

Zinc Pinc- Δ 10

Lab 5a-Color Wheel

Zinc Pinc

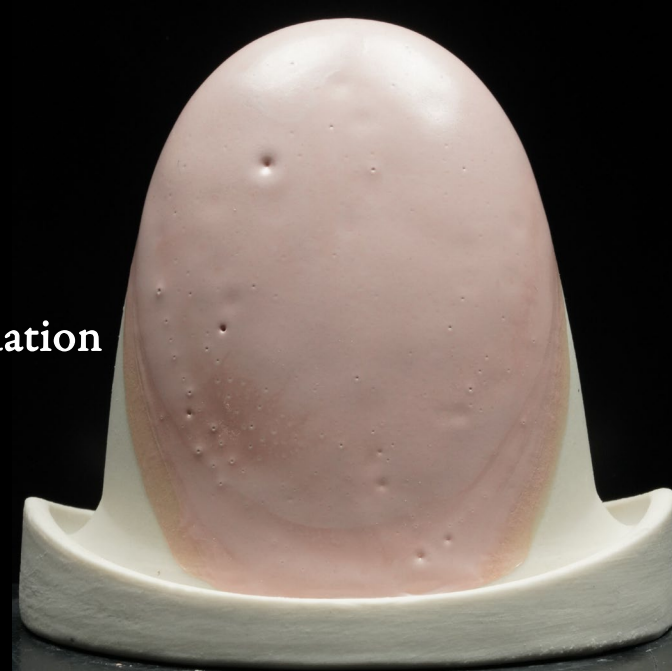
Original

030823-1

Neph Sy	40.00
Zinc Oxide	20.00
EPK	10.00
Flint	30.00
Chrome Oxide	1.00
Water	80



1-3 Second Dip



2-3 Second Dips

Oxidation

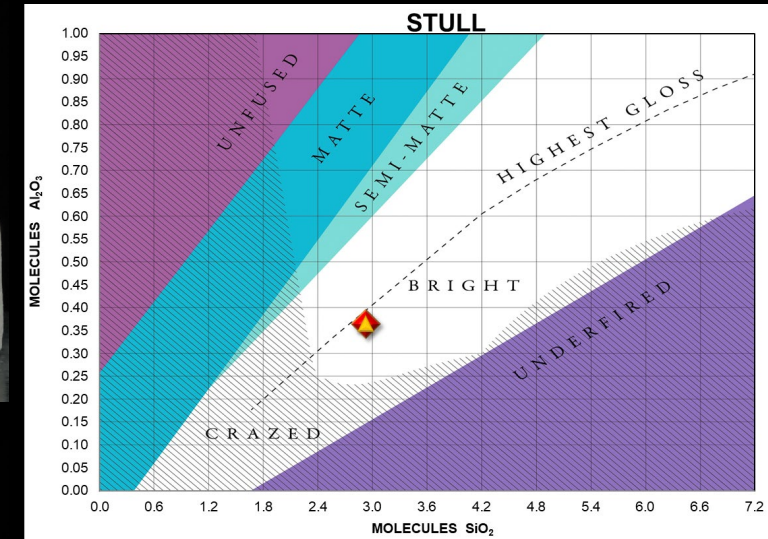


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.00 : 1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.93	Collective "Al ₂ O ₃ " 0.37	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 8.00 : 1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.93	Collective "Al ₂ O ₃ " 0.37	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃ 0.02	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



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Chrome Oxide

0.5%

Oxidation

Reduction

1-3 Second Dip

2-3 Second Dips

1-3 Second Dip

2-3 Second Dips

2%



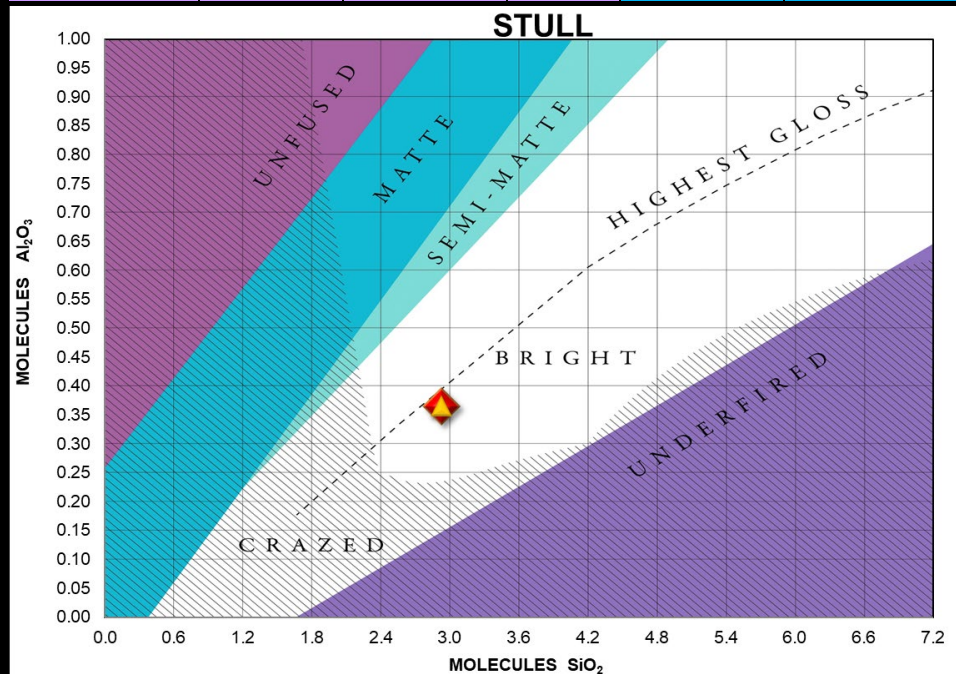
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Chrome Oxide

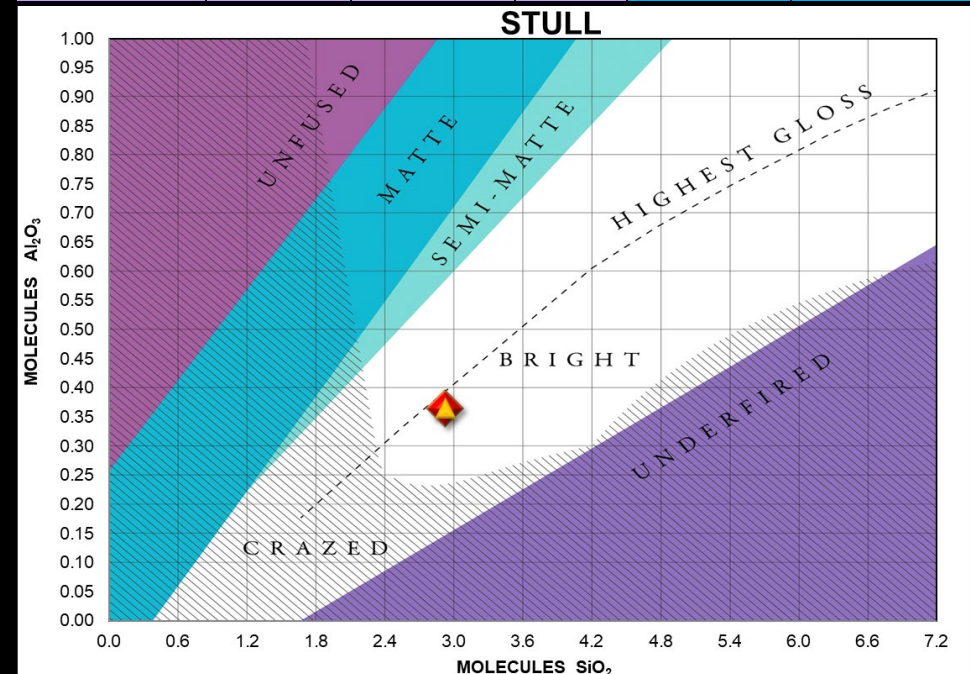
0.5%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 : 1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.93	Collective "Al ₂ O ₃ " 0.37	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃ 0.01	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



2%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 : 1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.93	Collective "Al ₂ O ₃ " 0.37	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃ 0.04	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Cobalt Carbonate

0.5%

Oxidation

Reduction

1-3 Second Dip

2-3 Second Dips

1-3 Second Dip

2-3 Second Dips

2%



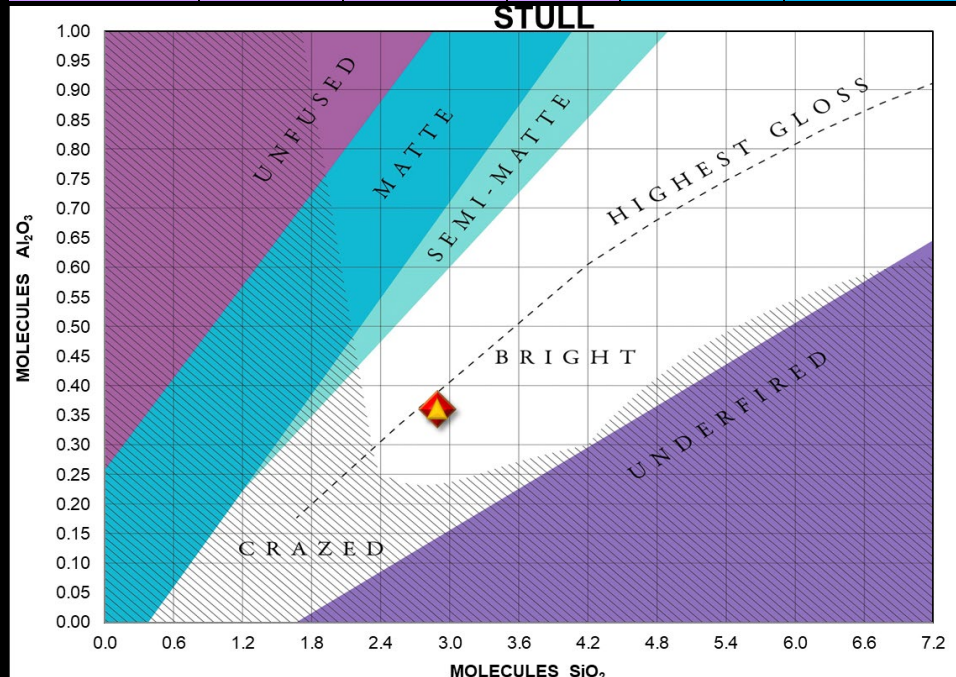
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Cobalt Carbonate

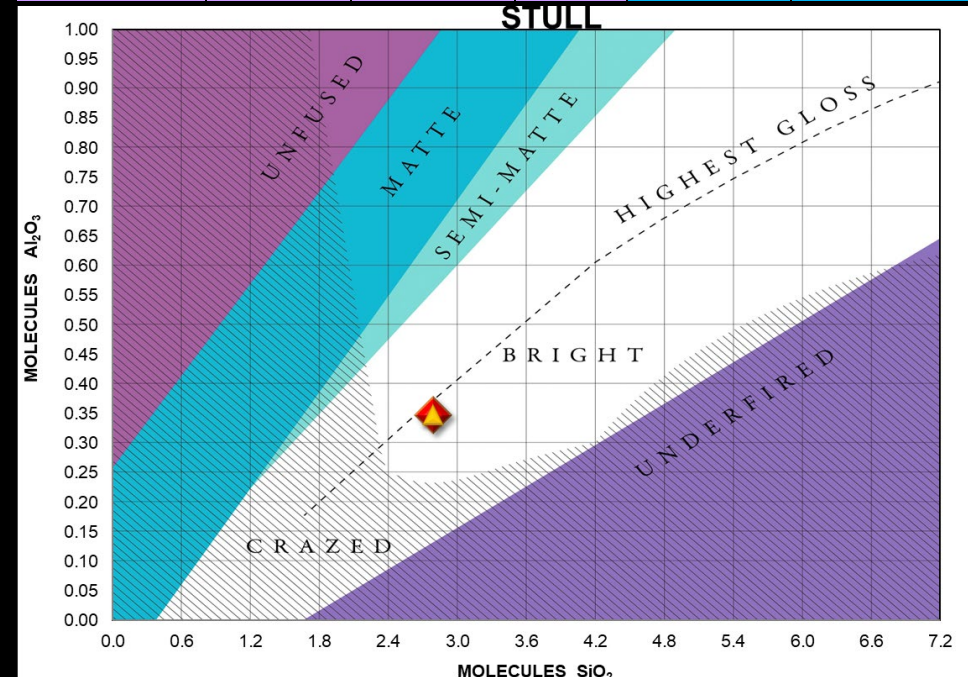
0.5%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 :1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.89	Collective "Al ₂ O ₃ " 0.36	Na ₂ O 0.19	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.72	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO 0.01



2%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 :1		Alkali Metals 0.24		Alkaline Earths 0.76	
SiO ₂ 2.79	Collective "Al ₂ O ₃ " 0.35	Na ₂ O 0.19	K ₂ O 0.05	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.35	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.69	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO 0.05



Cobalt Oxide

0.5%

Oxidation

Reduction

1-3 Second Dip

2-3 Second Dips

1-3 Second Dip

2-3 Second Dips

2%



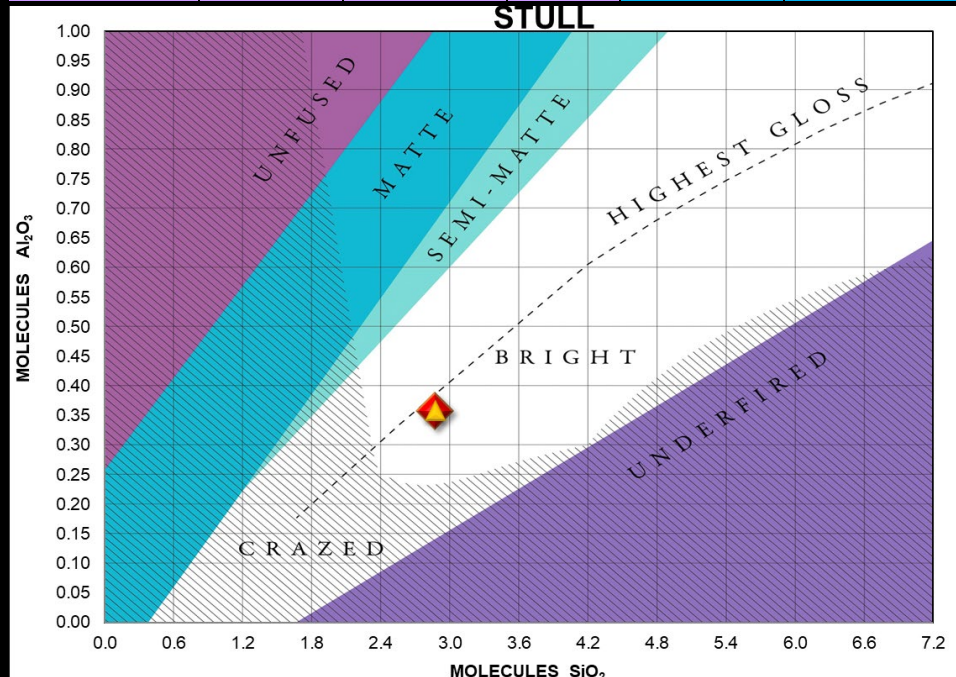
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Cobalt Oxide

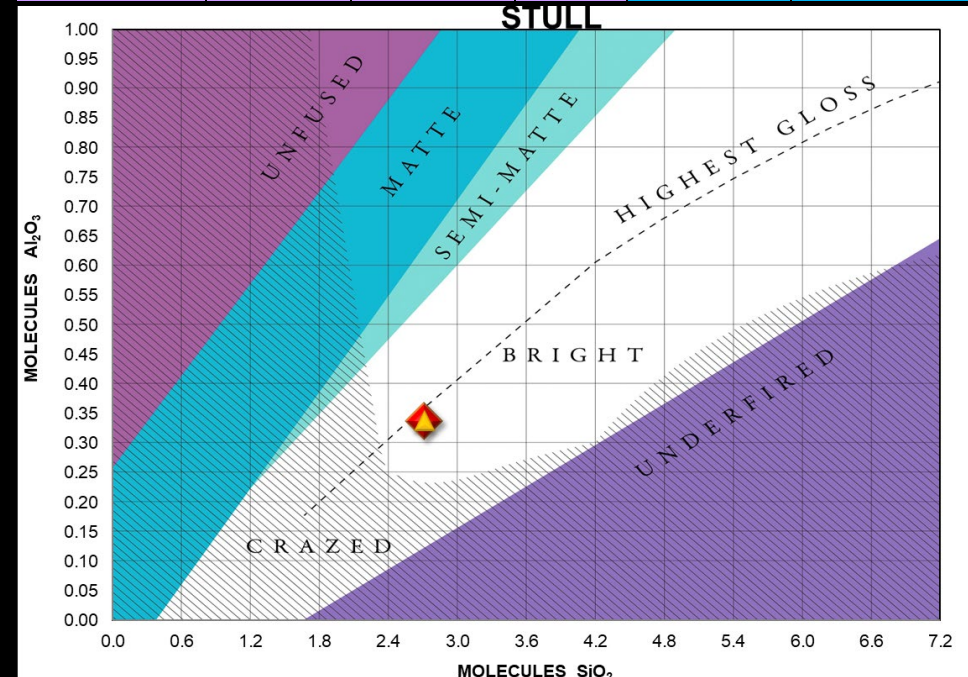
0.5%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 : 1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.87	Collective "Al ₂ O ₃ " 0.36	Na ₂ O 0.19	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.72	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO 0.02



2%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 : 1		Alkali Metals 0.24		Alkaline Earths 0.76	
SiO ₂ 2.71	Collective "Al ₂ O ₃ " 0.34	Na ₂ O 0.18	K ₂ O 0.05	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.34	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.68	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO 0.07

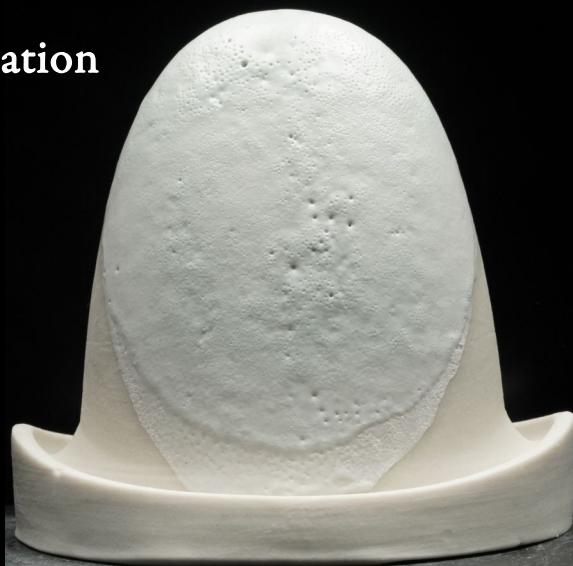


Copper Carbonate

Oxidation

Reduction

1%



1-3 Second Dip

2-3 Second Dips

1-3 Second Dip

2-3 Second Dips

4%



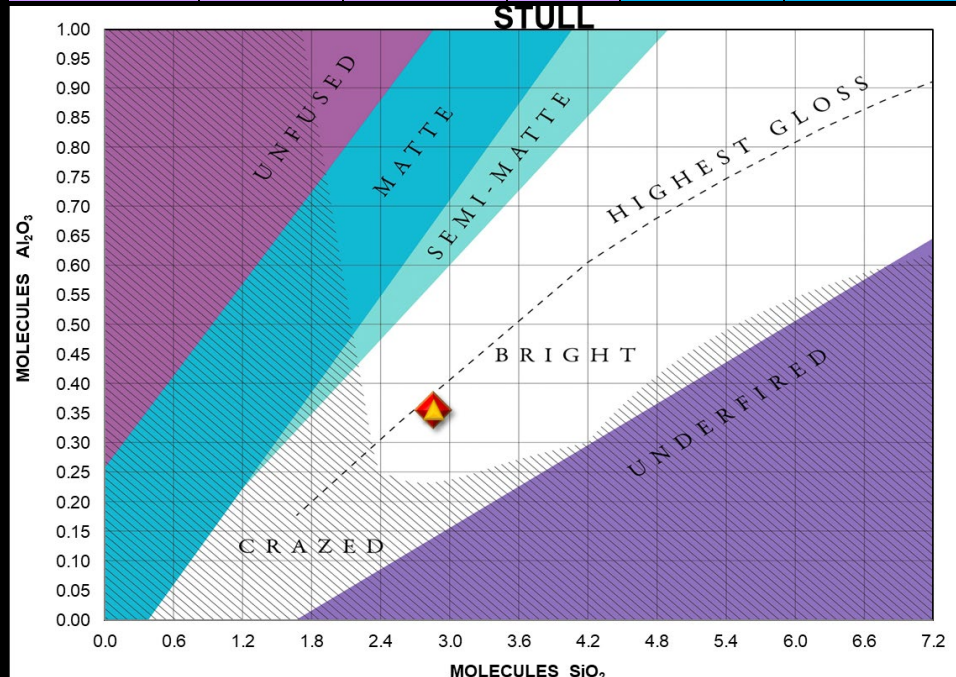
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Copper Carbonate

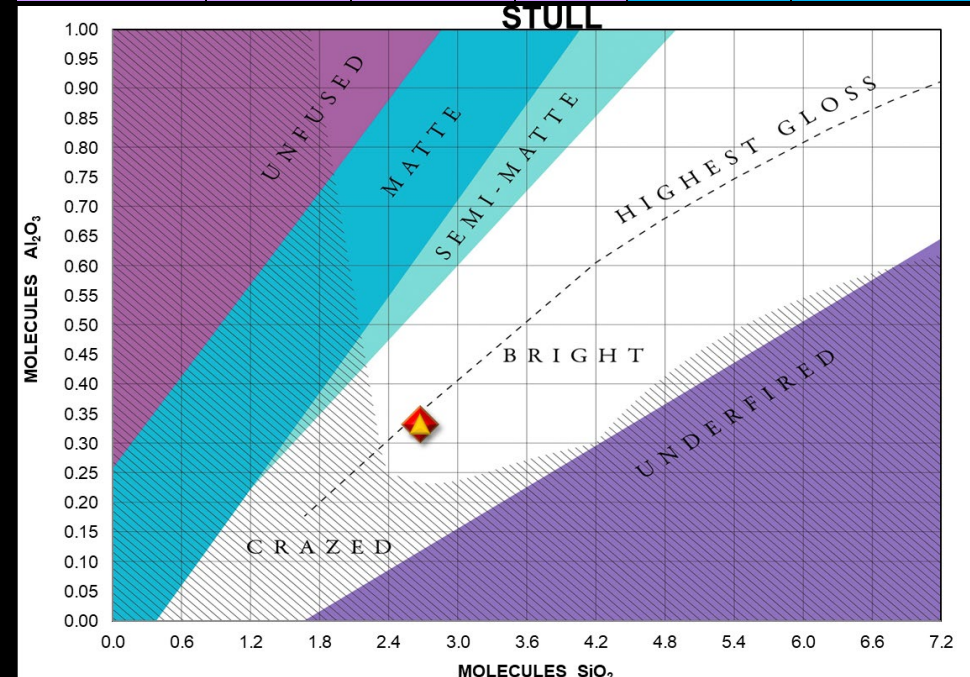
1%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 :1		Alkali Metals 0.27		Alkaline Earths 0.73	
SiO ₂ 2.86	Collective "Al ₂ O ₃ " 0.36	Na ₂ O 0.19	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO 0.02	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.71	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



4%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 :1		Alkali Metals 0.32		Alkaline Earths 0.68	
SiO ₂ 2.67	Collective "Al ₂ O ₃ " 0.33	Na ₂ O 0.18	K ₂ O 0.05	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.33	Li ₂ O	CuO 0.09	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.67	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Copper Oxide-Black

Oxidation

Reduction

1%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

4%



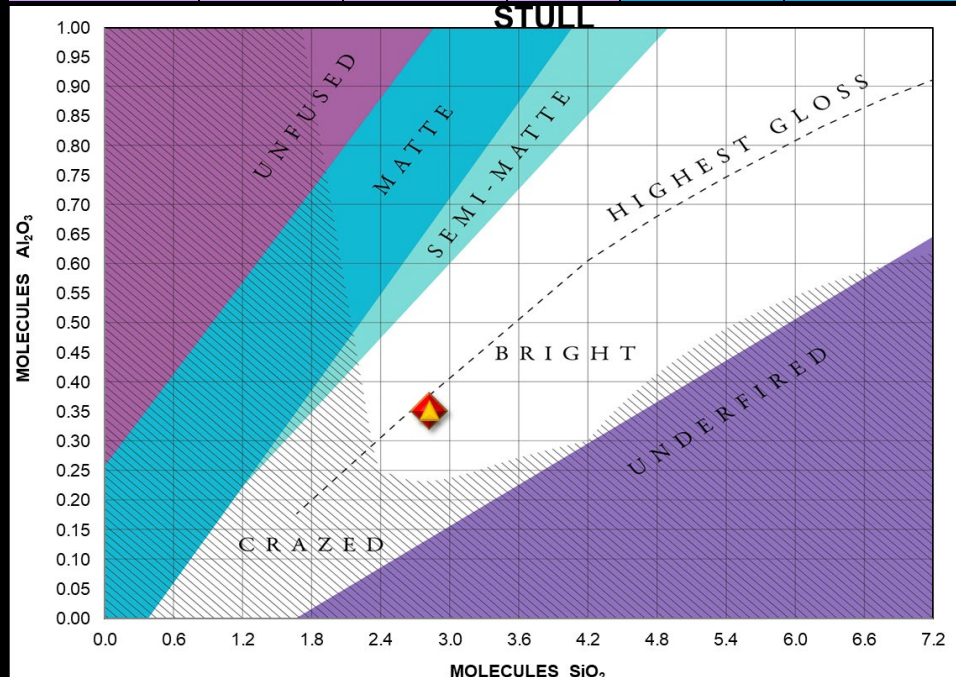
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Copper Oxide-Black

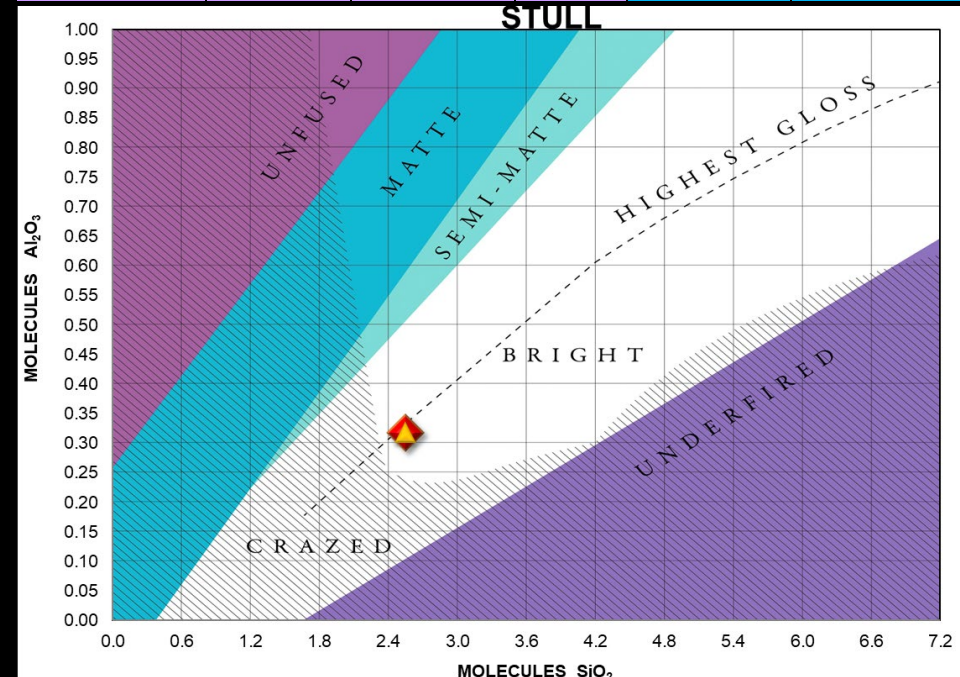
1%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 :1		Alkali Metals 0.28		Alkaline Earths 0.72	
SiO ₂ 2.82	Collective "Al ₂ O ₃ " 0.35	Na ₂ O 0.19	K ₂ O 0.05	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.35	Li ₂ O	CuO 0.04	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.70	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



4%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 :1		Alkali Metals 0.35		Alkaline Earths 0.65	
SiO ₂ 2.55	Collective "Al ₂ O ₃ " 0.32	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.32	Li ₂ O	CuO 0.13	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.63	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Red Iron Oxide

Oxidation

Reduction

3%



1-3 Second Dip

2-3 Second Dips

1-3 Second Dip

2-3 Second Dips

9%



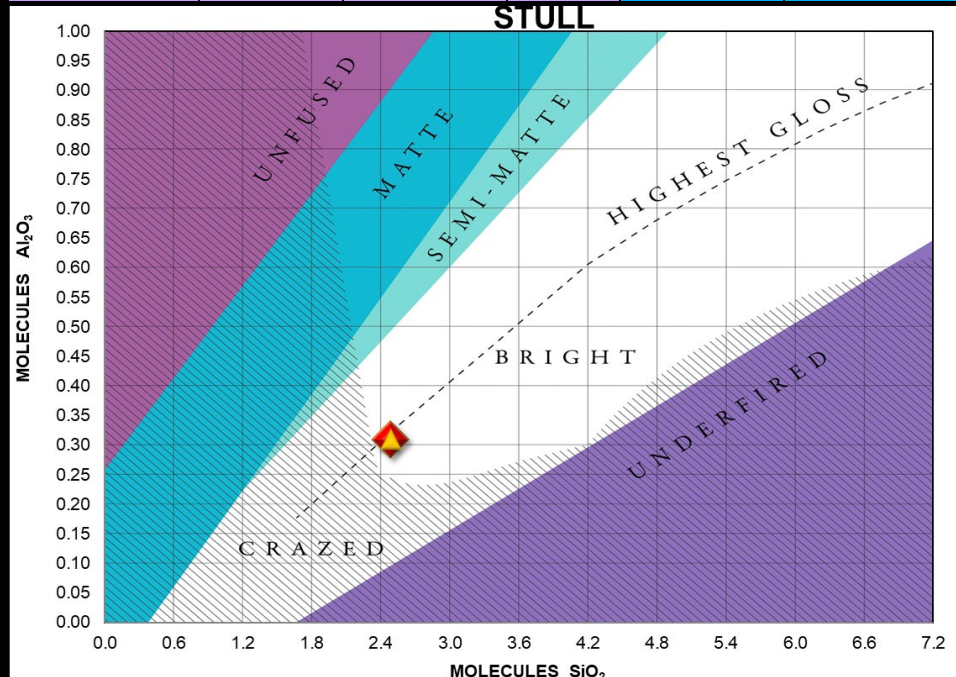
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Red Iron Oxide

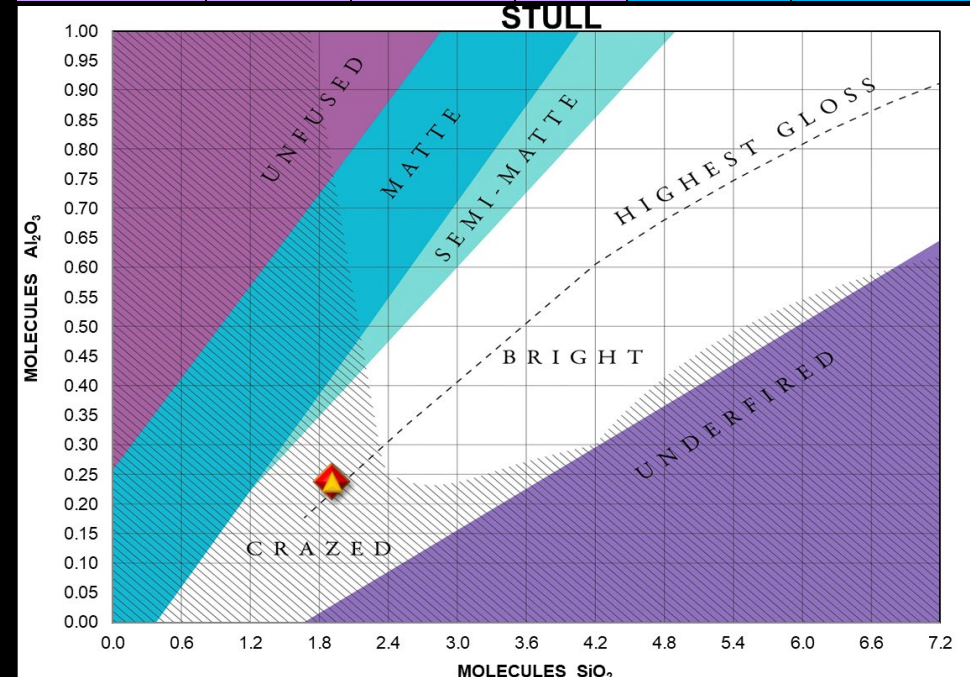
3%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 : 1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 2.49	Collective "Al ₂ O ₃ " 0.31	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.31	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.62	FeO 0.16
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



9%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 : 1		Alkali Metals 0.17		Alkaline Earths 0.83	
SiO ₂ 1.91	Collective "Al ₂ O ₃ " 0.24	Na ₂ O 0.13	K ₂ O 0.04	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.24	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.48	FeO 0.35
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Black Iron Oxide

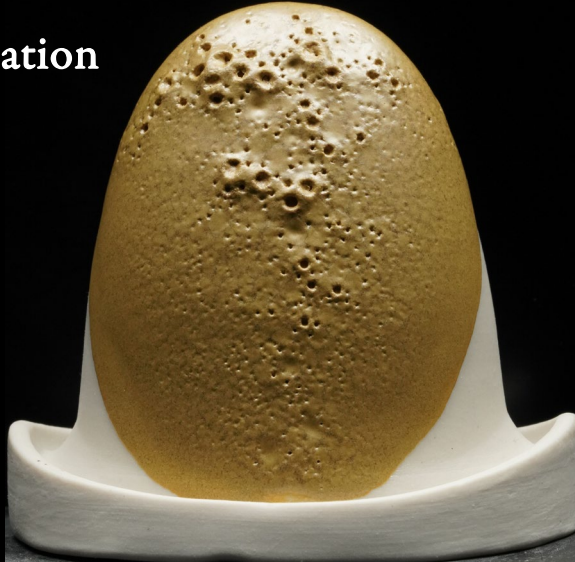
Oxidation

Reduction

3%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

9%



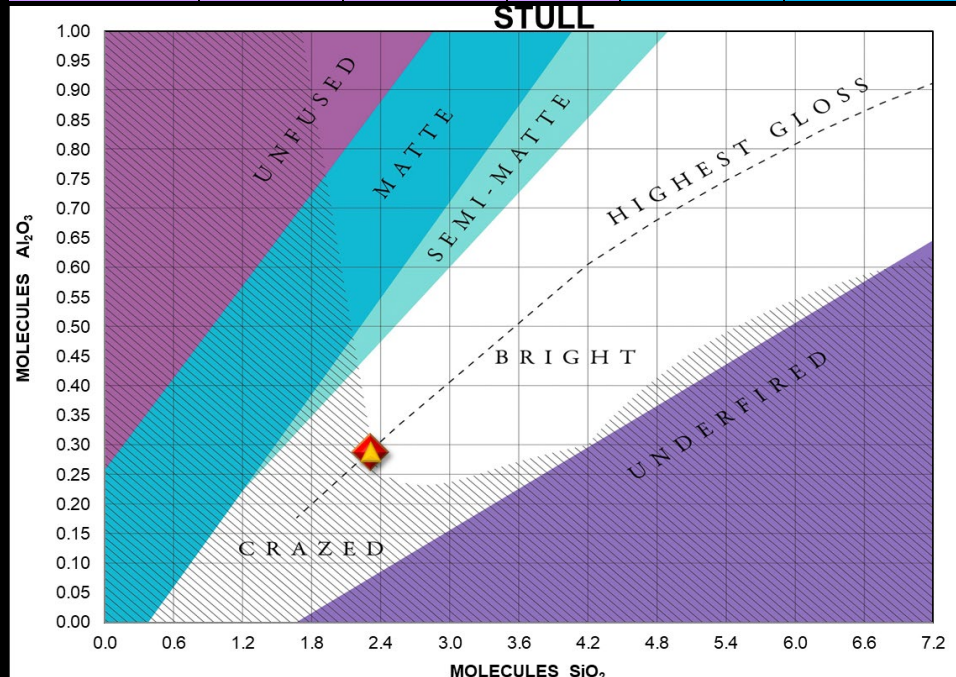
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Black Iron Oxide

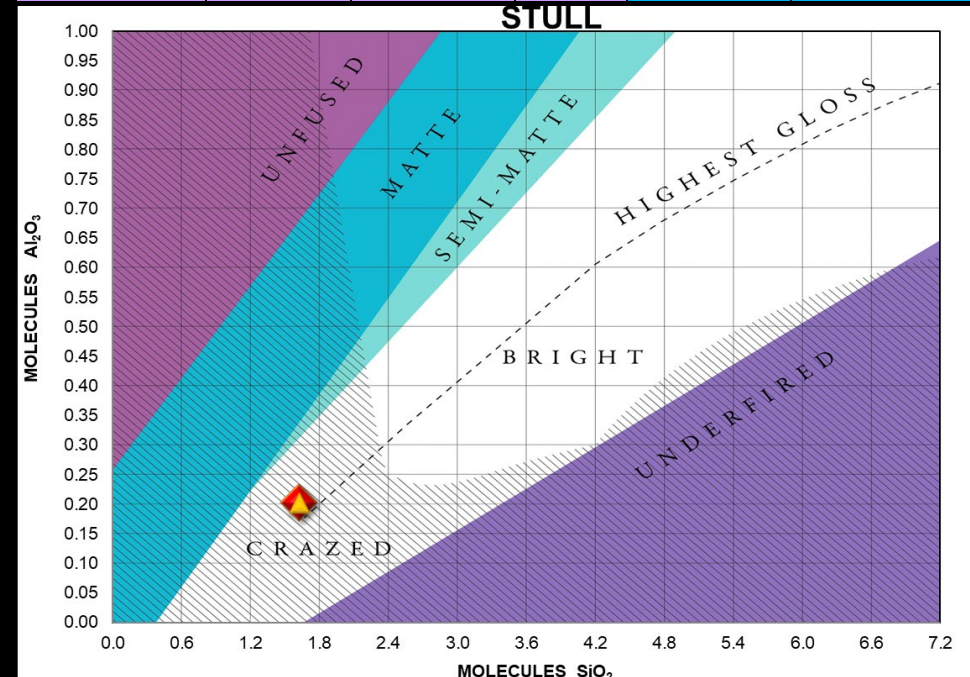
3%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 :1		Alkali Metals 0.20		Alkaline Earths 0.80	
SiO ₂ 2.31	Collective "Al ₂ O ₃ " 0.29	Na ₂ O 0.16	K ₂ O 0.04	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.29	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.58	FeO 0.22
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



9%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 :1		Alkali Metals 0.14		Alkaline Earths 0.86	
SiO ₂ 1.63	Collective "Al ₂ O ₃ " 0.20	Na ₂ O 0.11	K ₂ O 0.03	MgO 0.00	CaO 0.00
B ₂ O ₃	Al ₂ O ₃ 0.20	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.40	FeO 0.45
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Yellow Iron Oxide

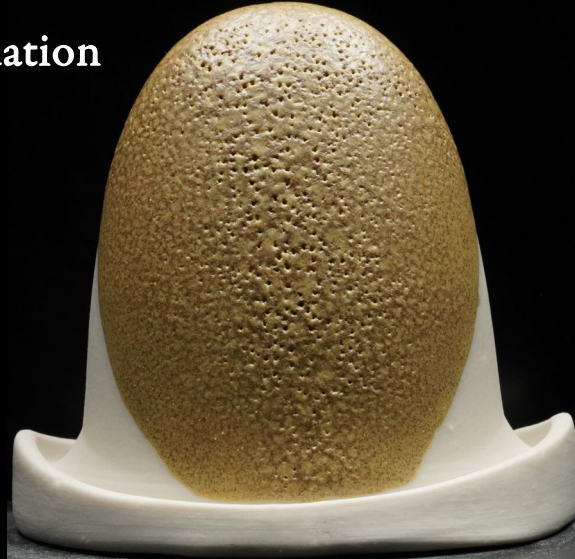
Oxidation

Reduction

3%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

9%



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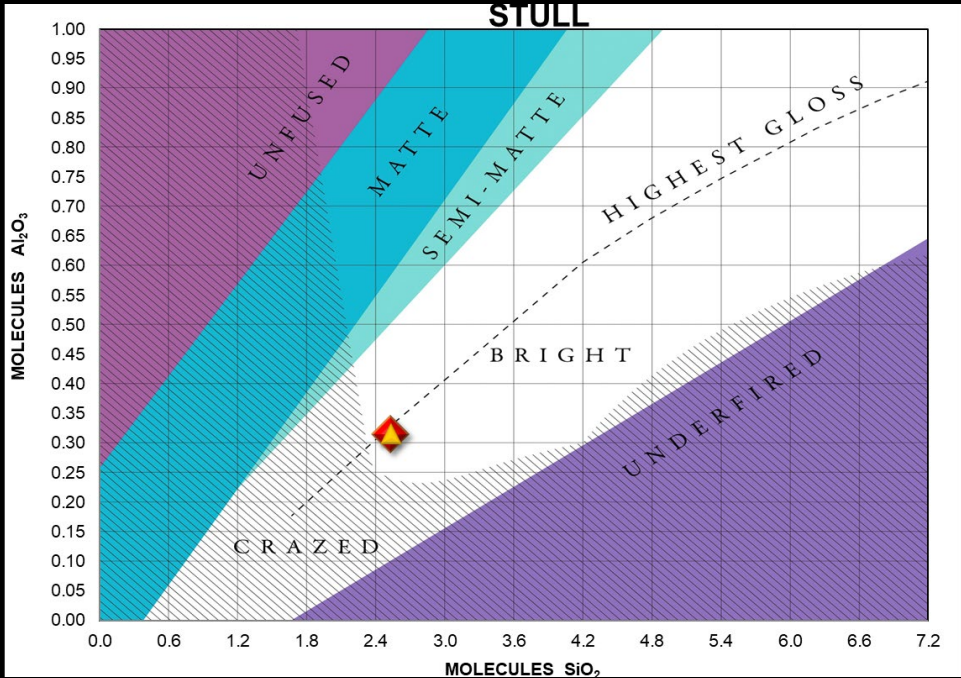
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Yellow Iron Oxide

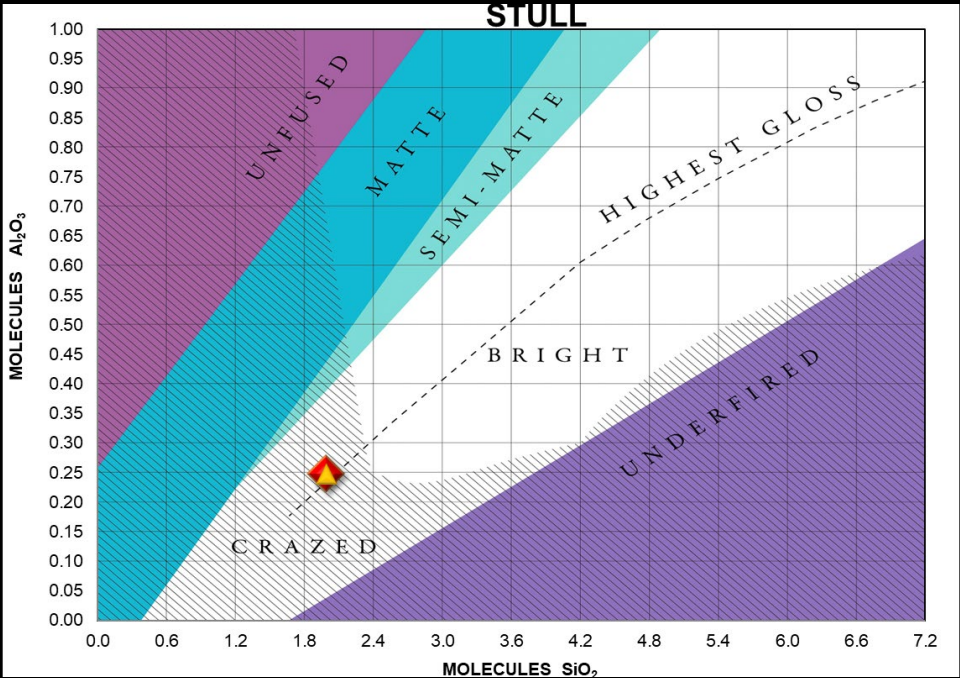
3%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 :1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 2.53	Collective "Al ₂ O ₃ " 0.32	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.31	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.63	FeO 0.14
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



9%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 :1		Alkali Metals 0.17		Alkaline Earths 0.83	
SiO ₂ 1.99	Collective "Al ₂ O ₃ " 0.25	Na ₂ O 0.13	K ₂ O 0.04	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.25	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.50	FeO 0.32
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Manganese Dioxide

Oxidation

Reduction

1%



1-3 Second Dip

2-3 Second Dips

1-3 Second Dip

2-3 Second Dips

4%



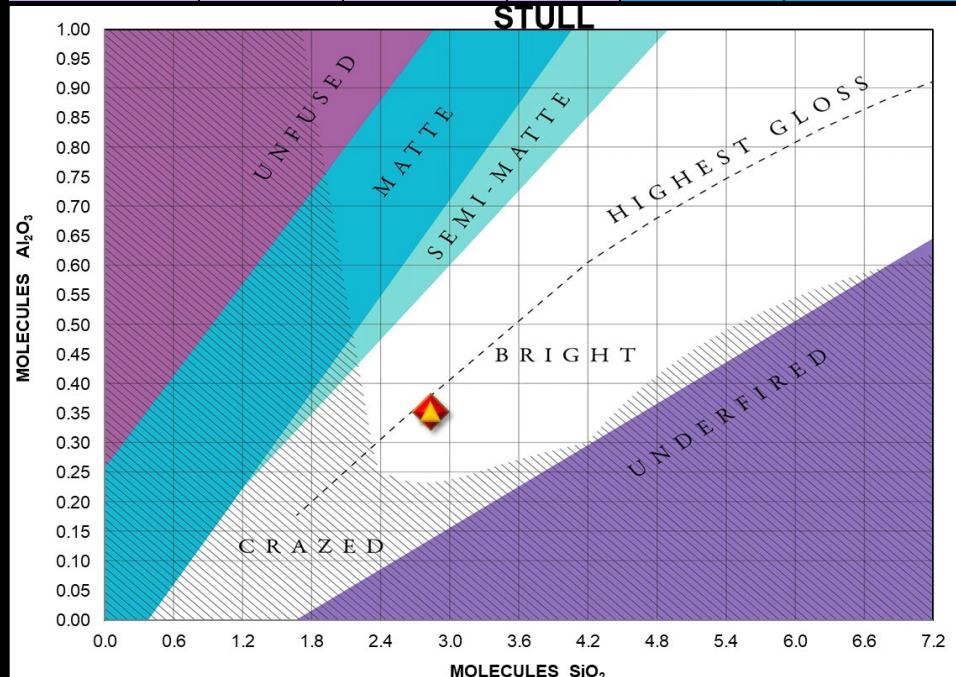
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Manganese Dioxide

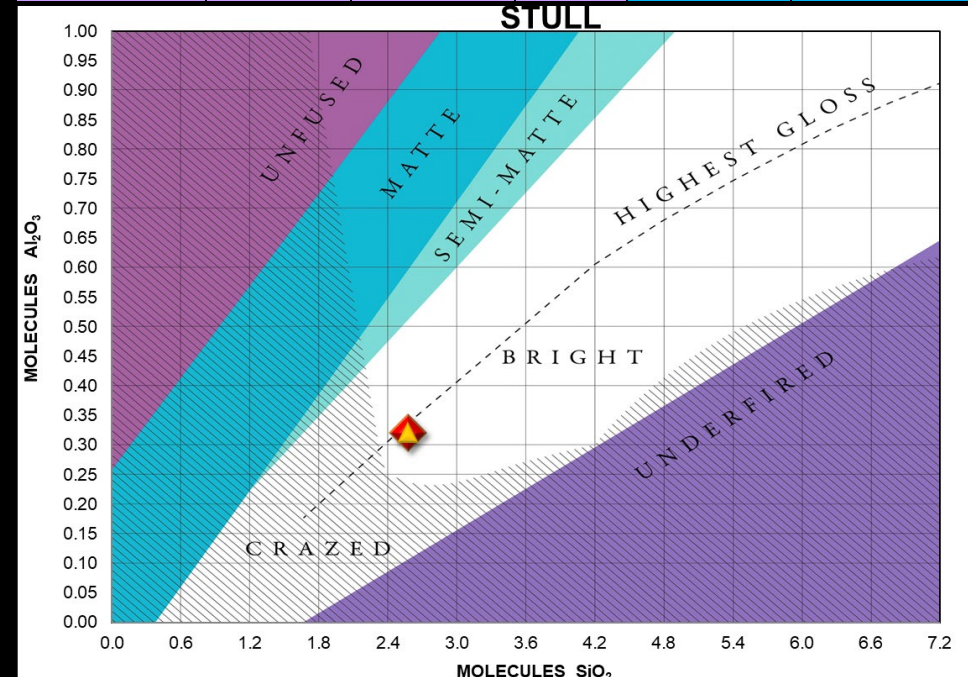
1%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 :1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.83	Collective "Al ₂ O ₃ " 0.35	Na ₂ O 0.19	K ₂ O 0.05	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.35	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.71	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂ 0.03	CoO



4%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 :1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 2.58	Collective "Al ₂ O ₃ " 0.32	Na ₂ O 0.17	K ₂ O 0.05	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.32	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.64	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂ 0.12	CoO



Vanadium Pentoxide

Oxidation

Reduction

3%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

9%



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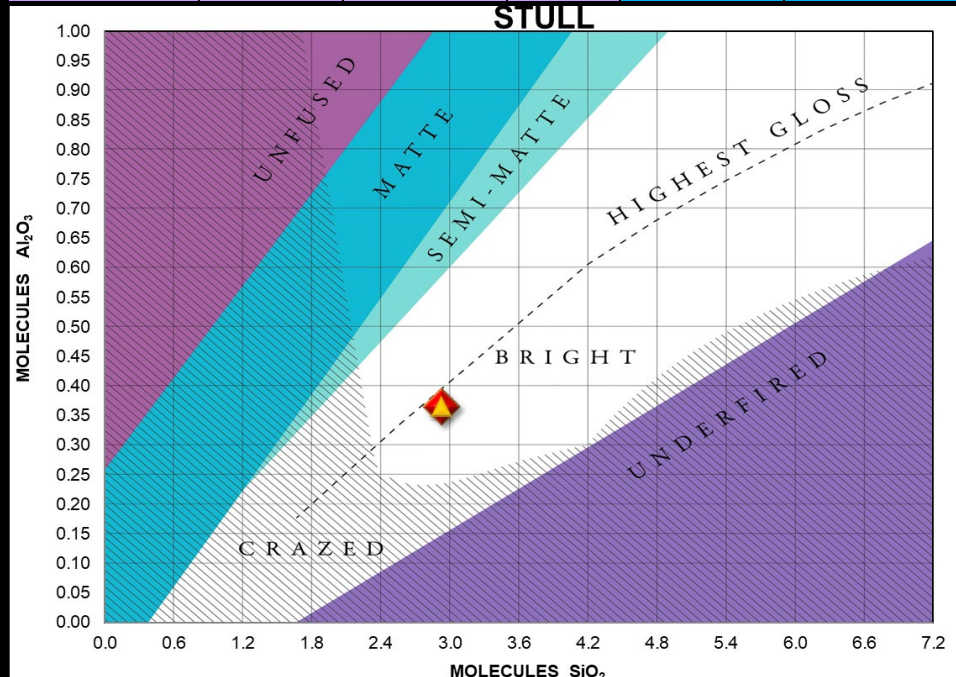
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Vanadium Pentoxide

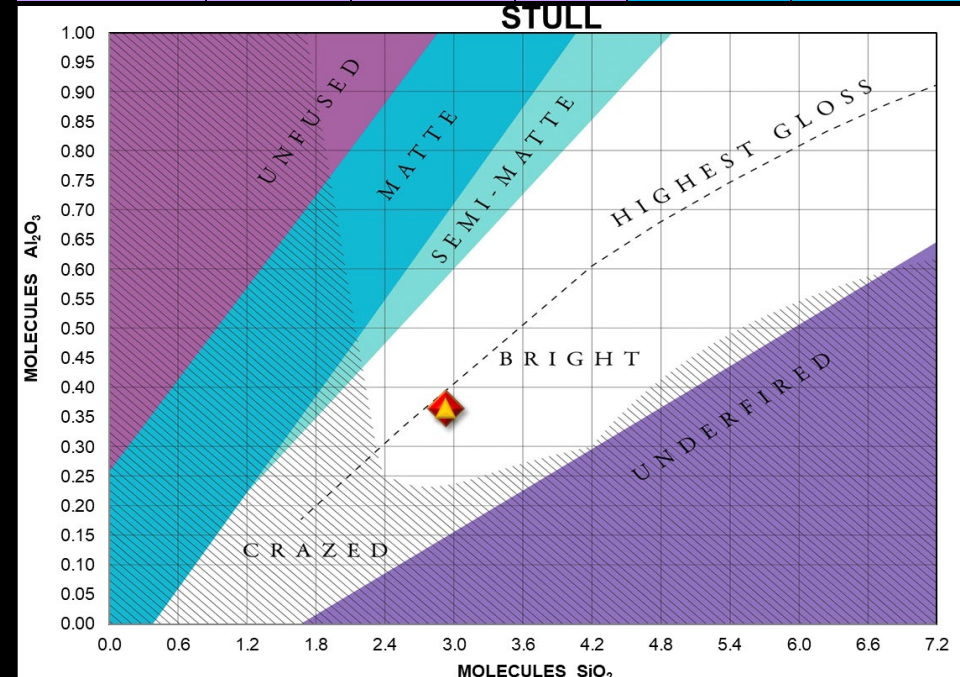
3%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 : 1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.93	Collective "Al ₂ O ₃ " 0.37	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



9%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 : 1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.93	Collective "Al ₂ O ₃ " 0.37	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Dark Rutile

Oxidation

Reduction

3%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

9%



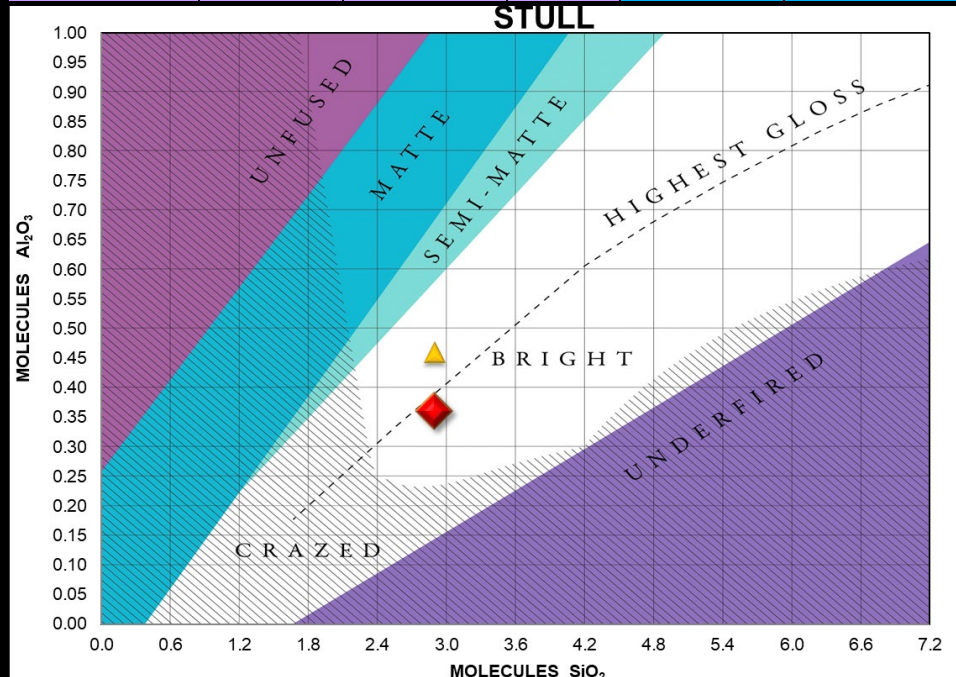
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Dark Rutile

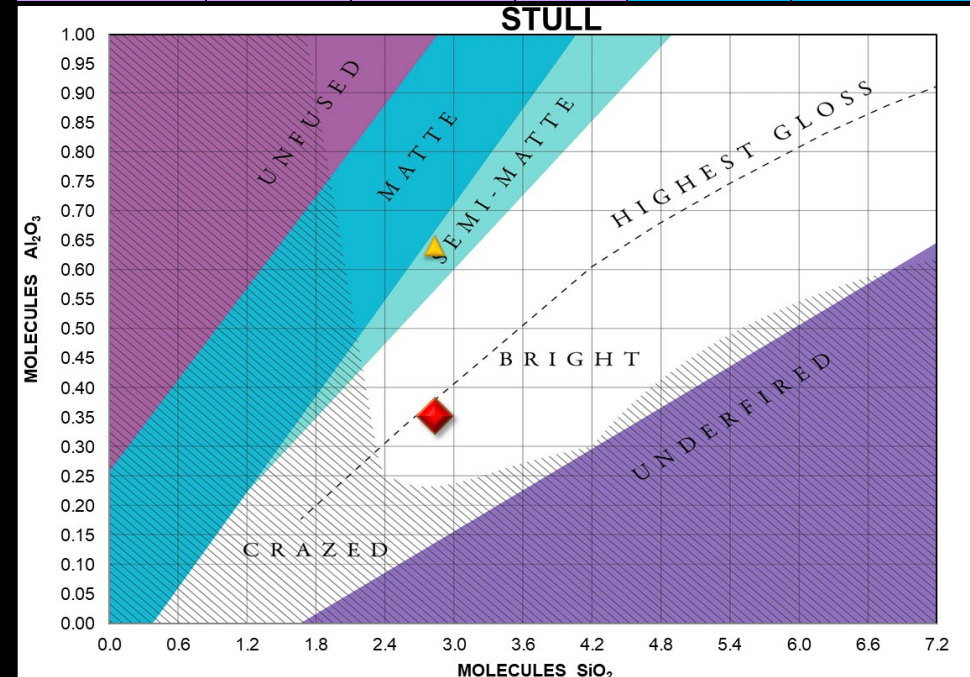
3%

SiO ₂ :Al ₂ O ₃ Ratio 6.29 : 1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.90	Collective "Al ₂ O ₃ " 0.46	Na ₂ O 0.19	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.10	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.72	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



9%

SiO ₂ :Al ₂ O ₃ Ratio 4.41 : 1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.83	Collective "Al ₂ O ₃ " 0.64	Na ₂ O 0.19	K ₂ O 0.05	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.35	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.29	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.71	FeO 0.04
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Light Rutile

Oxidation

Reduction

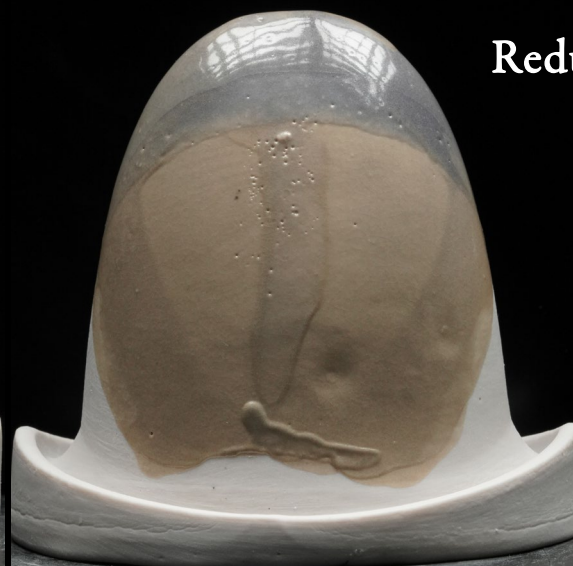
3%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

9%



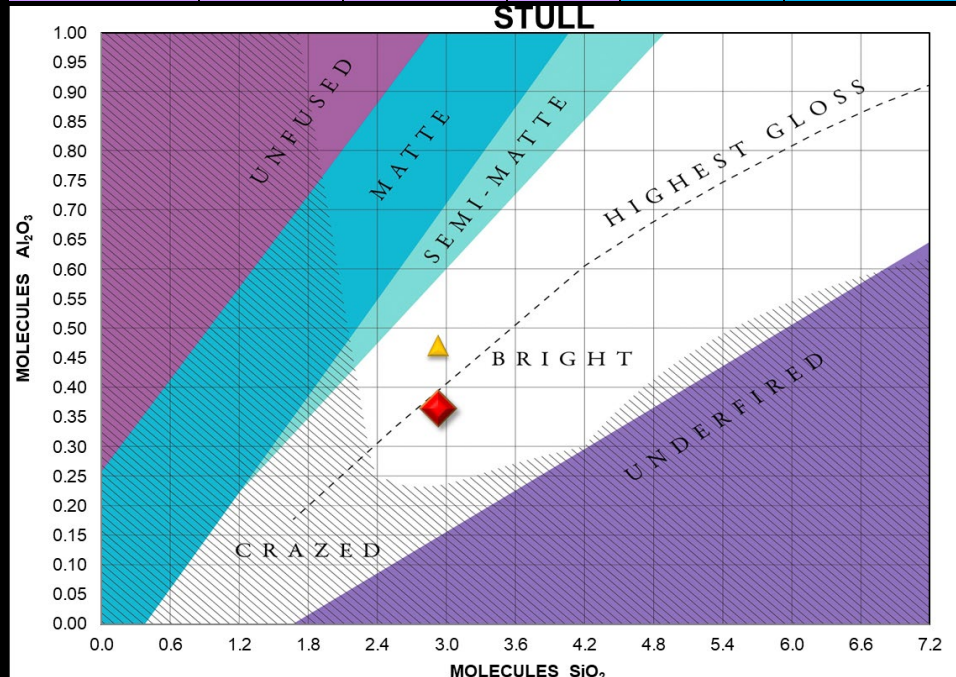
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Light Rutile

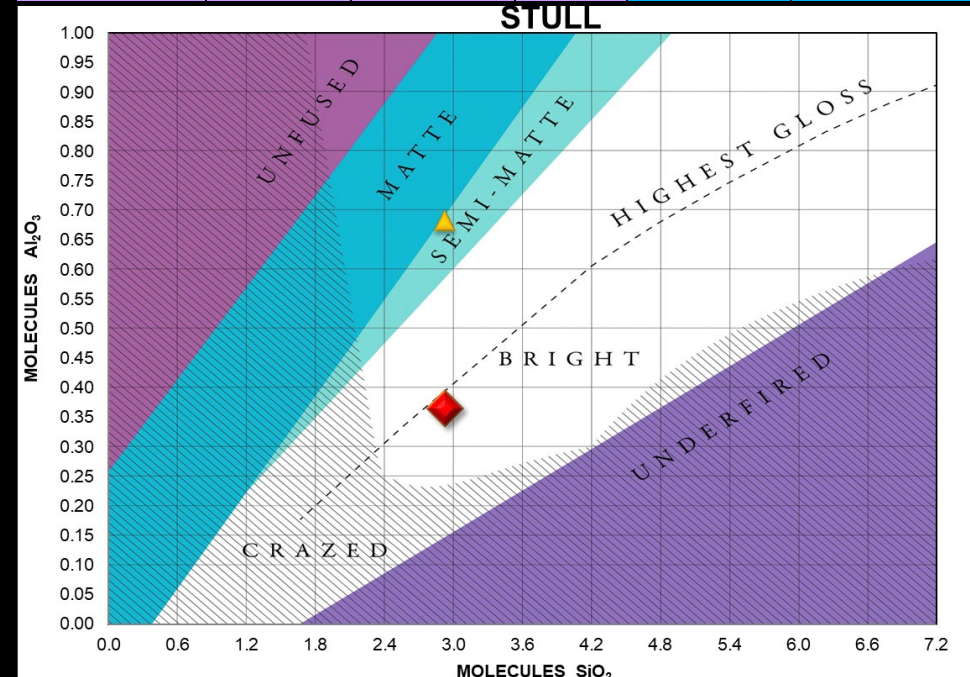
3%

SiO ₂ :Al ₂ O ₃ Ratio 6.20 :1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.93	Collective "Al ₂ O ₃ " 0.47	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.11	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



9%

SiO ₂ :Al ₂ O ₃ Ratio 4.28 :1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.93	Collective "Al ₂ O ₃ " 0.68	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.32	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Titanium Dioxide

Oxidation

Reduction

3%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

9%



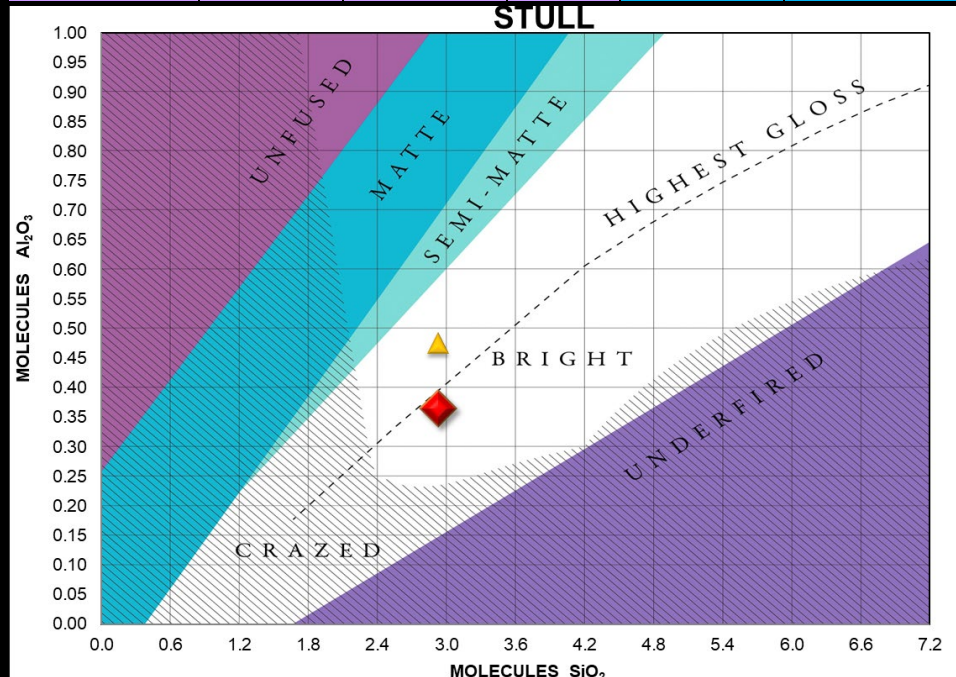
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Titanium Dioxide

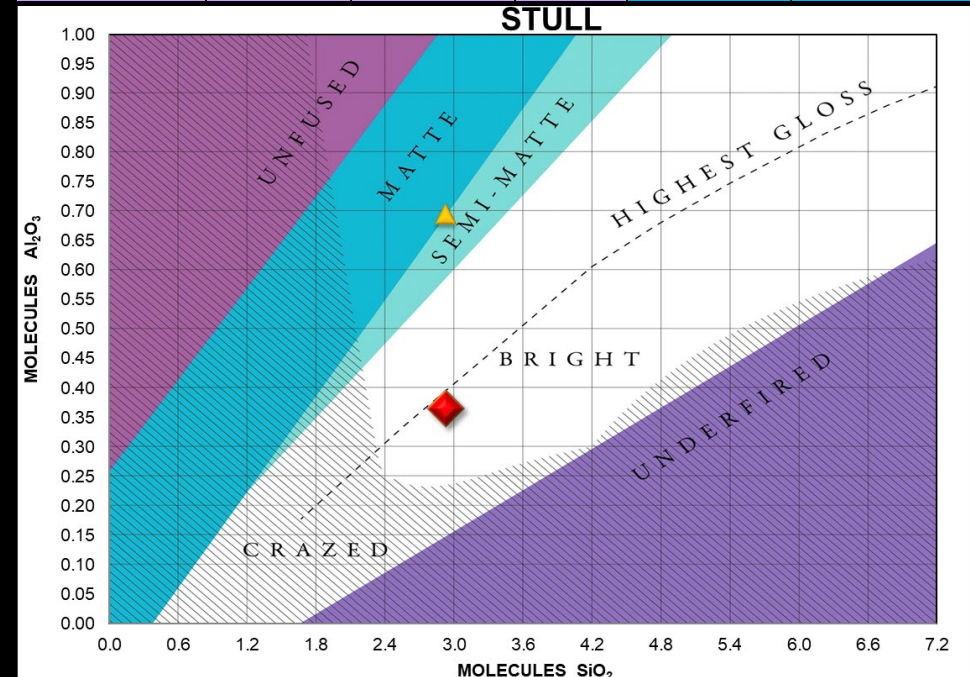
3%

SiO ₂ :Al ₂ O ₃ Ratio 6.15 : 1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.93	Collective "Al ₂ O ₃ " 0.48	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.11	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



9%

SiO ₂ :Al ₂ O ₃ Ratio 4.20 : 1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.93	Collective "Al ₂ O ₃ " 0.70	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.33	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

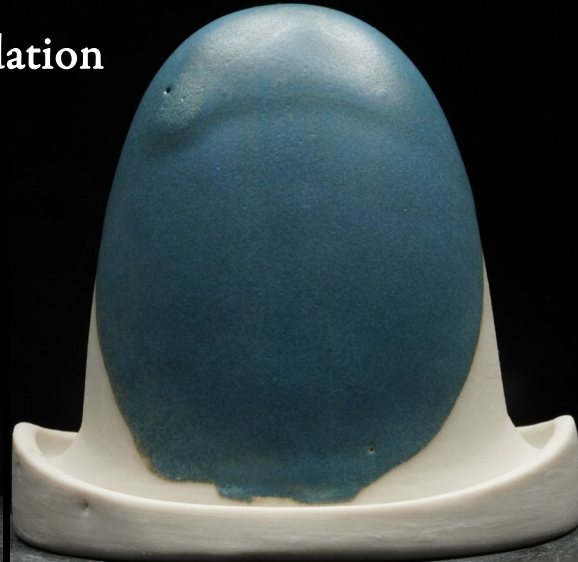
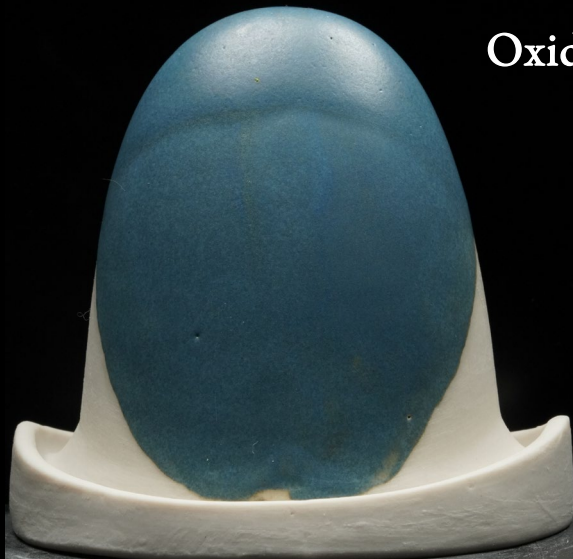


Nickel Carbonate

Oxidation

Reduction

2%



1-3 Second Dip

2-3 Second Dips

1-3 Second Dip

2-3 Second Dips

6%



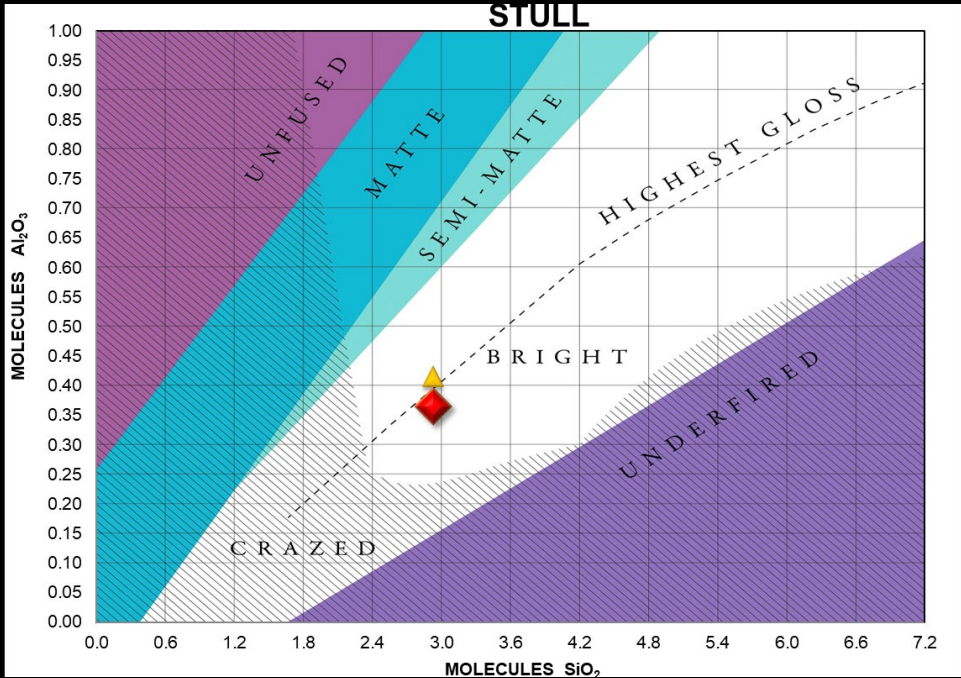
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Nickel Carbonate

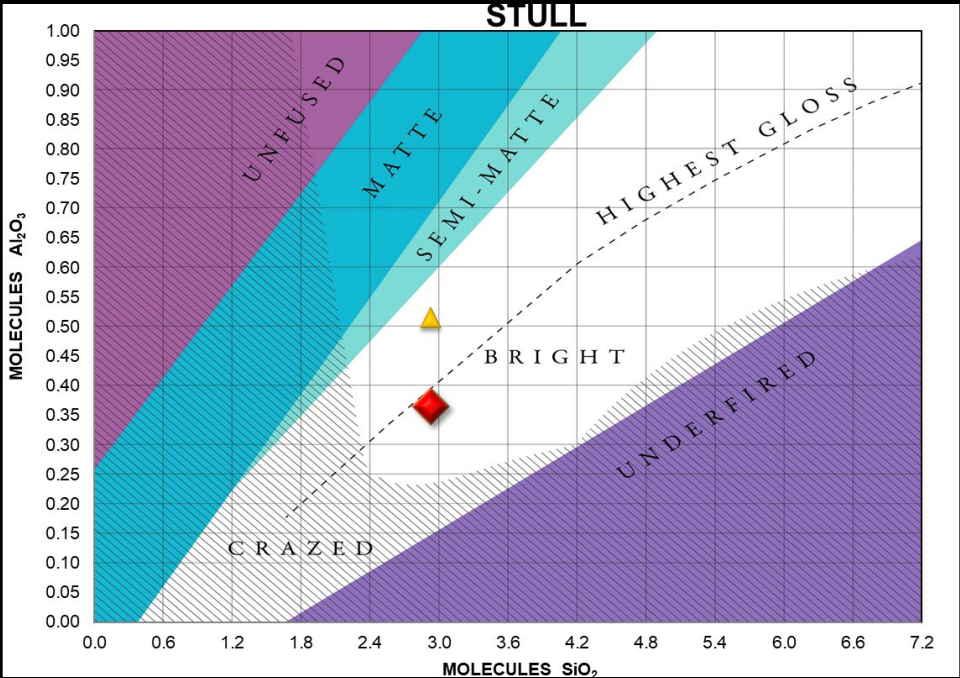
2%

SiO ₂ :Al ₂ O ₃ Ratio 7.04 :1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.93	Collective "Al ₂ O ₃ " 0.42	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO 0.05	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



6%

SiO ₂ :Al ₂ O ₃ Ratio 5.67 :1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.93	Collective "Al ₂ O ₃ " 0.52	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO 0.15	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Nickel Oxide-Black

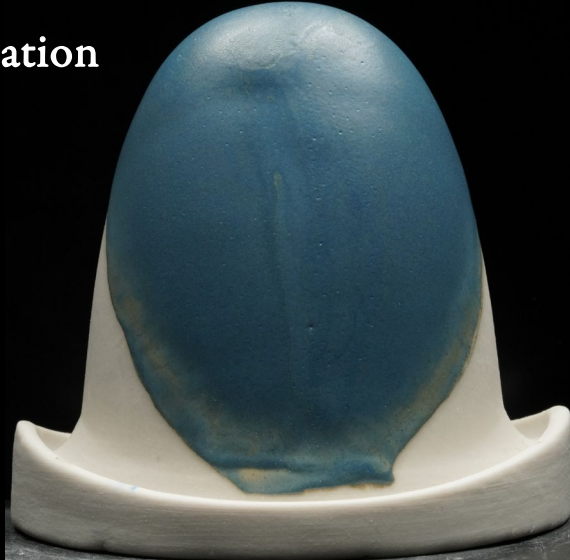
Oxidation

Reduction

2%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

6%



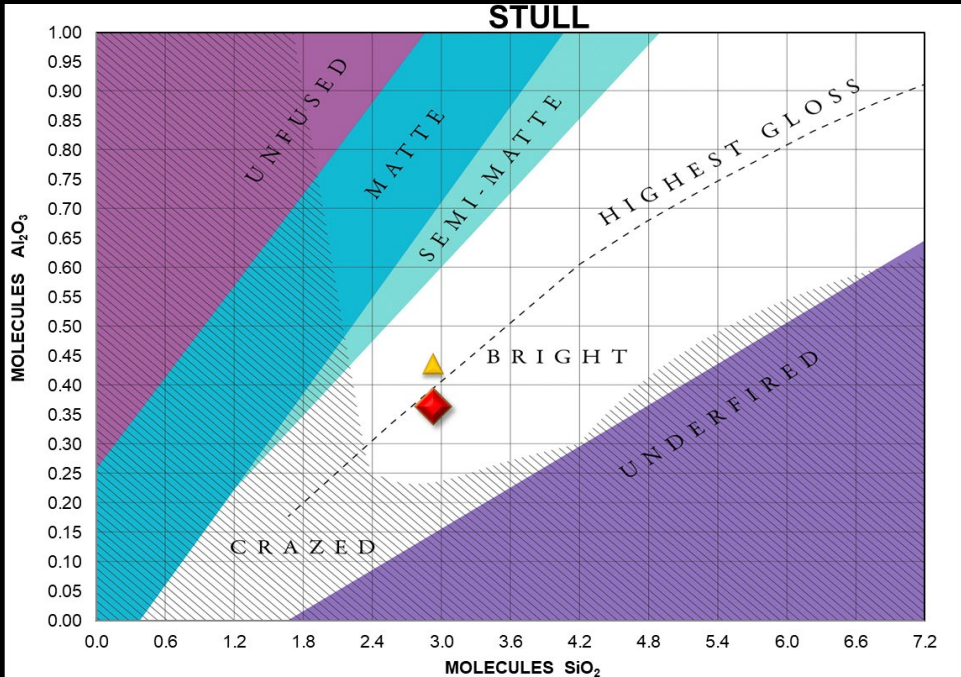
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Nickel Oxide-Black

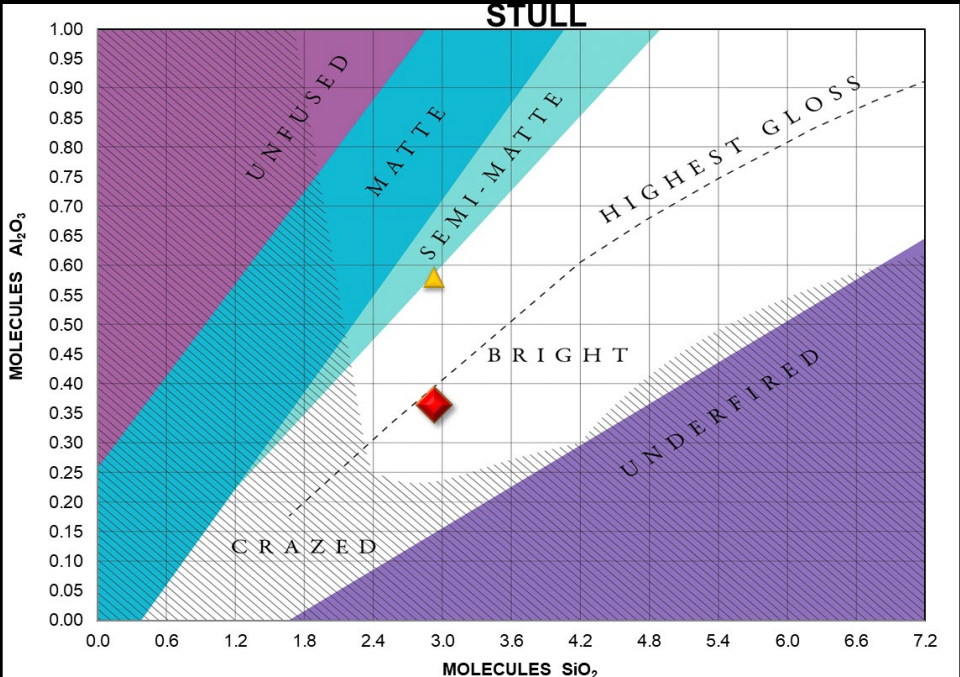
2%

SiO ₂ :Al ₂ O ₃ Ratio 6.69 :1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.93	Collective "Al ₂ O ₃ " 0.44	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO 0.07	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



6%

SiO ₂ :Al ₂ O ₃ Ratio 5.04 :1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.93	Collective "Al ₂ O ₃ " 0.58	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO 0.21	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Tin Oxide

Oxidation

Reduction

3%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

6%



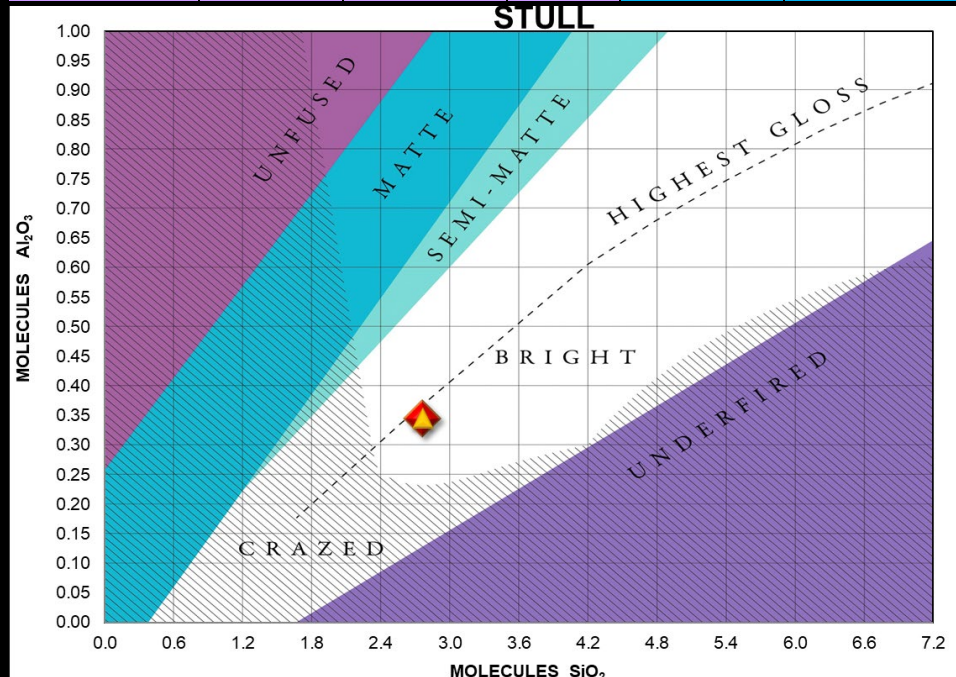
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Tin Oxide

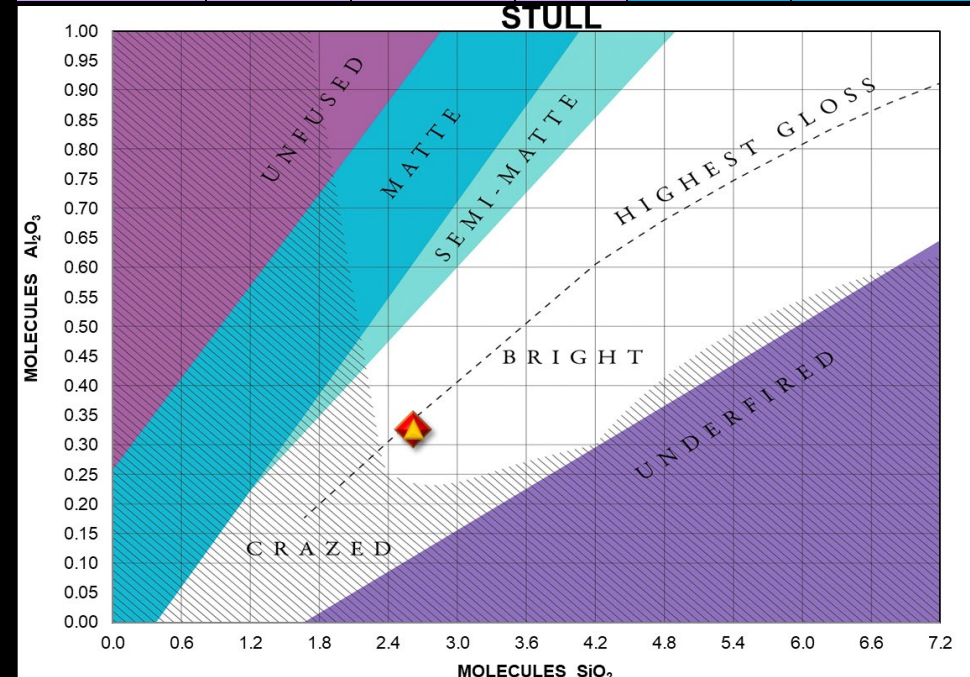
3%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 :1		Alkali Metals 0.30		Alkaline Earths 0.70	
SiO ₂ 2.77	Collective "Al ₂ O ₃ " 0.35	Na ₂ O 0.19	K ₂ O 0.05	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.34	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂ 0.06	ZnO 0.69	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



6%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 :1		Alkali Metals 0.33		Alkaline Earths 0.67	
SiO ₂ 2.62	Collective "Al ₂ O ₃ " 0.33	Na ₂ O 0.18	K ₂ O 0.05	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.33	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂ 0.11	ZnO 0.65	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Zirconium Silicate

Oxidation

Reduction

5%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

10%



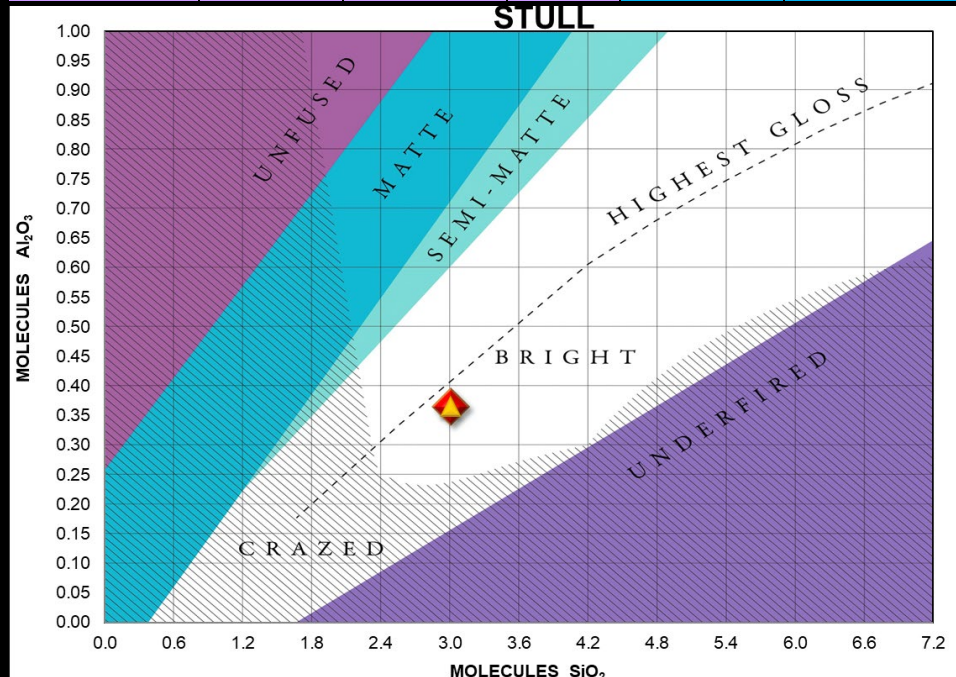
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Zirconium Silicate

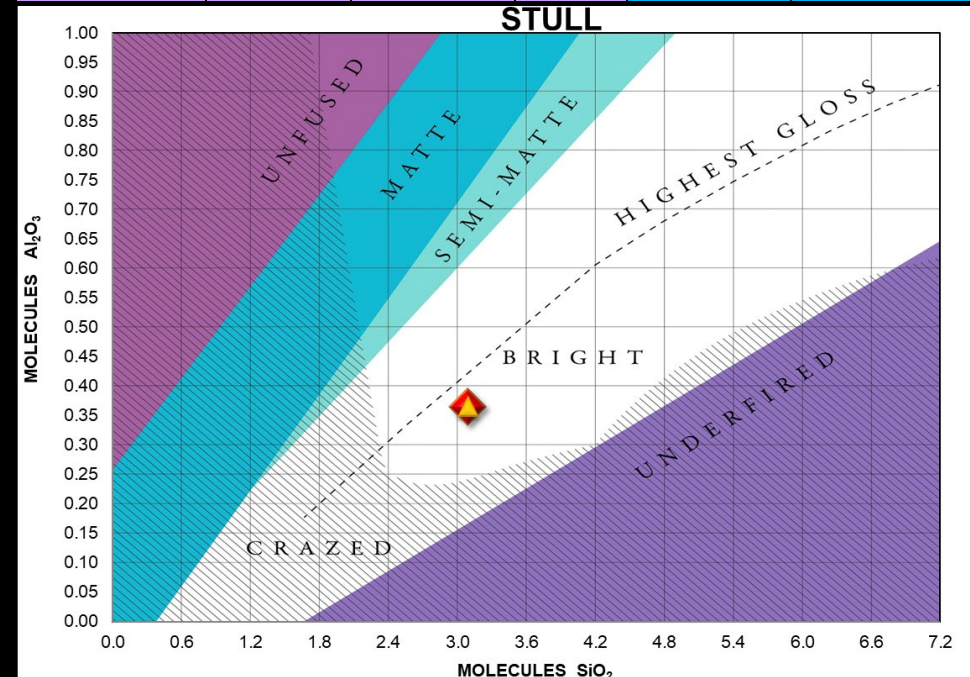
5%

SiO ₂ :Al ₂ O ₃ Ratio 8.22 : 1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 3.01	Collective "Al ₂ O ₃ " 0.37	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



10%

SiO ₂ :Al ₂ O ₃ Ratio 8.44 : 1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 3.09	Collective "Al ₂ O ₃ " 0.37	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Stain Dark Red 6021

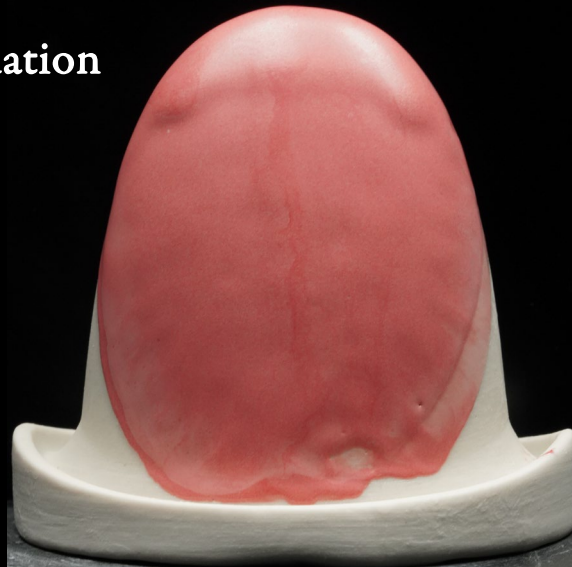
Oxidation

Reduction

5%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

10%



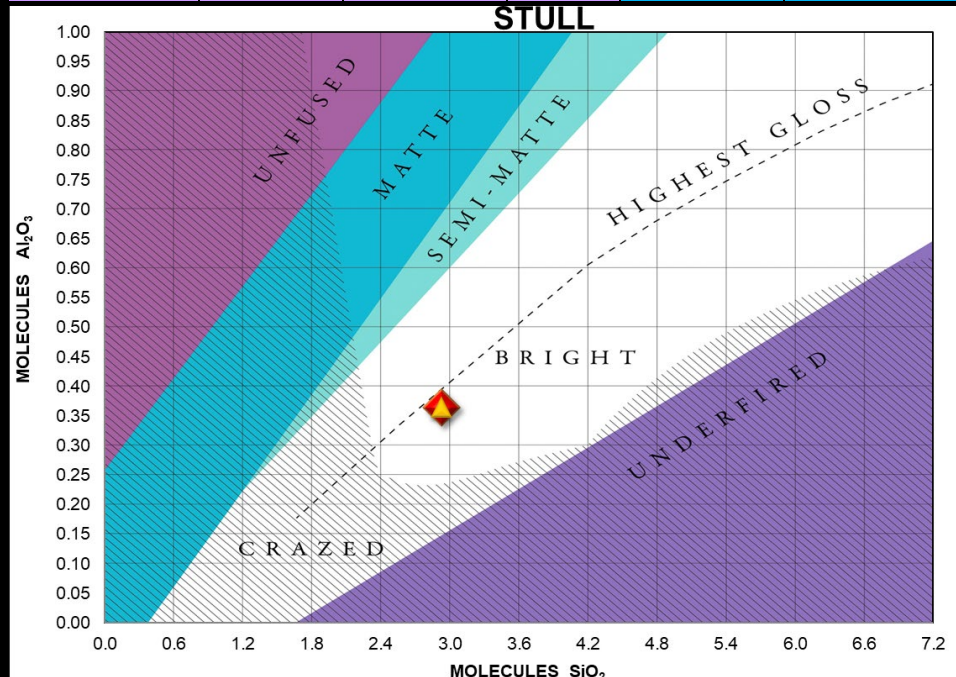
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Stain Dark Red 6021

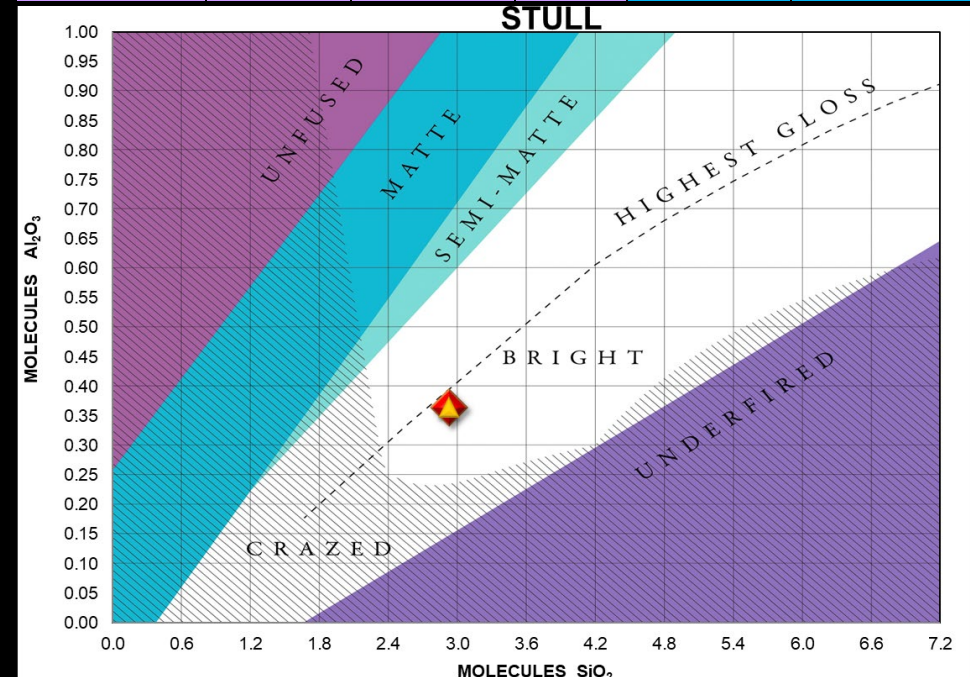
5%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 :1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.93	Collective "Al ₂ O ₃ " 0.37	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



10%

SiO ₂ :Al ₂ O ₃ Ratio 8.00 :1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.93	Collective "Al ₂ O ₃ " 0.37	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

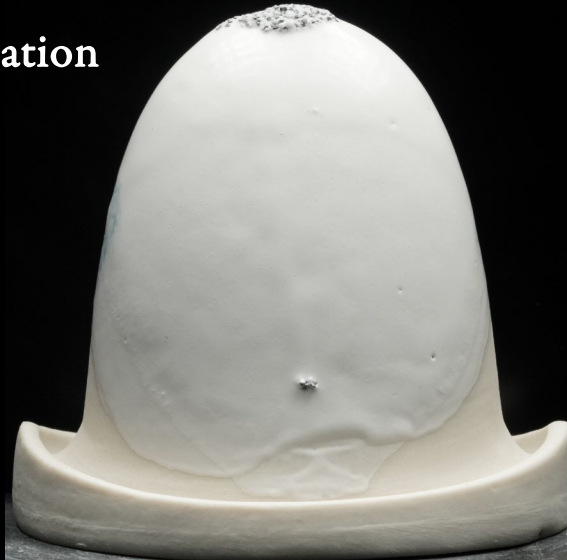


Silicon Carbide-30 Mesh

Oxidation

Reduction

3%



1-3 Second Dip

2-3 Second Dips

1-3 Second Dip

2-3 Second Dips

9%



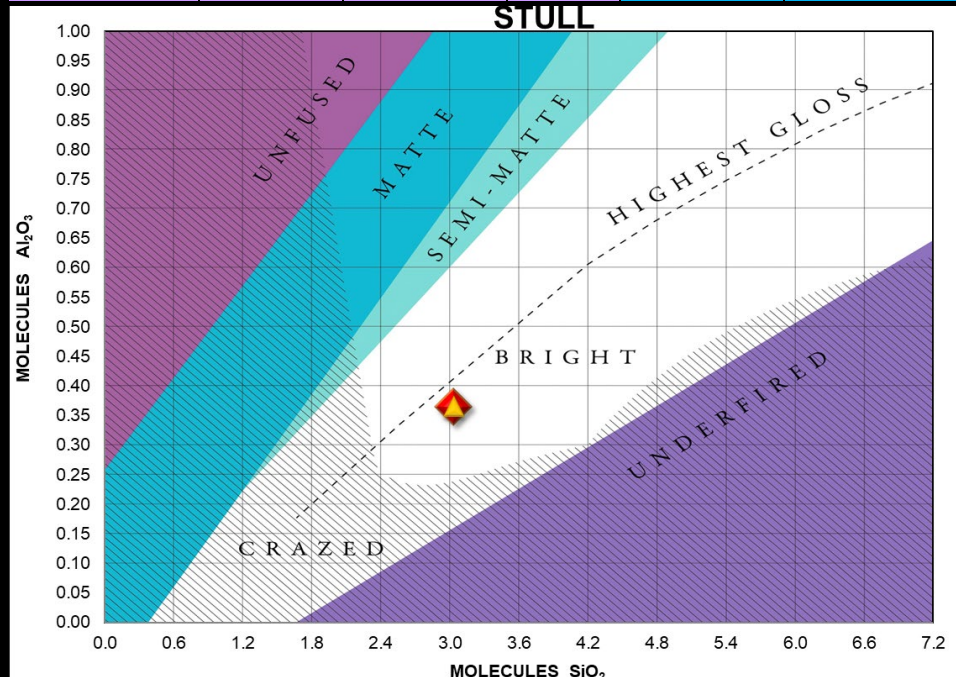
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Silicon Carbide-30 Mesh

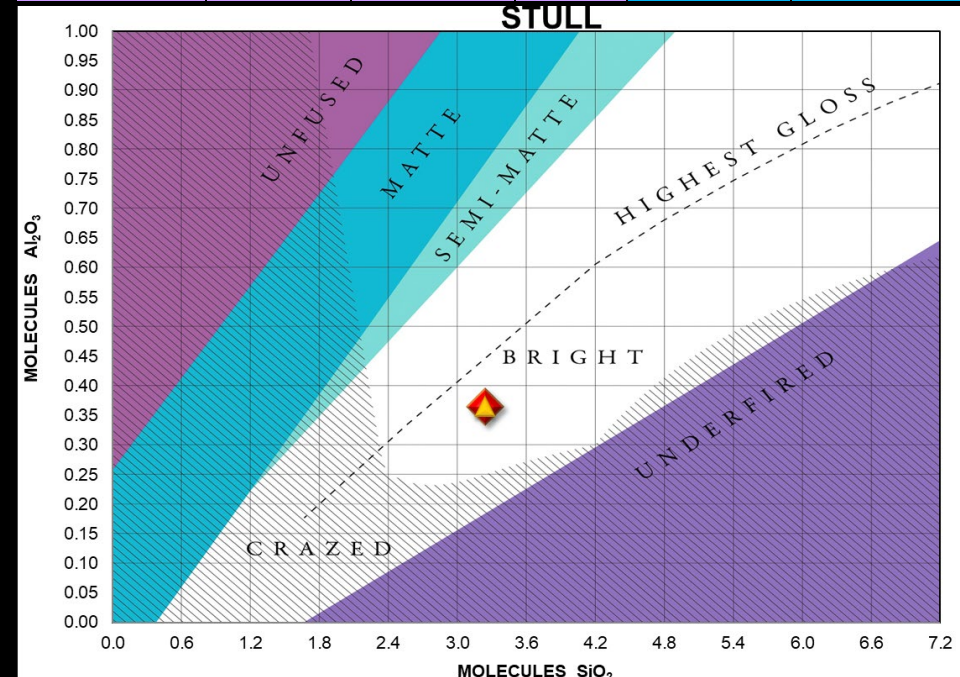
3%

SiO ₂ :Al ₂ O ₃ Ratio 8.28 :1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 3.03	Collective "Al ₂ O ₃ " 0.37	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



9%

SiO ₂ :Al ₂ O ₃ Ratio 8.85 :1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 3.24	Collective "Al ₂ O ₃ " 0.37	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

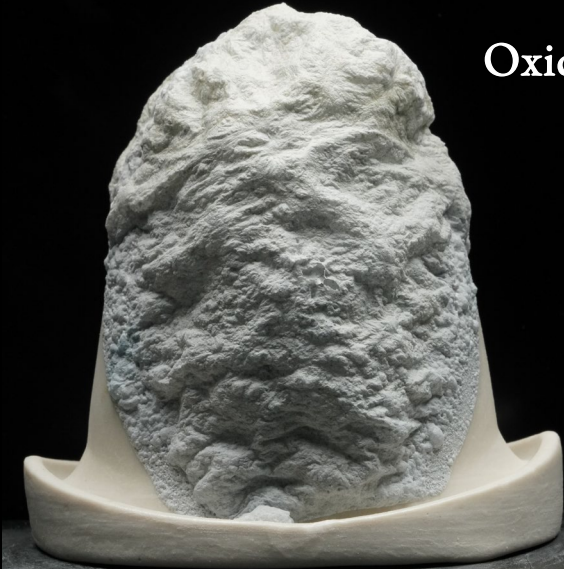


Silicon Carbide-800 Mesh

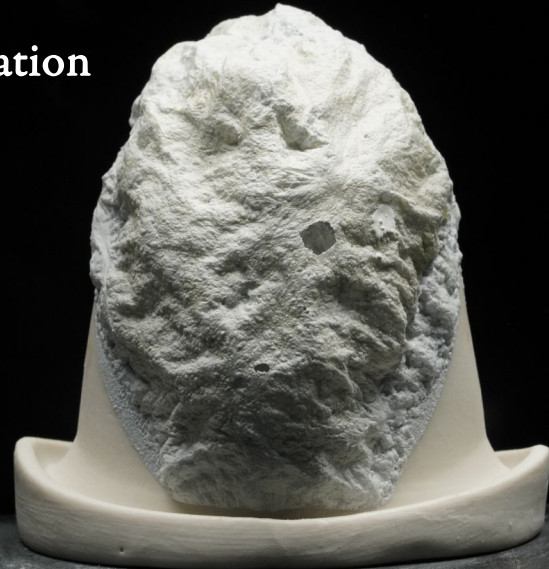
Oxidation

Reduction

3%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

9%



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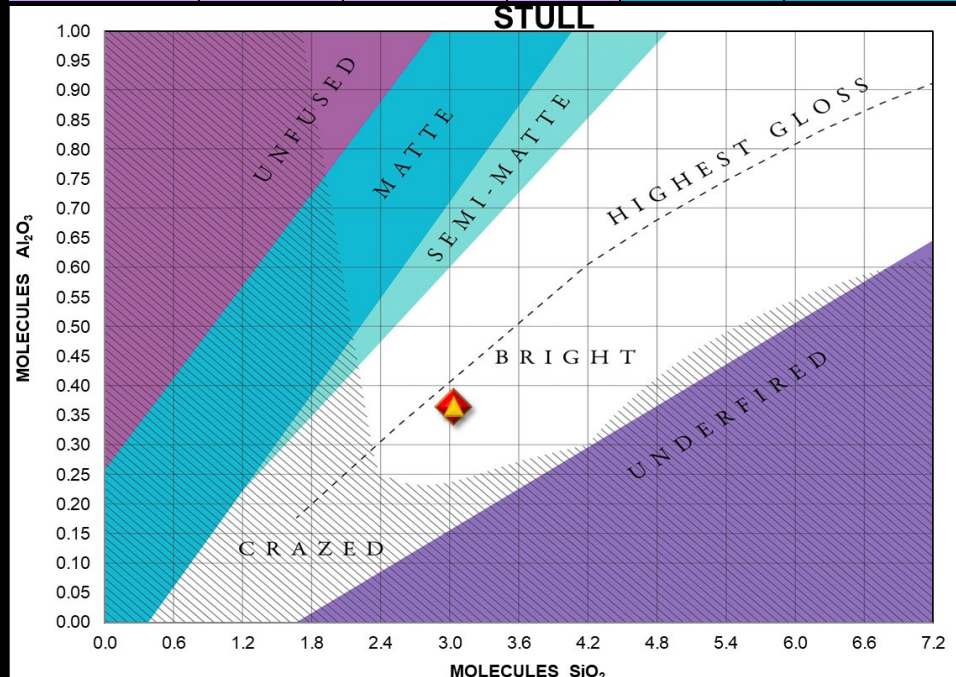
Silicon Carbide-800 Mesh-Side Views



Silicon Carbide-800 Mesh

3%

SiO ₂ :Al ₂ O ₃ Ratio 8.28 :1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 3.03	Collective "Al ₂ O ₃ " 0.37	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



9%

SiO ₂ :Al ₂ O ₃ Ratio 8.85 :1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 3.24	Collective "Al ₂ O ₃ " 0.37	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

