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TECHNICAL ARTICLES

Table 2-178: Heats and Free Energies of Formation of Inorganic Compounds (Continued)

By Don W. Green (eds)

From *Perry's Chemical Engineers' Handbook, Eighth Edition*

Table 2-178: Heats and Free Energies of Formation of Inorganic Compounds (Continued)

Compound State [1] Heat of formation [1] ?H (formation) at 25 C, kcal/mol Free energy of formation [?] [1] ?F (formation) at 25 C, kcal/mol

Copper

| | | | | |
|------------------------------------|---------|--|--------|--------|
| CuClO ₄ | aq | | 28.3 | 1.34 |
| Cu(ClO ₃) ₂ | aq, 400 | | | 15.4 |
| Cu(ClO ₄) ₂ | aq | | | 5.5 |
| CuI | c | | 17.8 | 16.66 |
| CuI ₂ | c | | 4.8 | |
| | aq | | 11.9 | 8.76 |
| Cu ₃ N | c | | 17.78 | |
| Cu(NO ₃) ₂ | c | | 73.1 | |
| | aq, 200 | | 83.6 | 36.6 |
| CuO | c | | 38.5 | 31.9 |
| Cu ₂ O | c | | 43.00 | 38.13 |
| Cu(OH) ₂ | c | | 108.9 | 85.5 |
| CuS | c | | 11.6 | 11.69 |
| Cu ₂ S | c | | 18.97 | 20.56 |
| CuSO ₄ | c | | 184.7 | 158.3 |
| | aq, 800 | | 200.78 | 160.19 |
| Cu ₂ SO ₄ | c | | 179.6 | |
| | aq | | | 152.0 |
| Erbium | | | | |
| Er | c | | 0.00 | 0.00 |
| Er(OH) ₃ | c | | 326.8 | |
| Fluorine | | | | |
| F ₂ | g | | 0.00 | 0.00 |
| F ₂ O | g | | 5.5 | 9.7 |
| Gallium | | | | |
| Ga | c | | 0.00 | 0.00 |
| GaBr ₃ | c | | 92.4 | |
| GaCl ₃ | c | | 125.4 | |
| GaN | c | | 26.2 | |
| Ga ₂ O | c | | 84.3 | |
| Ga ₂ O ₃ | c | | 259.9 | |
| Germanium | | | | |
| Ge | c | | 0.00 | 0.00 |

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Products & Services

Inorganic Chemicals and Compounds (http://www.globalspec.com/SpecSearch/Suppliers/materials_chemicals_adhesives/chemicals_raw_materials/inorganic_chemicals)

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Inorganic Compounds:

[Bio-Inorganic Compounds](#)

([javascript:void\(0\);](#))

[Organometallics](#) ([javascript:void\(0\);](#))

[Solid State](#) ([javascript:void\(0\);](#))

[Other](#) ([javascript:void\(0\);](#))

Acids:

[All Inorganic Acids](#) ([javascript:void\(0\);](#))

[Hydrochloric Acid \(HCl\)](#)

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[Hydrofluoric Acid \(HF\)](#)

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[Nitric Acid \(HNO₃\)](#) ([javascript:void\(0\);](#))

[Oxalic Acid](#) ([javascript:void\(0\);](#))

Bases:

[All Inorganic Bases](#) ([javascript:void\(0\);](#))

[Ammonium Hydroxide \(Ammonia Water\)](#)

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[Calcium Hydroxide \(Lime Water\)](#)

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[Magnesium Hydroxide](#)

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[Sodium Bicarbonate \(Baking Soda\)](#)

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Thermocouple Wire (http://www.globalspec.com/SpecSearch/Suppliers/sensors_transducers_detectors/temperature_sensing/thermocouple_wire)

Thermocouple wire is used to make or extend thermocouples. The wire connects thermocouples from the sensing point to the point of cold junction compensation (CJC).

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Electroceramics are ceramic materials that have been specially formulated for specific electrical, electro-magnetic, or optical properties. They include dielectric ceramics, electrostrictive ceramics, ferrite ceramics, garnets (ferromagnets), and piezoelectric ceramics.

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Total Organic Carbon (TOC) Analyzers (http://www.globalspec.com/SpecSearch/Suppliers/sensors_transducers_detectors/gas_sensing/total_organic_carbon_analyzers)

Total organic carbon (TOC) analyzers measure the amount of total organic carbon present in a liquid sample.

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Quenching Oils and Heat Treatment Fluids (http://www.globalspec.com/SpecSearch/Suppliers/materials_chemicals_adhesives/industrial_oils_fluids/quenching_oils_heat_treatment_fluids)

Quenching oil and heat treatment fluids are designed for rapid or controlled cooling of steel or other metal as part of a hardening, tempering or other heat-treating process.

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Topics of Interest

Table 2-178: Heats and Free Energies of Formation of Inorganic Compounds (Continued) (<http://www.globalspec.com/reference/72756/203279/table-2-178-heats-and-free-energies-of-formation-of-inorganic-compounds-continued>)

Table 2-178: Heats and Free Energies of Formation of Inorganic Compounds (Continued) Compound State [] Heat of formation [] [] ? H (formation) at 25 C, kcal/mol Free energy of formation [?] [...]

Table 2-178: Heats and Free Energies of Formation of Inorganic Compounds (Continued) (<http://www.globalspec.com/reference/72757/203279/table-2-178-heats-and-free-energies-of-formation-of-inorganic-compounds-continued>)

Table 2-178: Heats and Free Energies of Formation of Inorganic Compounds (Continued) Compound State [] Heat of formation [] [] ? H (formation) at 25 C, kcal/mol Free energy of formation [?] [...]

Heats of Solution (<http://www.globalspec.com/reference/72763/203279/heats-of-solution>)

Heats of Solution Table 2-182: Heats of Solution of Inorganic Compounds in Water Heat evolved, in kilocalories per gram formula weight, on solution in water at 18 C. Computed from data in Bichowsky...

Table 2-179: Enthalpies and Gibbs Energies of Formation, Entropies, and Net Enthalpies of Combustion of Inorganic and Organic Compounds at 298.15 K (Continued) (<http://www.globalspec.com/reference/72760/203279/table-2-179-enthalpies-and-gibbs-energies-of-formation-entropies-and-net-enthalpies-of-combustion-of-inorganic-and-organic-compounds-at-298-15-k-continued>)

Table 2-179: Enthalpies and Gibbs Energies of Formation, Entropies, and Net Enthalpies of Combustion of Inorganic and Organic Compounds at 298.15 K (Continued) Cmpd.no. Name Formula CAS no. Mol.

Table 2-179: Enthalpies and Gibbs Energies of Formation, Entropies, and Net Enthalpies of Combustion of Inorganic and Organic Compounds at 298.15 K (<http://www.globalspec.com/reference/72758/203279/table-2-179-enthalpies-and-gibbs-energies-of-formation-entropies-and-net-enthalpies-of-combustion-of-inorganic-and-organic-compounds-at-298-15-k>)

Table 2-179: Enthalpies and Gibbs Energies of Formation, Entropies, and Net Enthalpies of Combustion of Inorganic and Organic Compounds at 298.15 K Cmpd.no. Name Formula CAS no. Mol. wt. Ideal...

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