

Product		Purity (min.)	Standard Ratio	Delivery Form
A				
Ag	Silver	99.9 – 99.99 %		Planar Target, Rotatable Target
Al	Aluminum	99.5 – 99.99 %		Granules, Slug, Planar Target, Rotatable Target
AlCr	Aluminum Chromium	99.8 %	70:30, 50:50 at%	Planar Target
AlCrSi	Aluminum Chromium Silicon	on request	on request	Planar Target
Al ₂ O ₃	Aluminum Oxide	99.5 – 99.999 %		Granules, Slug, Tablets, Planar Target
AlSi	Aluminum Silicon	on request	on request	Slug, Planar Target, Rotatable Target
AlTi	Aluminum Titanium	99.7 %	70:30, 67:33, 60:40, 50:50 at%	Planar Target
AlTiCr	Aluminum Titanium Chromium	on request	on request	Planar Target
AlTiSi	Aluminum Titanium Silicon	on request	on request	Planar Target
Au	Gold	99.99 %		Planar Target
C				
C	Graphite	99.9 – 99.9995 %		Planar Target, Rotatable Target
CeF ₃	Cerium Fluoride	99.9 %		Granules, Tablets
CeO ₂	Cerium Dioxide	99.5 – 99.9 %		Granules, Slug, Tablets, Planar Target
CIG	Copper Indium Gallium	99.99 %	on request	Planar Target
Cr	Chromium	99.5 %, 99.7 %, 99.8 %, 99.9 %, 99.95 %		Granules, Tablets, Planar Target, Rotatable Target
CrMo	Chromium Molybdenum	on request	on request	Slug, Planar Target
CrNi	Chromium Nickel	99.8 %	80:20, 70:30, 60:40, 50:50 wt%	Slug, Planar Target
CrSi	Chromium Silicon	on request	on request	Slug, Planar Target
CrTi	Chromium Titanium	on request	on request	Slug, Planar Target
CrV	Chromium Vanadium	on request	on request	Slug, Planar Target
Cryolite	Cryolite	99.5 – 99.9 %		Granules, Slug
Cu	Copper	99.8 – 99.99 %		Planar Target, Rotatable Target
CuNiFe	Copper Nickel Iron	on request	on request	Planar Target
H				
Hf	Hafnium	99.5 – 99.9 %		Slug, Tablets, Planar Targets
HfO ₂	Hafnium Dioxide	99.9 %		Granules, Tablets
HfO ₂ /Al ₂ O ₃	Hafnium Dioxide / Aluminum Oxide	99.9 %	on request	Granules, Tablets
HfO ₂ /Y ₂ O ₃	Hafnium Dioxide / Yttrium Oxide	99.9 %	on request	Granules, Slug, Tablets, Planar Target
HfO ₂ /ZrO ₂	Hafnium Dioxide / Zirkonium Dioxide	99.9 %	on request	Granules, Tablets
I				
ITO	Indium Tin Oxide	99.99 %	90:10 wt%	Planar Target
M				
MgF ₂ /Cr	Magnesium Fluoride/ Chromium	99.9 %		Granules
MgO	Magnesium Oxide	99.9 %		Granules, Tablets, Planar Target
Mo	Molybdenum	99.7 – 99.95 %		Planar Target, Rotatable Target
MoS ₂	Molybdenum Disulfide	98 %		Planar Target
N				
Nb	Niobium	99.8 – 99.9 %		Slug, Planar Target
NbOx	Niobium Suboxide	99.7 – 99.9 %		Planar Target, Rotatable Target
NbO ₂	Niobium Dioxide	99.9 %		Granules, Slug, Tablets, Planar Target
Nb ₂ O ₅	Niobium Pentoxide	99.9 %		Granules, Slug, Tablets, Planar Target
NiCr	Nickel Chromium	99.5 – 99.8 %	on request	Slug, Planar Target, Rotatable Target
NiCrAl	Nickel Chromium Aluminum	99.8 %	on request	Granules, Slug, Planar Target
NiFe	Nickel Iron	99.8 %	on request	Slug, Planar Target
NiV	Nickel Vanadium	99.8 %	93:7 wt%	Planar Target, Rotatable Target

Product	Purity (min.)	Standard Ratio	Delivery Form
P			
Pr ₆ O ₁₁	Praseodymium Oxide	99.8 – 99.99 %	Granules, Slug
Pr ₆ O ₁₁ /Al ₂ O ₃ (PrAlO ₃)	Praseodymium Oxide / Aluminum Oxide	99.8 – 99.99 %	Granules
Pr ₆ O ₁₁ /TiO ₂ (PrTiO ₃)	Praseodymium Oxide / Titanium Dioxide	99.8 – 99.99 %	Granules
S			
Si	Silicon	99.9 – 99.999 %	Planar Target, Rotatable Target
SiAl	Silicon Aluminum	99.9 %	98:2, 90:10 wt%
SiO ₂	Silicon Dioxide	99.9 – 99.99 %	Granules, Tablets, Planar Target
SiO ₂ /Mo	Silicon Dioxide / Molybdenum	99.9 %	Granules, Tablets
SiZr	Silicon Zirconium	99 %	60:40 wt%
Sn	Tin	99.9 %	Rotatable Target
T			
Ta	Tantalum	99.9 %	Planar Target, Rotatable Target
TaOx	Tantalum Suboxide	99.95 %	Rotatable Target
Ta ₂ O ₅	Tantalum Pentoxide	99.9 – 99.99 %	Granules, Slug, Tablets, Planar Target
Ta ₂ O ₅ /Nb ₂ O ₅	Tantalum Pentoxide / Niobium Pentoxide	99.9 – 99.99 %	Granules, Tablets, Planar Target
Ti	Titanium	99.6 %	Powders, Tablets, Planar Target, Rotatable Target
TiAl	Titanium Aluminum	99.8 %	75:25, 50:50 at%
TiAlNb	Titanium Aluminum Niobium	on request	on request
TiB	Titanium Boron	on request	on request
TiCr	Titanium Chromium	on request	on request
TiNb	Titanium Niobium	on request	on request
TiO	Titanium Oxide - TIRU[®]1	99.9 %	Granules, Slug, Tablets, Planar Target
TiO _x	Titanium Oxide - TIRU[®]	99.85 – 99.9 %	Planar Target, Rotatable Target
TiO ₂	Titanium Dioxide	99.9 %	Granules, Slug, Tablets, Planar Target
Ti ₂ O ₃	Titanium Oxide - TIRU[®]2	99.9 %	Granules, Slug, Tablets, Planar Target
Ti ₃ O ₅	Titanium Oxide - TIRU[®]3	99.9 %	Granules, Slug, Tablets, Planar Target
Ti ₅ O ₉	Titanium Oxide - TIRU[®]5	99.9 %	Granules, Slug, Tablets, Planar Target
TiSi	Titanium Silicon	99.6 – 99.7 %	90:10, 85:15, 80:20, 75:25 at%
TiV	Titanium Vanadium	on request	on request
TiZr	Titanium Zirconium	on request	on request
TiZrOx	Titanium Zirconium Oxide	on request	on request
V			
V	Vanadium	99.5 %, 99.7 %	Ingot, Planar Target
W			
W	Tungsten	99.5 %	Rotatable Target
WNi	Tungsten Nickel	on request	on request
WO ₃	Tungsten Trioxide	99.9 %	Granules, Tablets
Y			
Y ₂ O ₃	Yttrium Trioxide	99.9 %	Granules, Tablets
Z			
Zn	Zinc	99.9 %	Rotatable Target
ZnAl	Zinc Aluminum	99.95 %	98:2 wt%
ZnO	Zinc Oxide	99.95 %	pure and doped with 300 ppm Al ₂ O ₃
ZnO/Al ₂ O ₃	Zinc Oxide/Aluminum Oxide - AZOY[®]-Freiloc[®]	99.95 %	99:1, 98:2, 97:3 wt%
ZnO/Ga ₂ O ₃	Zinc Oxide/Gallium Oxide	99.95 %	up to 5 wt% Ga ₂ O ₃
ZnO/MgO	Zinc Oxide/Magnesium Oxide	≥ 99.9 %	on request
ZnSn	Zinc Tin	99.7 %	90:10, 50:50 wt%
Zr	Zirconium	99.2 %	Planar Target, Rotatable Target
ZrOx	Zirconium Suboxide	99 %	Rotatable Target
ZrO ₂	Zirconium Dioxide	99.8 – 99.99 %	Granules, Slug, Tablets
ZrO ₂ /HfO ₂	Zirconium Dioxide / Hafnium Dioxide	99.9 %	Granules, Tablets
ZrO ₂ /TiO ₂	Zirconium Dioxide / Titanium Dioxide	99.8 – 99.99 %	Granules, Slug, Tablets
ZrO ₂ /Y ₂ O ₃	Zirconium Dioxide / Yttrium Trioxide	99.8 – 99.99 %	Granules, Slug, Tablets, Planar Target

Commercial contact: Astrid Borkowski
Phone: +49 911 9315 424
Fax: +49 911 9315 1424
E-mail: astrid.borkowski@gfe.com

Commercial contact: Dr. Jürgen Köhler
Phone: +49 911 9315 458
Fax: +49 911 9315 1458
E-mail: juergen.koehler@gfe.com

Technical contact: Dr. Grit Hüttel
Phone: +49 37322 472 540
Fax: +49 37322 472 532
E-mail: grit.huettel@gfe.com