mpgus"] = {
    combination= { "l/100 km", "mpgus" },
    utype      = "fuel efficiency",
},
["mpgimp L/100 km"] = {
    combination= { "mpgimp", "L/100 km" },
    utype      = "fuel efficiency",
},
["LT ST t"] = {
    combination= { "lt", "-ST", "t" },
    utype      = "mass",
},
["LT t ST"] = {
    combination= { "lt", "t", "-ST" },
    utype      = "mass",
},
["ST LT t"] = {
    combination= { "-ST", "lt", "t" },
    utype      = "mass",
},
["ST t LT"] = {
    combination= { "-ST", "t", "lt" },
    utype      = "mass",
},
["t LT ST"] = {
    combination= { "t", "lt", "-ST" },
    utype      = "mass",
},
["ton"] = {
    combination= { "LT", "ST" },
    utype      = "mass",
},
},
```



```

["kPa kg/cm2"] = {
  combination= { "kPa", "kgf/cm2" },
  utype      = "pressure",
},
["kPa lb/in2"] = {
  combination= { "kPa", "-lb/in2" },
  utype      = "pressure",
},
["floz"] = {
  combination= { "impoz", "USoz" },
  utype      = "volume",
},
}

```

```

-----
-- Do not change the data in this table because it is created by running --
-- a script that reads the wikitext from a wiki page (see note above).  --
-----

```

```

local default_exceptions = {
  -- Prefixed units with a default different from that of the base unit.
  -- Each key item is a prefixed symbol (unitcode for engineering notation)
["cm<sup>2</sup>"] = "sqin",
["dm<sup>2</sup>"] = "sqin",
["e3acre"] = "km2",
["e3m2"] = "e6sqft",
["e6acre"] = "km2",
["e6ha"] = "e6acre",
["e6km2"] = "e6sqmi",
["e6m2"] = "e6sqft",
["e6sqft"] = "v * 9.290304 < 100 ! e3 ! e6 ! m2",
["e6sqmi"] = "e6km2",
["hm<sup>2</sup>"] = "acre",
["km<sup>2</sup>"] = "sqmi",
["mm<sup>2</sup>"] = "sqin",
["aJ"] = "eV",
["e3BTU"] = "MJ",
["e6BTU"] = "GJ",
["EJ"] = "kWh",
["fJ"] = "keV",
["GJ"] = "kWh",
["MJ"] = "kWh",
["PJ"] = "kWh",
["pJ"] = "MeV",
["TJ"] = "kWh",
["YJ"] = "kWh",
["yJ"] = "µeV",
["ZJ"] = "kWh",
["zJ"] = "meV",
["e12cuft/a"] = "v * 2.8316846592 < 100 ! e9 ! e12 ! m3/a",
["e12cuft/d"] = "v * 2.8316846592 < 100 ! e9 ! e12 ! m3/d",
["e12m3/a"] = "Tcuft/a",
["e12m3/d"] = "Tcuft/d",
["e3cuft/a"] = "v * 2.8316846592 < 100 ! ! e3 ! m3/a",
["e3cuft/d"] = "v * 2.8316846592 < 100 ! ! e3 ! m3/d",
["e3cuft/s"] = "v * 2.8316846592 < 100 ! ! e3 ! m3/s",
["e3m3/a"] = "v < 28.316846592 ! k ! M ! cuft/a",
["e3m3/d"] = "v < 28.316846592 ! k ! M ! cuft/d",
["e3m3/s"] = "v < 28.316846592 ! k ! M ! cuft/s",
["e3USgal/a"] = "v * 3.785411784 < 1000 ! ! e3 ! m3/a",
["e6cuft/a"] = "v * 2.8316846592 < 100 ! e3 ! e6 ! m3/a",
["e6cuft/d"] = "v * 2.8316846592 < 100 ! e3 ! e6 ! m3/d",
["e6cuft/s"] = "v * 2.8316846592 < 100 ! e3 ! e6 ! m3/s",
["e6m3/a"] = "v < 28.316846592 ! M ! G ! cuft/a",
["e6m3/d"] = "v < 28.316846592 ! M ! G ! cuft/d",

```



```
["e6m3/s"] = "v < 28.316846592 ! e6 ! e9 ! cuft/s",
["e6USgal/a"] = "v * 3.785411784 < 1000 ! e3 ! e6 ! m3/a",
["e9cuft/a"] = "m3/a",
["e9cuft/d"] = "v * 2.8316846592 < 100 ! e6 ! e9 ! m3/d",
["e9m3/a"] = "v < 28.316846592 ! G ! T ! cuft/a",
["e9m3/d"] = "v < 28.316846592 ! G ! T ! cuft/d",
["e9m3/s"] = "v < 28.316846592 ! e9 ! e12 ! cuft/s",
["e9USgal/a"] = "v * 3.785411784 < 1000 ! e6 ! e9 ! m3/a",
["e9USgal/s"] = "v * 3.785411784 < 1000 ! e6 ! e9 ! m3/s",
["nN"] = "gr-f",
["µN"] = "gr-f",
["mN"] = "oz-f",
["am"] = "in",
["cm"] = "in",
["dam"] = "ft",
["dm"] = "in",
["e12km"] = "e12mi",
["e12mi"] = "e12km",
["e3AU"] = "ly",
["e3km"] = "e3mi",
["e3mi"] = "e3km",
["e6km"] = "e6mi",
["e6mi"] = "e6km",
["e9km"] = "AU",
["e9mi"] = "e9km",
["Em"] = "mi",
["fm"] = "in",
["Gm"] = "mi",
["hm"] = "ft",
["km"] = "mi",
["mm"] = "in",
["Mm"] = "mi",
["nm"] = "in",
["Pm"] = "mi",
["pm"] = "in",
["Tm"] = "mi",
["Ym"] = "mi",
["ym"] = "in",
["Zm"] = "mi",
["zm"] = "in",
["µm"] = "in",
["e12lb"] = "v * 4.5359237 < 10 ! Mt ! Gt",
["e3lb"] = "v * 4.5359237 < 10 ! kg ! t",
["e3ozt"] = "v * 0.311034768 < 10 ! kg ! t",
["e3t"] = "LT ST",
["e6carat"] = "t",
["e6lb"] = "v * 4.5359237 < 10 ! t ! kilotonne",
["e6ozt"] = "lb kg",
["e6ST"] = "Mt",
["e6t"] = "LT ST",
["e9lb"] = "v * 4.5359237 < 10 ! kilotonne ! Mt",
["e9t"] = "LT ST",
["Gg"] = "lb",
["kg"] = "lb",
["mg"] = "gr",
["Mg"] = "LT ST",
["ng"] = "gr",
["µg"] = "gr",
["mBq"] = "fCi",
["kBq"] = "nCi",
["MBq"] = "µCi",
["GBq"] = "mCi",
["TBq"] = "Ci",
["PBq"] = "kCi",
```

```
["EBq"] = "kCi",
["fCi"] = "mBq",
["pCi"] = "Bq",
["nCi"] = "Bq",
["µCi"] = "kBq",
["mCi"] = "MBq",
["kCi"] = "TBq",
["MCi"] = "PBq",
["ns"] = "µs",
["µs"] = "ms",
["ms"] = "s",
["ks"] = "h",
["Ms"] = "week",
["Gs"] = "decade",
["Ts"] = "millennium",
["Ps"] = "million year",
["Es"] = "thousand million year",
["MK"] = "keVT",
["cL"] = "impoz usoz",
["cl"] = "impoz usoz",
["cm<sup>3</sup>"] = "cuin",
["dL"] = "impoz usoz",
["dl"] = "impoz usoz",
["mm<sup>3</sup>"] = "cuin",
["dm<sup>3</sup>"] = "cuin",
["e12cuft"] = "v * 2.8316846592 < 100 ! e9 ! e12 ! m3",
["e12impgal"] = "v * 4.54609 < 1000 ! T ! P ! l",
["e12m3"] = "v < 28.316846592 ! T ! P ! cuft",
["e12U.S.gal"] = "v * 3.785411784 < 1000 ! T ! P ! l",
["e12USgal"] = "v * 3.785411784 < 1000 ! T ! P ! l",
["e15cuft"] = "v * 2.8316846592 < 100 ! e12 ! e15 ! m3",
["e15m3"] = "Pcuft",
["e3bdft"] = "v * 0.23597372167 < 100 ! e3 ! e6 ! m3",
["e3cuft"] = "v * 2.8316846592 < 100 ! e3 ! m3",
["e3impgal"] = "v * 4.54609 < 1000 ! k ! M ! l",
["e3m3"] = "v < 28.316846592 ! k ! M ! cuft",
["e3U.S.gal"] = "v * 3.785411784 < 1000 ! k ! M ! l",
["e3USgal"] = "v * 3.785411784 < 1000 ! k ! M ! l",
["e6bdft"] = "v * 0.23597372167 < 100 ! e3 ! e6 ! m3",
["e6cuft"] = "v * 2.8316846592 < 100 ! e3 ! e6 ! m3",
["e6cuyd"] = "v * 7.64554857984 < 10 ! e3 ! e6 ! m3",
["e6impgal"] = "v * 4.54609 < 1000 ! M ! G ! l",
["e6L"] = "USgal",
["e6m3"] = "v < 28.316846592 ! M ! G ! cuft",
["e6U.S.gal"] = "v * 3.785411784 < 1000 ! M ! G ! l",
["e6USgal"] = "v * 3.785411784 < 1000 ! M ! G ! l",
["e9bdft"] = "v * 0.23597372167 < 100 ! e6 ! e9 ! m3",
["e9cuft"] = "v * 2.8316846592 < 100 ! e6 ! e9 ! m3",
["e9impgal"] = "v * 4.54609 < 1000 ! G ! T ! l",
["e9m3"] = "v < 28.316846592 ! G ! T ! cuft",
["e9U.S.gal"] = "v * 3.785411784 < 1000 ! G ! T ! l",
["e9USgal"] = "v * 3.785411784 < 1000 ! G ! T ! l",
["GL"] = "cuft",
["Gl"] = "cuft",
["kL"] = "cuft",
["kl"] = "cuft",
["km<sup>3</sup>"] = "cumi",
["mL"] = "impoz usoz",
["ml"] = "impoz usoz",
["Ml"] = "v < 28.316846592 ! e3 ! e6 ! cuft",
["ML"] = "v < 28.316846592 ! e3 ! e6 ! cuft",
["TL"] = "cumi",
["Tl"] = "cumi",
["µL"] = "cuin",
```

```
    ["µl"] = "cuin",
}

-----
-- Do not change the data in this table because it is created by running --
-- a script that reads the wikitext from a wiki page (see note above).  --
-----
local link_exceptions = {
  -- Prefixed units with a linked article different from that of the base u
  -- Each key item is a prefixed symbol (not unitcode).
  ["mm<sup>2</sup>"] = "Square millimetre",
  ["cm<sup>2</sup>"] = "Square centimetre",
  ["dm<sup>2</sup>"] = "Square decimetre",
  ["km<sup>2</sup>"] = "Square kilometre",
  ["kJ"] = "Kilojoule",
  ["MJ"] = "Megajoule",
  ["GJ"] = "Gigajoule",
  ["TJ"] = "Terajoule",
  ["fm"] = "Femtometre",
  ["pm"] = "Picometre",
  ["nm"] = "Nanometre",
  ["µm"] = "Micrometre",
  ["mm"] = "Millimetre",
  ["cm"] = "Centimetre",
  ["dm"] = "Decimetre",
  ["dam"] = "Decametre",
  ["hm"] = "Hectometre",
  ["km"] = "Kilometre",
  ["Mm"] = "Megametre",
  ["Gm"] = "Gigametre",
  ["Tm"] = "Terametre",
  ["Pm"] = "Petametre",
  ["Em"] = "Exametre",
  ["Zm"] = "Zettametre",
  ["Ym"] = "Yottametre",
  ["µg"] = "Microgram",
  ["mg"] = "Milligram",
  ["kg"] = "Kilogram",
  ["Mg"] = "Tonne",
  ["yW"] = "Yoctowatt",
  ["zW"] = "Zeptowatt",
  ["aW"] = "Attowatt",
  ["fW"] = "Femtowatt",
  ["pW"] = "Picowatt",
  ["nW"] = "Nanowatt",
  ["µW"] = "Microwatt",
  ["mW"] = "Milliwatt",
  ["kW"] = "Kilowatt",
  ["MW"] = "Megawatt",
  ["GW"] = "Gigawatt",
  ["TW"] = "Terawatt",
  ["PW"] = "Petawatt",
  ["EW"] = "Exawatt",
  ["ZW"] = "Zettawatt",
  ["YW"] = "Yottawatt",
  ["as"] = "Attosecond",
  ["fs"] = "Femtosecond",
  ["ps"] = "Picosecond",
  ["ns"] = "Nanosecond",
  ["µs"] = "Microsecond",
  ["ms"] = "Millisecond",
  ["ks"] = "Kilosecond",
  ["Ms"] = "Megasecond",
  ["Gs"] = "Gigasecond",
}
```

```
["Ts"] = "Terasecond",
["Ps"] = "Petasecond",
["Es"] = "Exasecond",
["Zs"] = "Zettasecond",
["Ys"] = "Yottasecond",
["mm<sup>3</sup>"] = "Cubic millimetre",
["cm<sup>3</sup>"] = "Cubic centimetre",
["dm<sup>3</sup>"] = "Cubic decimetre",
["dam<sup>3</sup>"] = "Cubic decametre",
["km<sup>3</sup>"] = "Cubic kilometre",
["µL"] = "Microlitre",
["µl"] = "Microlitre",
["mL"] = "Millilitre",
["ml"] = "Millilitre",
["cL"] = "Centilitre",
["cl"] = "Centilitre",
["dL"] = "Decilitre",
["dl"] = "Decilitre",
["daL"] = "Decalitre",
["dal"] = "Decalitre",
["hL"] = "Hectolitre",
["hl"] = "Hectolitre",
["kL"] = "Kilolitre",
["kl"] = "Kilolitre",
["ML"] = "Megalitre",
["Ml"] = "Megalitre",
["GL"] = "Gigalitre",
["Gl"] = "Gigalitre",
["TL"] = "Teralitre",
["Tl"] = "Teralitre",
["PL"] = "Petalitre",
["Pl"] = "Petalitre",
}

-----
-- Do not change the data in this table because it is created by running --
-- a script that reads the wikitext from a wiki page (see note above). --
-----
local per_unit_fixups = {
  -- Automatically created per units of form "x/y" may have their unit type
  -- changed, for example, "length/time" is changed to "speed".
  -- Other adjustments can also be specified.
  ["/area"] = "per unit area",
  ["/volume"] = "per unit volume",
  ["area/area"] = "area per unit area",
  ["energy/length"] = "energy per unit length",
  ["energy/mass"] = "energy per unit mass",
  ["energy/time"] = { utype = "power", link = "Power (physics)" },
  ["energy/volume"] = "energy per unit volume",
  ["force/area"] = { utype = "pressure", link = "Pressure" },
  ["length/length"] = { utype = "gradient", link = "Grade (slope)" },
  ["length/time"] = { utype = "speed", link = "Speed" },
  ["length/time/time"] = { utype = "acceleration", link = "Acceleration" },
  ["mass/area"] = { utype = "pressure", multiplier = 9.80665 },
  ["mass/length"] = "linear density",
  ["mass/mass"] = "concentration",
  ["mass/power"] = "mass per unit power",
  ["mass/time"] = "mass per unit time",
  ["mass/volume"] = { utype = "density", link = "Density" },
  ["power/mass"] = "power per unit mass",
  ["power/volume"] = { link = "Power density" },
  ["pressure/length"] = "fracture gradient",
  ["speed/time"] = { utype = "acceleration", link = "Acceleration" },
  ["volume/area"] = "volume per unit area",
```



```
        ["volume/length"] = "volume per unit length",
        ["volume/time"] = "flow",
    }
    return {
        all_units = all_units,
        default_exceptions = default_exceptions,
        link_exceptions = link_exceptions,
        per_unit_fixups = per_unit_fixups,
    }
```