

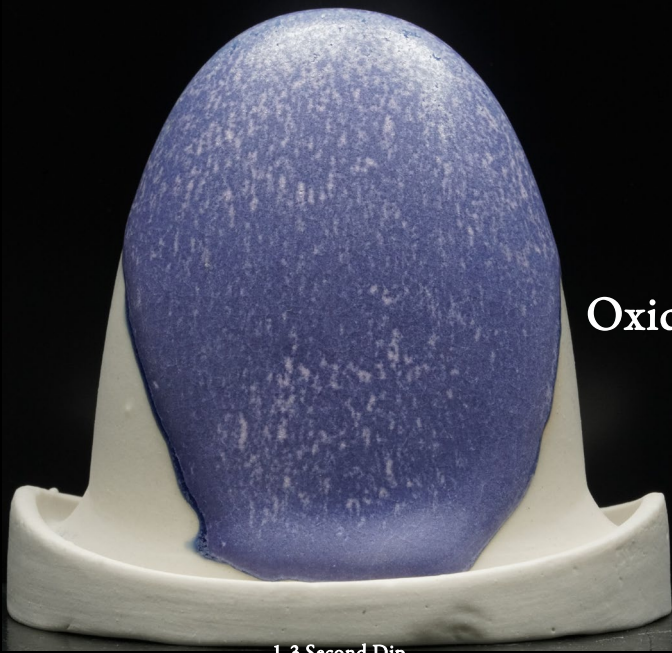
Purple Rain- Δ 10

Lab 5a-Color Wheel

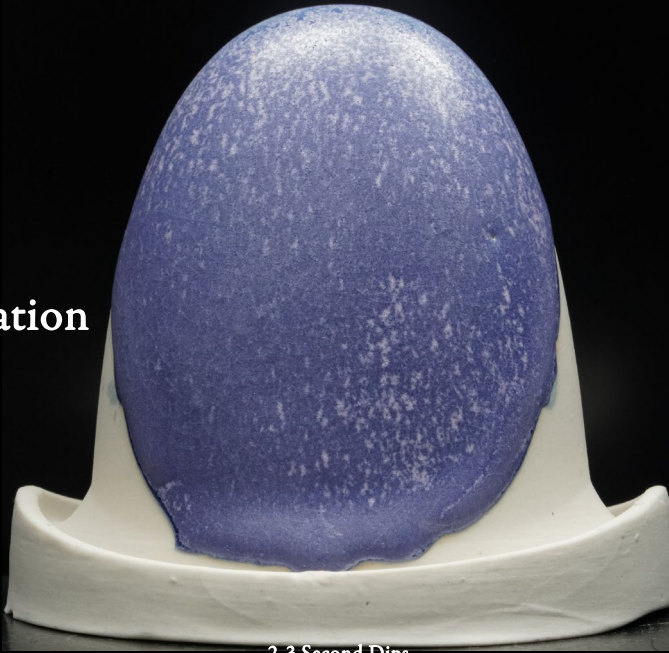
Purple Rain

Original
062722-1

Neph Sy	40.93
Dolomite	30.27
EPK	5.04
Flint	23.76
Cobalt Carbonate	1
Water	60



1-3 Second Dip



2-3 Second Dips

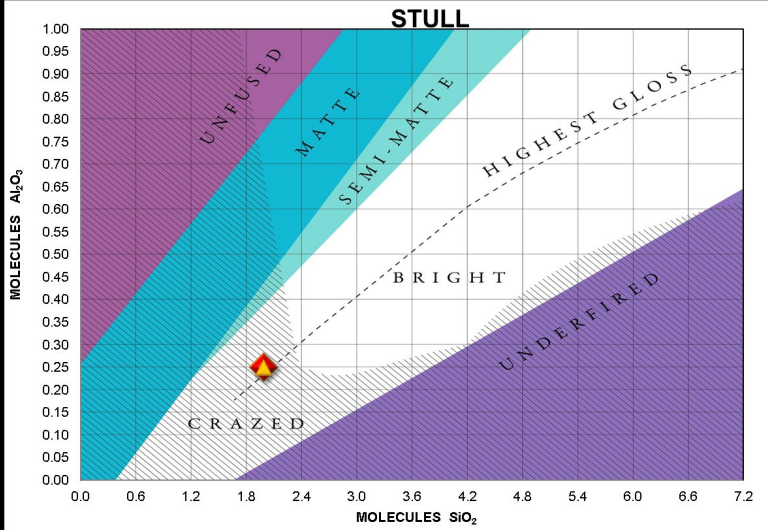


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.03	Collective "Al ₂ O ₃ " 0.26	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.40
B ₂ O ₃	Al ₂ O ₃ 0.26	Li ₂ O	CuO	SrO	BaO
TiO ₂	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.20		Alkaline Earths 0.80	
SiO ₂ 1.99	Collective "Al ₂ O ₃ " 0.25	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.38	CaO 0.39
B ₂ O ₃	Al ₂ O ₃ 0.25	Li ₂ O	CuO	SrO	BaO
TiO ₂	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO 0.02



Ceramic
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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%



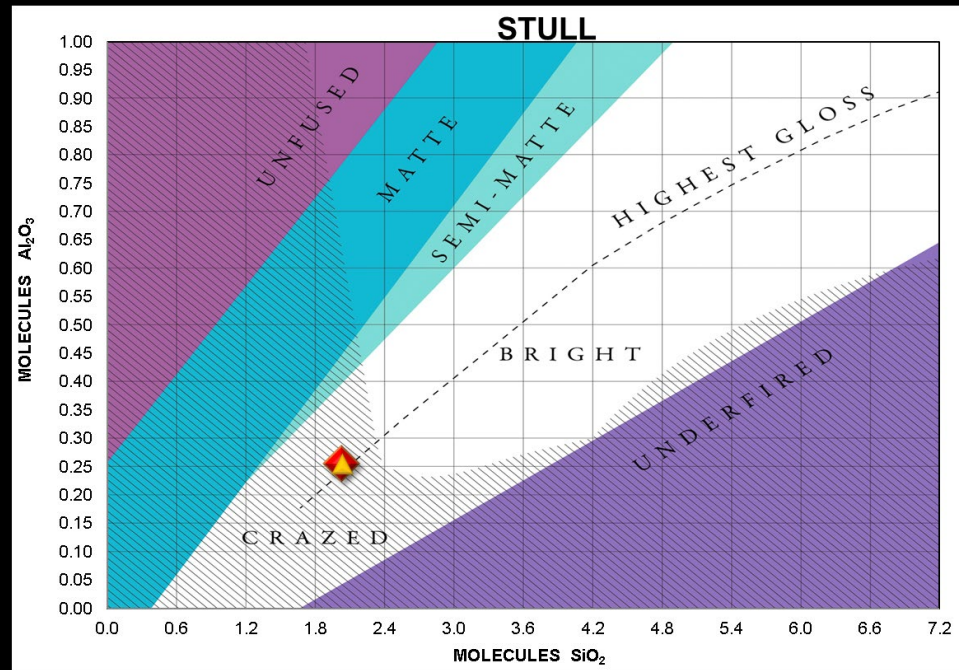
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Chrome Oxide

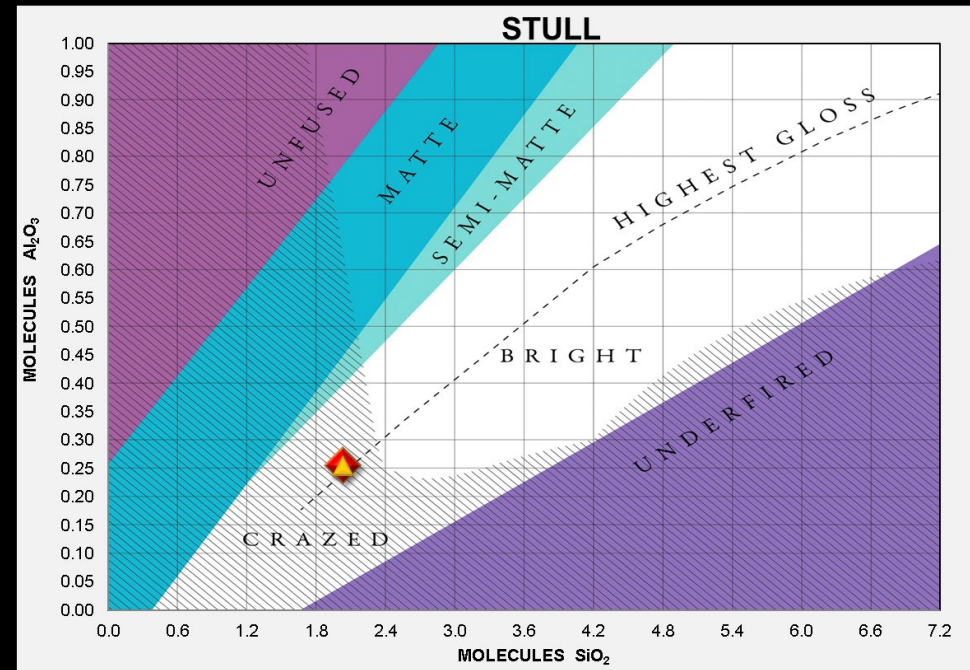
0.5%

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.03	Collective "Al ₂ O ₃ " 0.26	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.40
B ₂ O ₃	Al ₂ O ₃ 0.26	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃ 0.01	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



2%

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.03	Collective "Al ₂ O ₃ " 0.26	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.40
B ₂ O ₃	Al ₂ O ₃ 0.26	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃ 0.03	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%



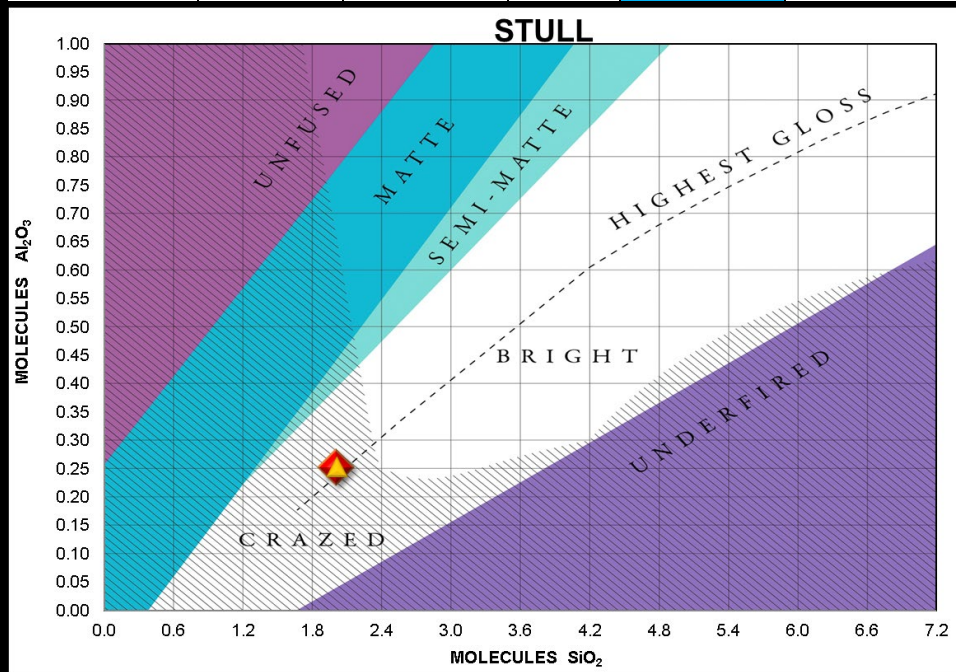
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Cobalt Carbonate

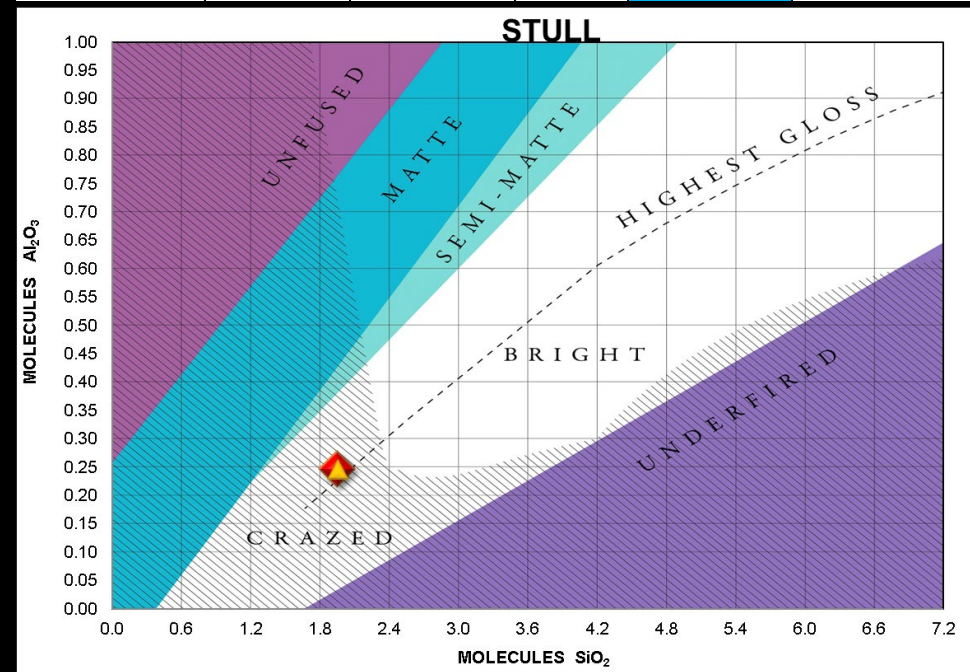
0.5%

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.01	Collective "Al ₂ O ₃ " 0.25	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.39
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	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO 0.01



2%

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.20		Alkaline Earths 0.80	
SiO ₂ 1.95	Collective "Al ₂ O ₃ " 0.25	Na ₂ O 0.16	K ₂ O 0.04	MgO 0.38	CaO 0.38
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	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO 0.04



Cobalt Oxide

0.5%

Oxidation

Reduction

1-3 Second Dip

2-3 Second Dips

1-3 Second Dip

2-3 Second Dips

2%



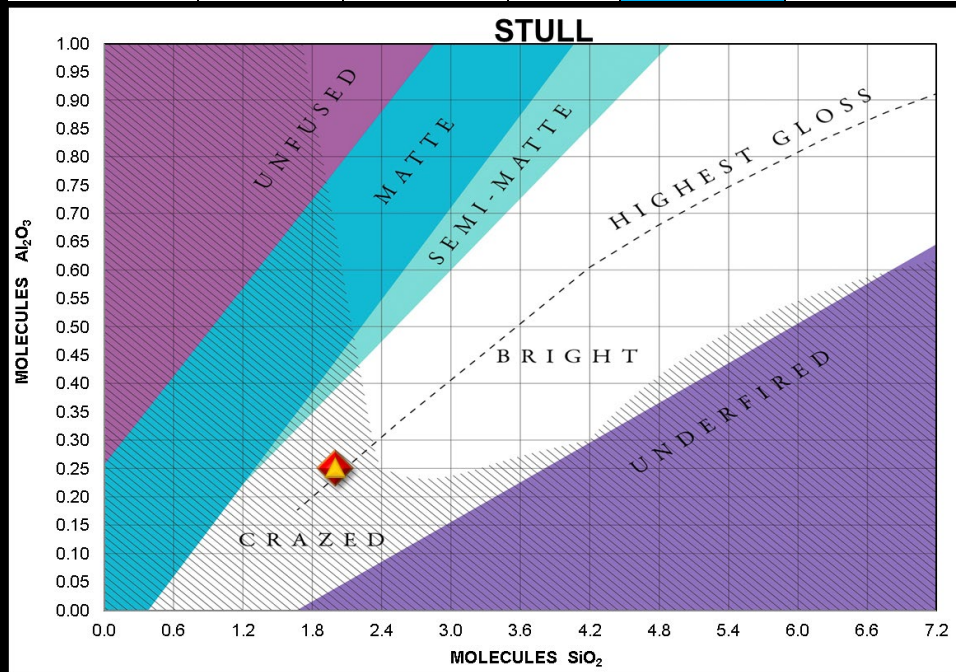
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Cobalt Oxide

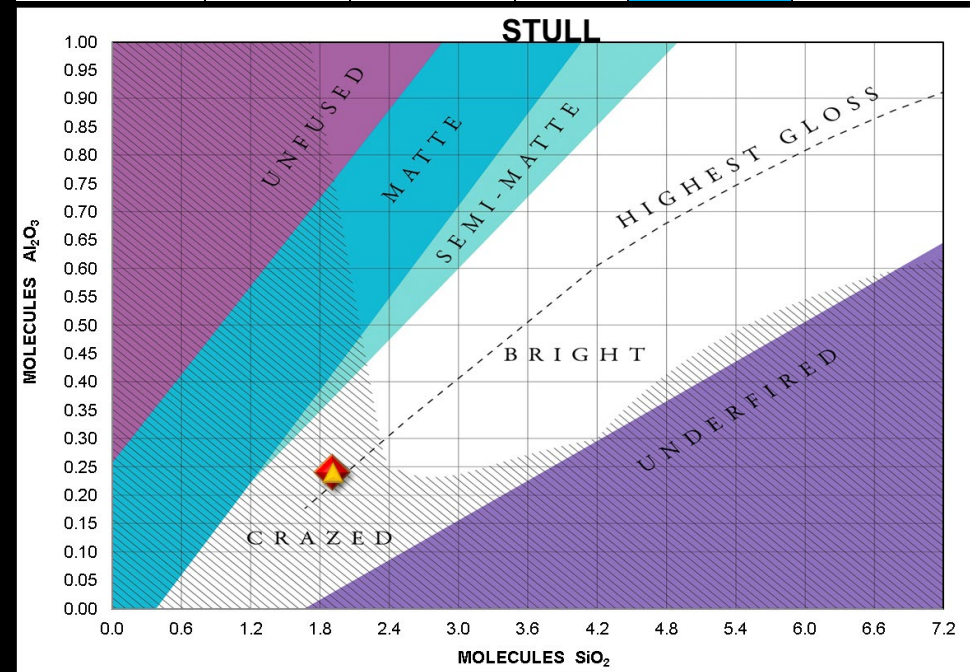
0.5%

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.20		Alkaline Earths 0.80	
SiO ₂ 2.00	Collective "Al ₂ O ₃ " 0.25	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.39
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	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO 0.02



2%

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.20		Alkaline Earths 0.80	
SiO ₂ 1.91	Collective "Al ₂ O ₃ " 0.24	Na ₂ O 0.15	K ₂ O 0.04	MgO 0.37	CaO 0.37
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	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO 0.06

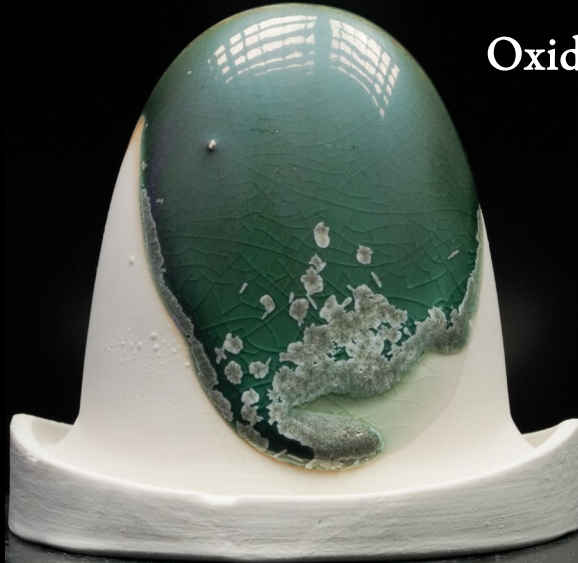


Copper Carbonate

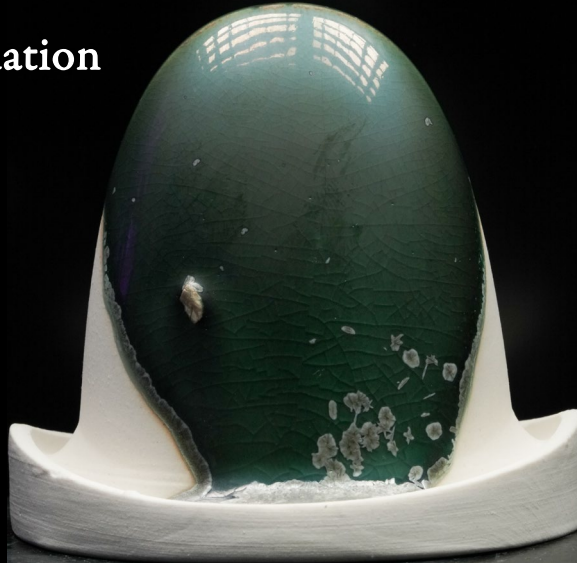
Oxidation

Reduction

1%



1-3 Second Dip



2-3 Second Dips

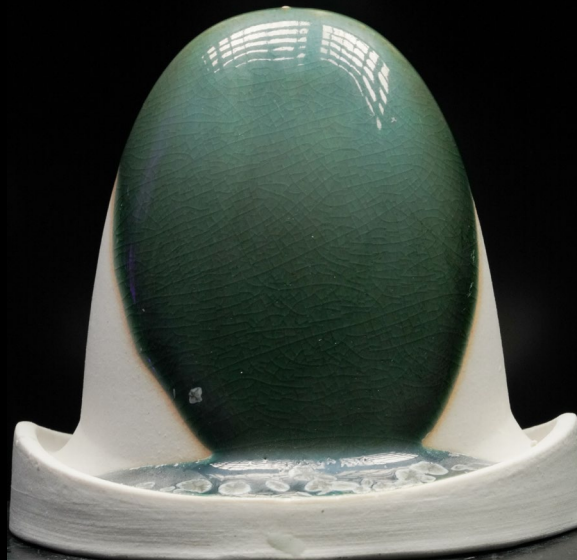
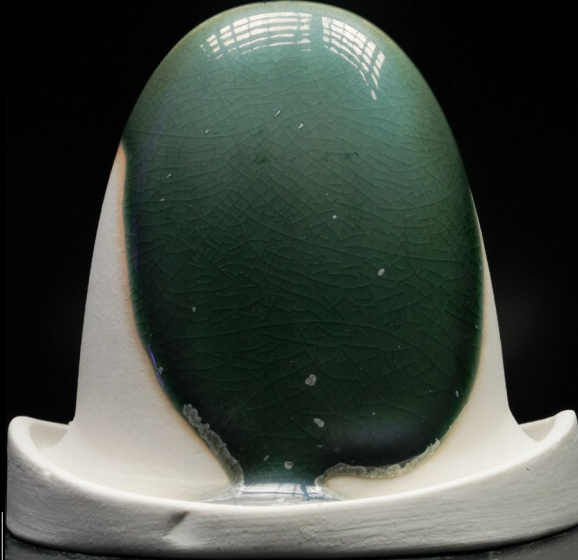


1-3 Second Dip



2-3 Second Dips

4%



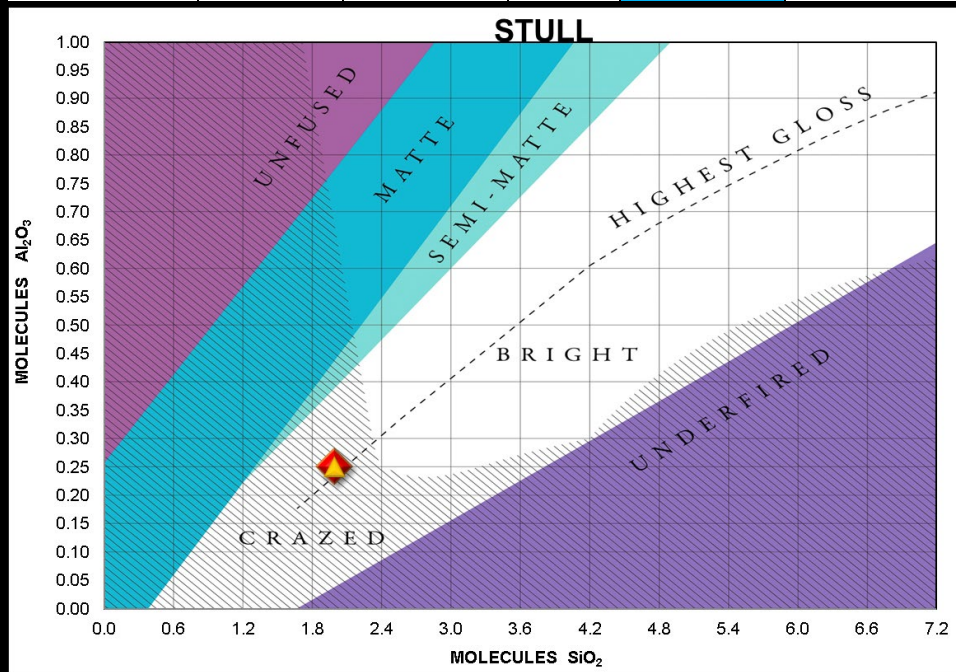
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Copper Carbonate

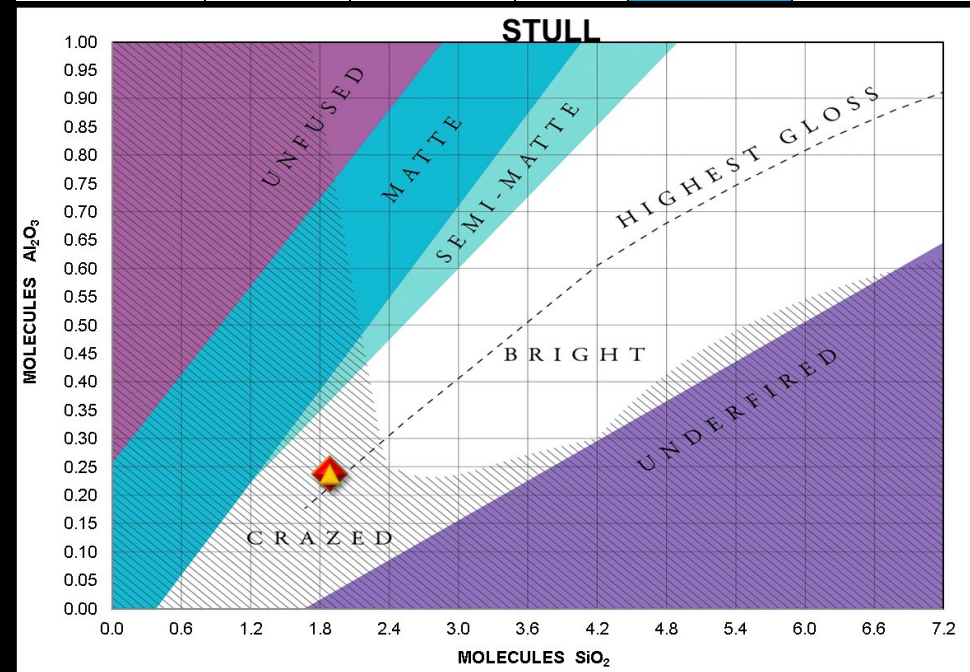
1%

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 1.99	Collective "Al ₂ O ₃ " 0.25	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.38	CaO 0.39
B ₂ O ₃	Al ₂ O ₃ 0.25	Li ₂ O	CuO 0.02	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



4%

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.26		Alkaline Earths 0.74	
SiO ₂ 1.88	Collective "Al ₂ O ₃ " 0.24	Na ₂ O 0.15	K ₂ O 0.04	MgO 0.36	CaO 0.37
B ₂ O ₃	Al ₂ O ₃ 0.24	Li ₂ O	CuO 0.07	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

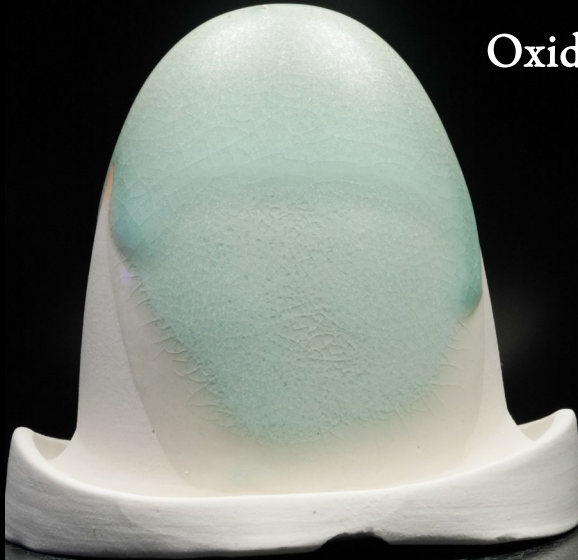


Copper Oxide-Black

Oxidation

Reduction

1%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

4%



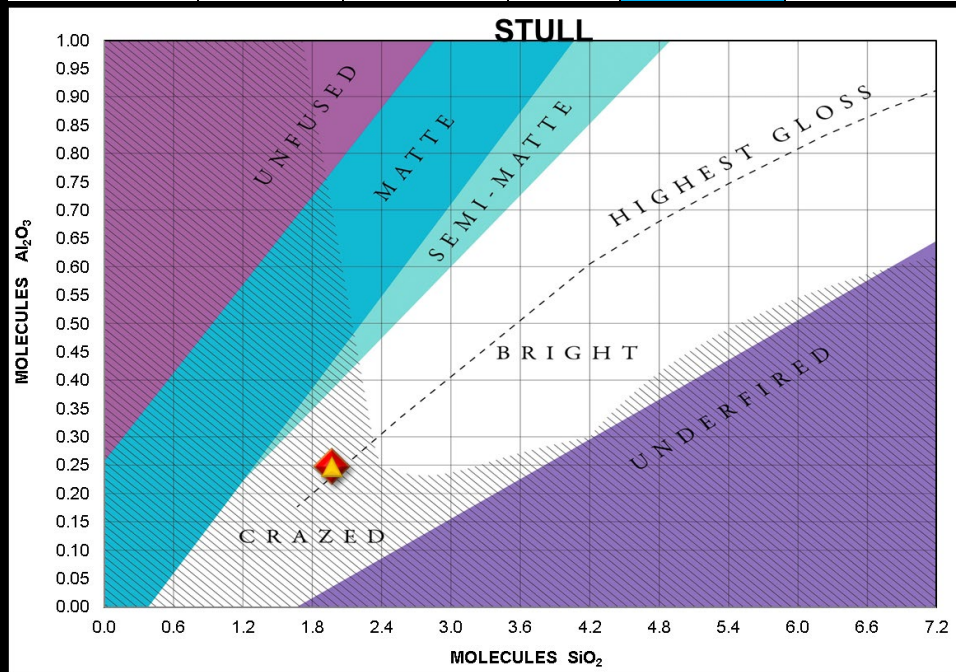
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Copper Oxide-Black

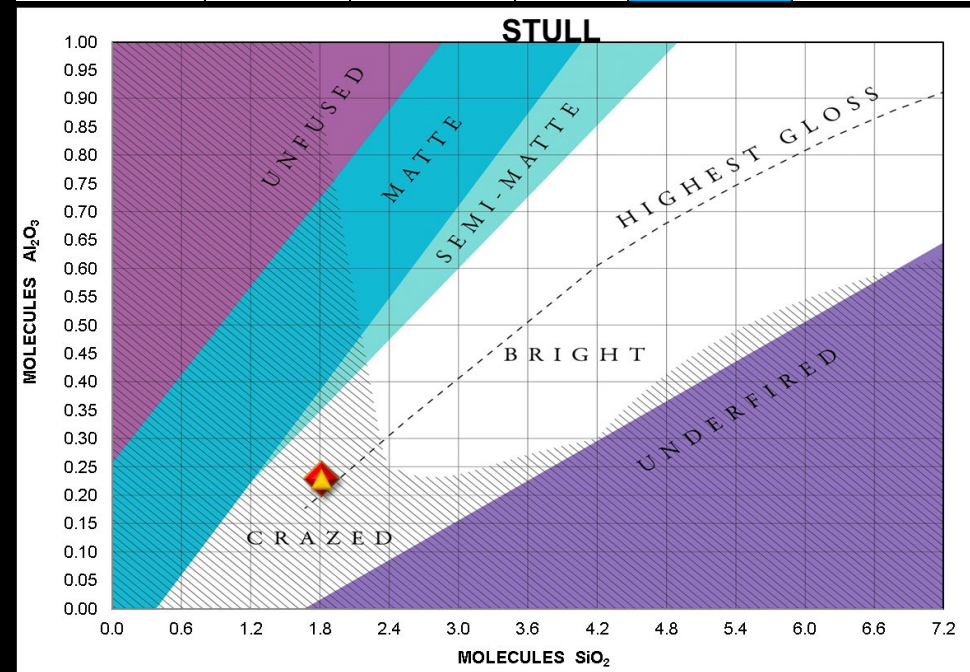
1%

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 1.97	Collective "Al ₂ O ₃ " 0.25	Na ₂ O 0.16	K ₂ O 0.04	MgO 0.38	CaO 0.39
B ₂ O ₃	Al ₂ O ₃ 0.25	Li ₂ O	CuO 0.03	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



4%

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 1.81	Collective "Al ₂ O ₃ " 0.23	Na ₂ O 0.14	K ₂ O 0.04	MgO 0.35	CaO 0.35
B ₂ O ₃	Al ₂ O ₃ 0.23	Li ₂ O	CuO 0.11	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
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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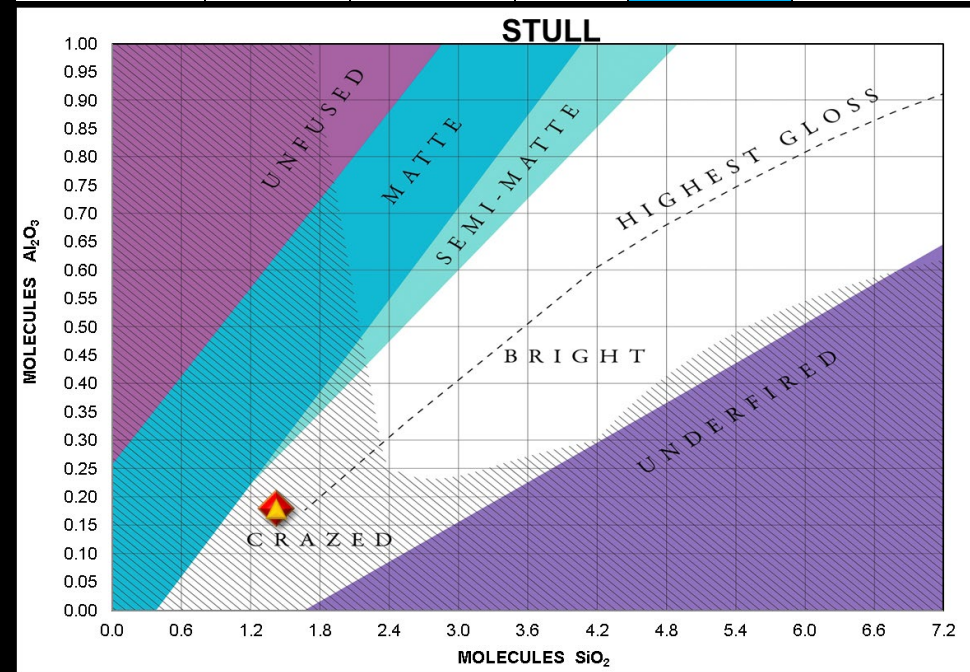
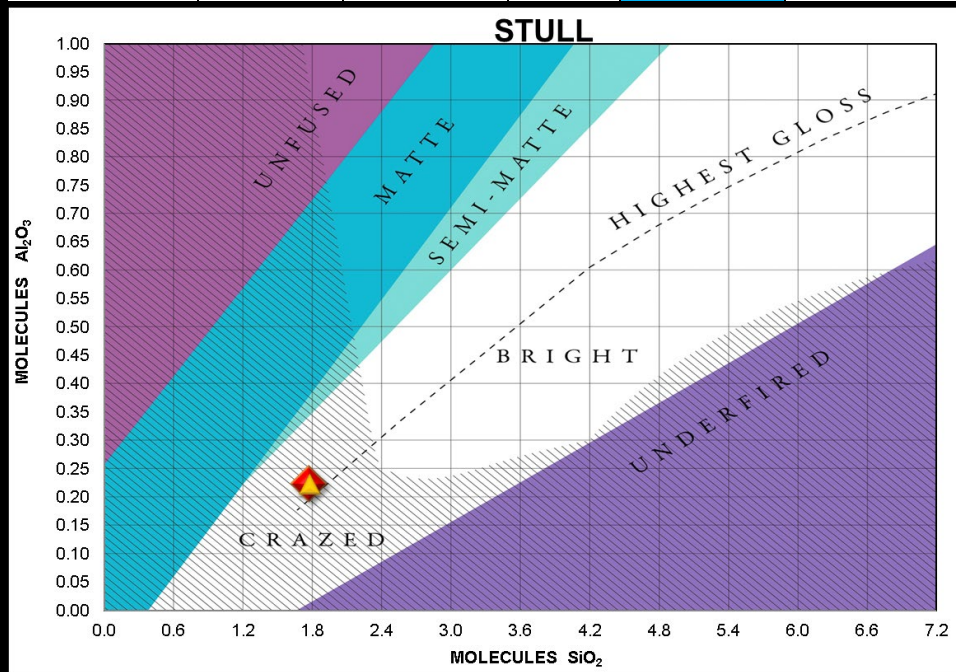
Red Iron Oxide

3%

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.18		Alkaline Earths 0.82	
SiO ₂ 1.78	Collective "Al ₂ O ₃ " 0.22	Na ₂ O 0.14	K ₂ O 0.04	MgO 0.34	CaO 0.35
B ₂ O ₃	Al ₂ O ₃ 0.22	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.13
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

9%

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.15		Alkaline Earths 0.85	
SiO ₂ 1.42	Collective "Al ₂ O ₃ " 0.18	Na ₂ O 0.11	K ₂ O 0.03	MgO 0.27	CaO 0.28
B ₂ O ₃	Al ₂ O ₃ 0.18	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.30
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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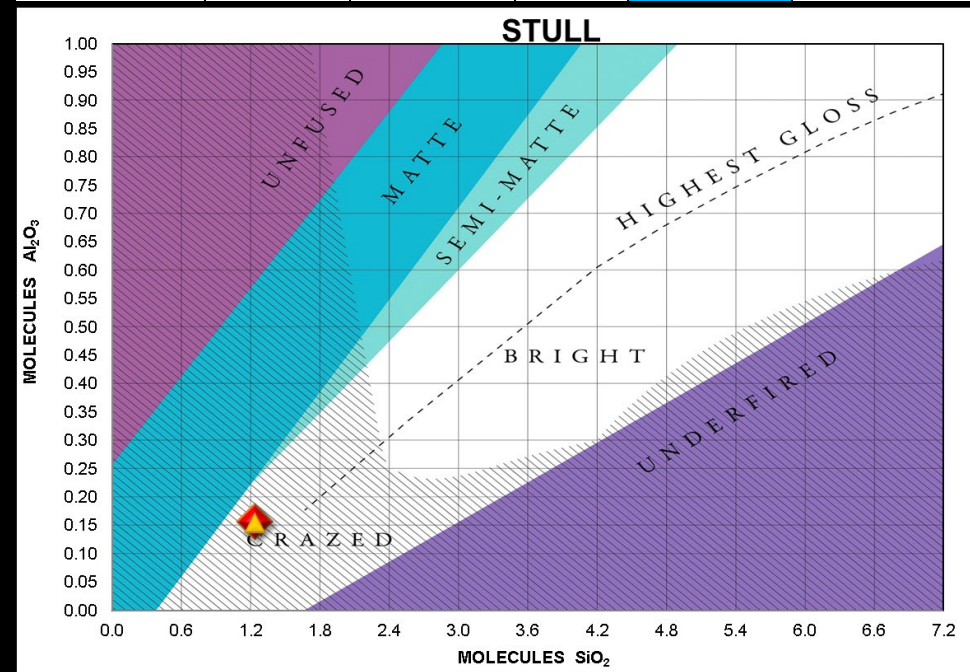
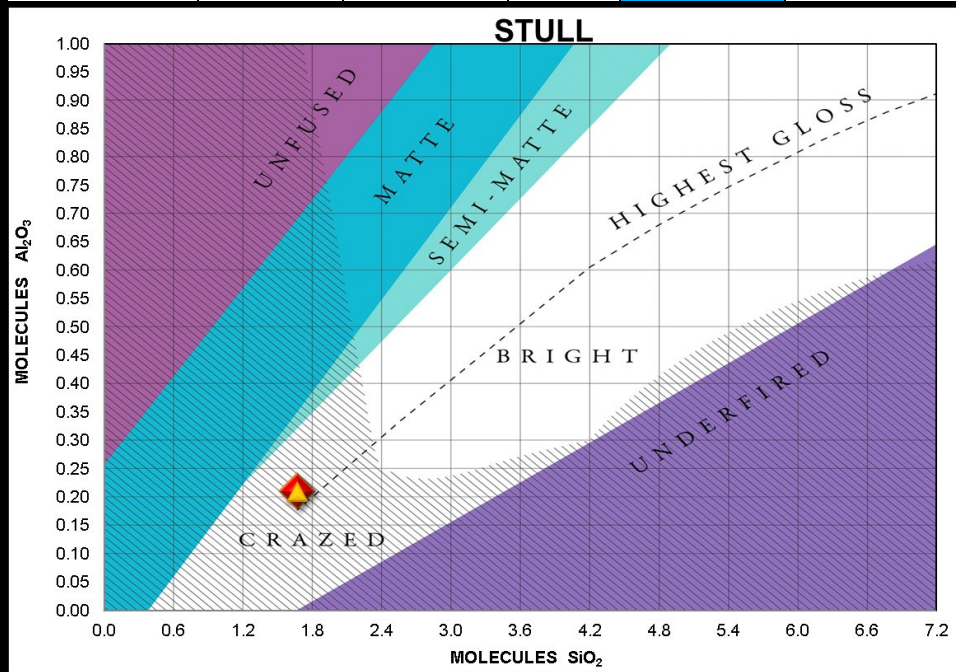
Black Iron Oxide

3%

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.17		Alkaline Earths 0.83	
SiO ₂ 1.67	Collective "Al ₂ O ₃ " 0.21	Na ₂ O 0.13	K ₂ O 0.04	MgO 0.32	CaO 0.33
B ₂ O ₃	Al ₂ O ₃ 0.21	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.18
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

9%

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.13		Alkaline Earths 0.87	
SiO ₂ 1.24	Collective "Al ₂ O ₃ " 0.16	Na ₂ O 0.10	K ₂ O 0.03	MgO 0.24	CaO 0.24
B ₂ O ₃	Al ₂ O ₃ 0.16	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.39
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Yellow Iron Oxide

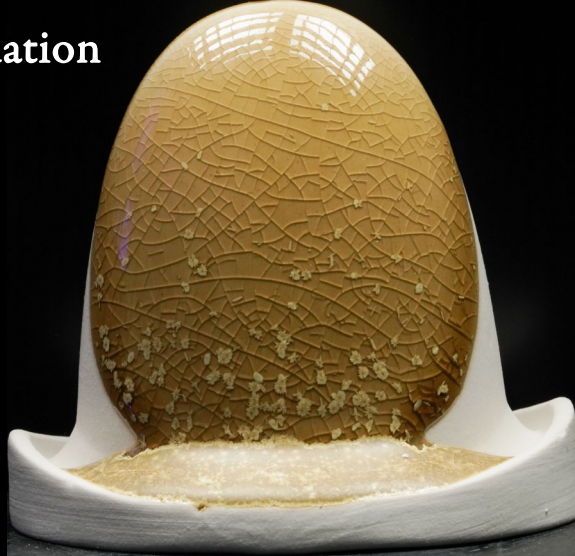
Oxidation

Reduction

3%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

9%



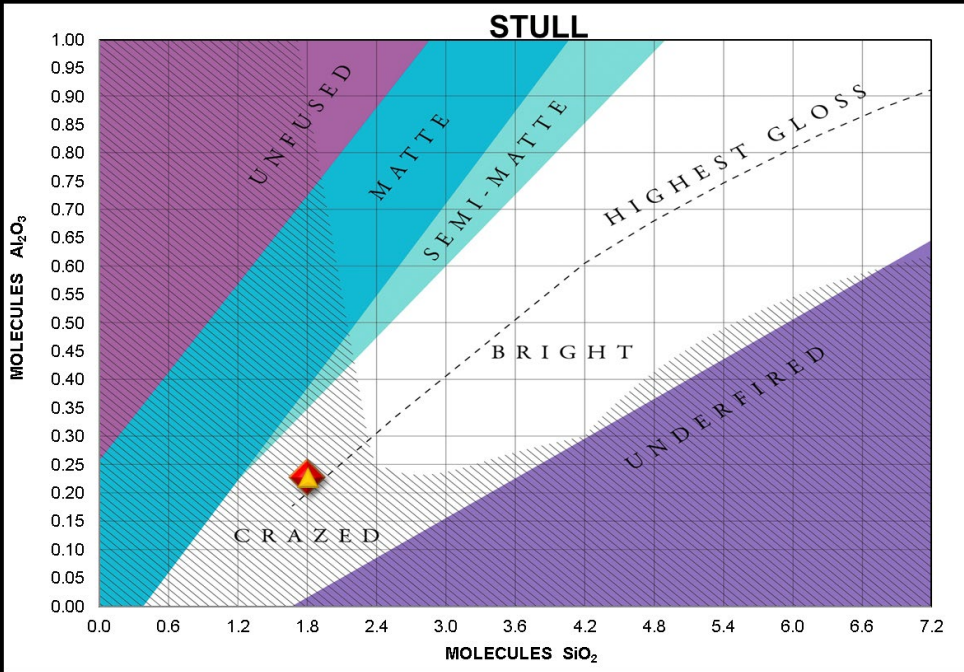
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Yellow Iron Oxide

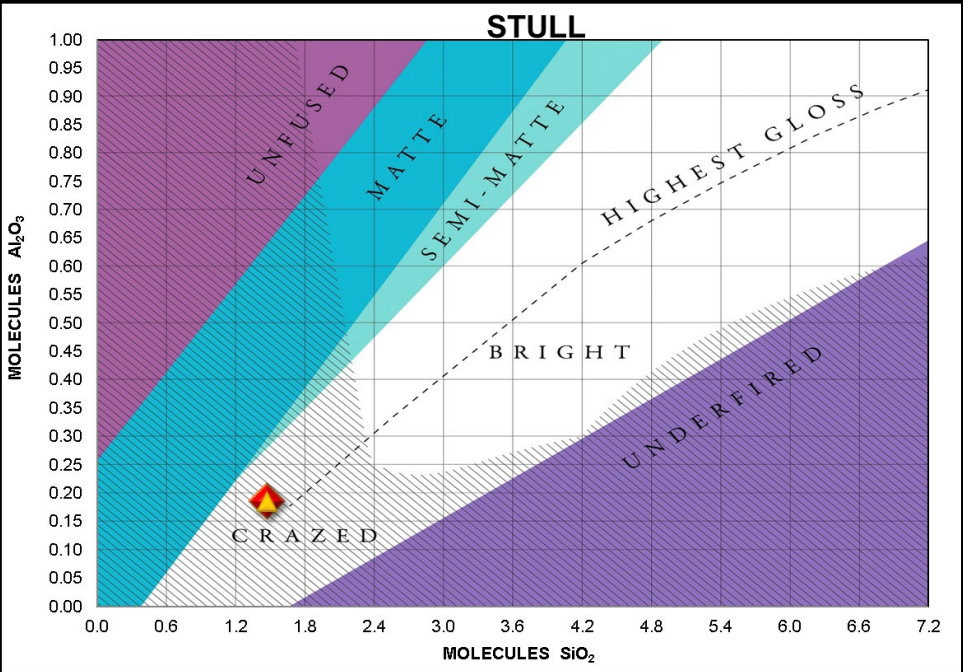
3%

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.18		Alkaline Earths 0.82	
SiO ₂ 1.80	Collective "Al ₂ O ₃ " 0.23	Na ₂ O 0.14	K ₂ O 0.04	MgO 0.35	CaO 0.35
B ₂ O ₃	Al ₂ O ₃ 0.23	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.11
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



9%

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.15		Alkaline Earths 0.85	
SiO ₂ 1.47	Collective "Al ₂ O ₃ " 0.19	Na ₂ O 0.12	K ₂ O 0.03	MgO 0.28	CaO 0.29
B ₂ O ₃	Al ₂ O ₃ 0.19	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.28
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%



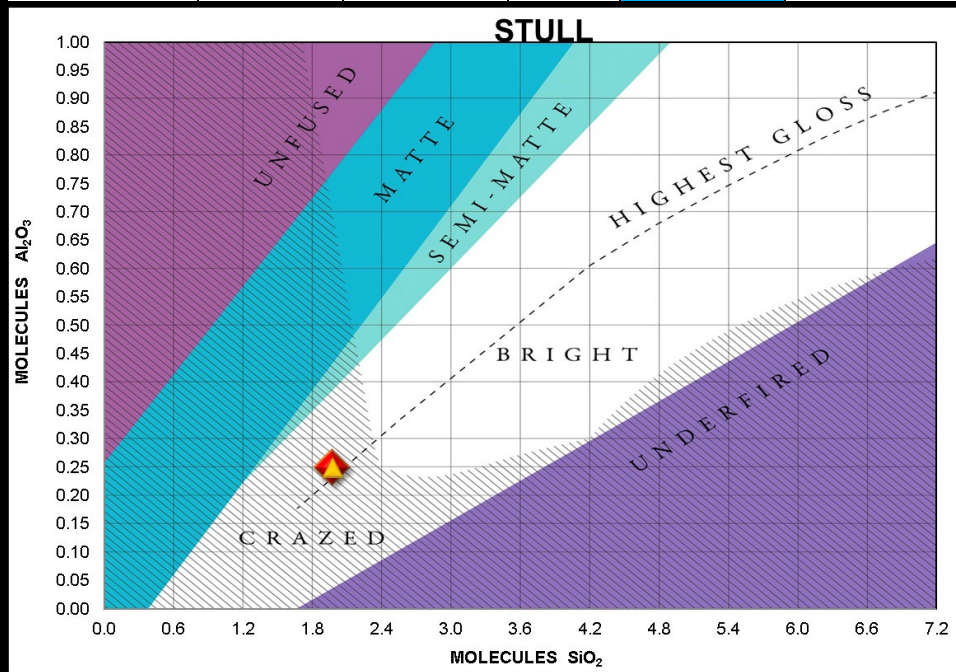
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Manganese Dioxide

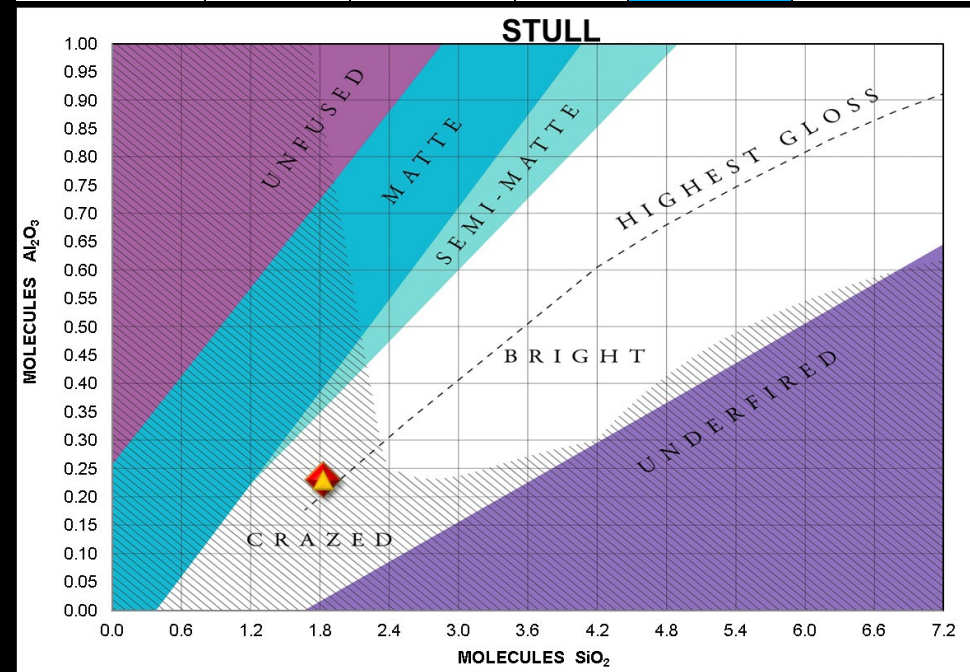
1%

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.20		Alkaline Earths 0.80	
SiO ₂ 1.98	Collective "Al ₂ O ₃ " 0.25	Na ₂ O 0.16	K ₂ O 0.04	MgO 0.38	CaO 0.39
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	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂ 0.03	CoO



4%

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.19		Alkaline Earths 0.81	
SiO ₂ 1.83	Collective "Al ₂ O ₃ " 0.23	Na ₂ O 0.15	K ₂ O 0.04	MgO 0.35	CaO 0.36
B ₂ O ₃	Al ₂ O ₃ 0.23	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂ 0.10	CoO



Vanadium Pentoxide

Oxidation

Reduction

3%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

9%



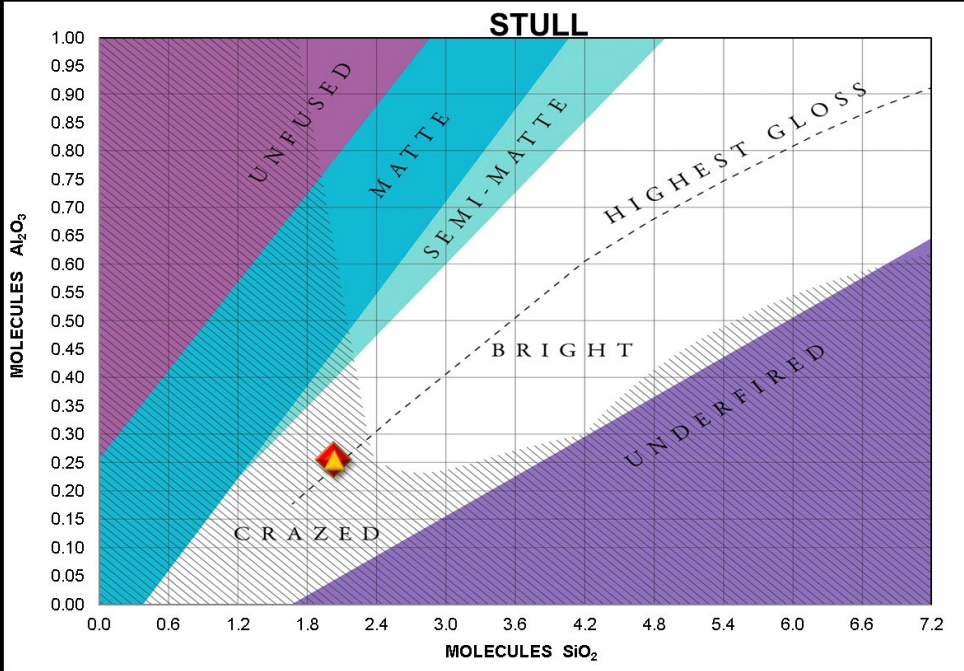
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Vanadium Pentoxide

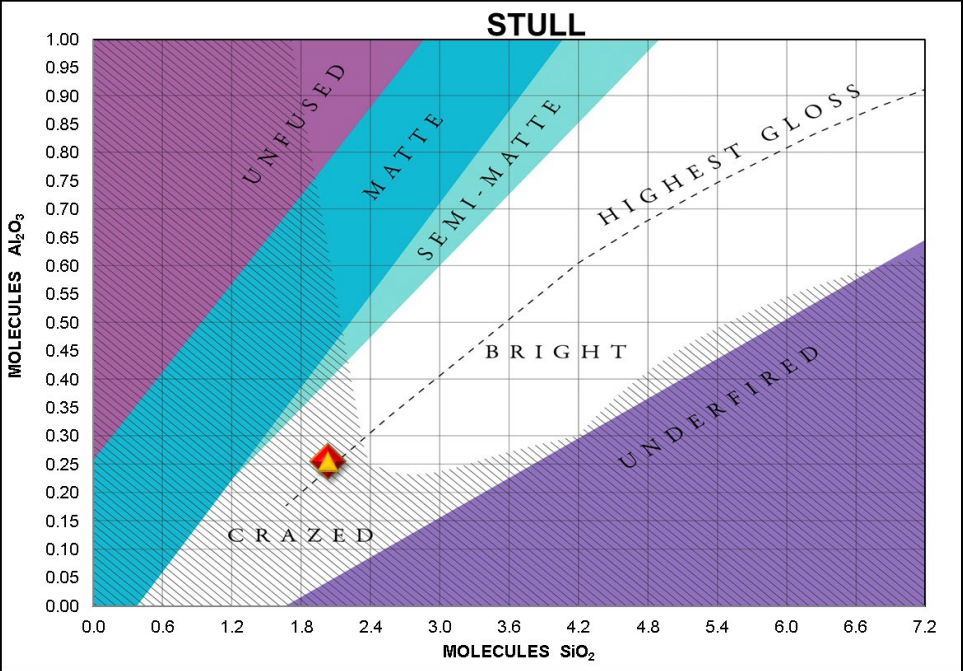
3%

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.03	Collective "Al ₂ O ₃ " 0.26	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.40
B ₂ O ₃	Al ₂ O ₃ 0.26	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



9%

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.03	Collective "Al ₂ O ₃ " 0.26	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.40
B ₂ O ₃	Al ₂ O ₃ 0.26	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
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%



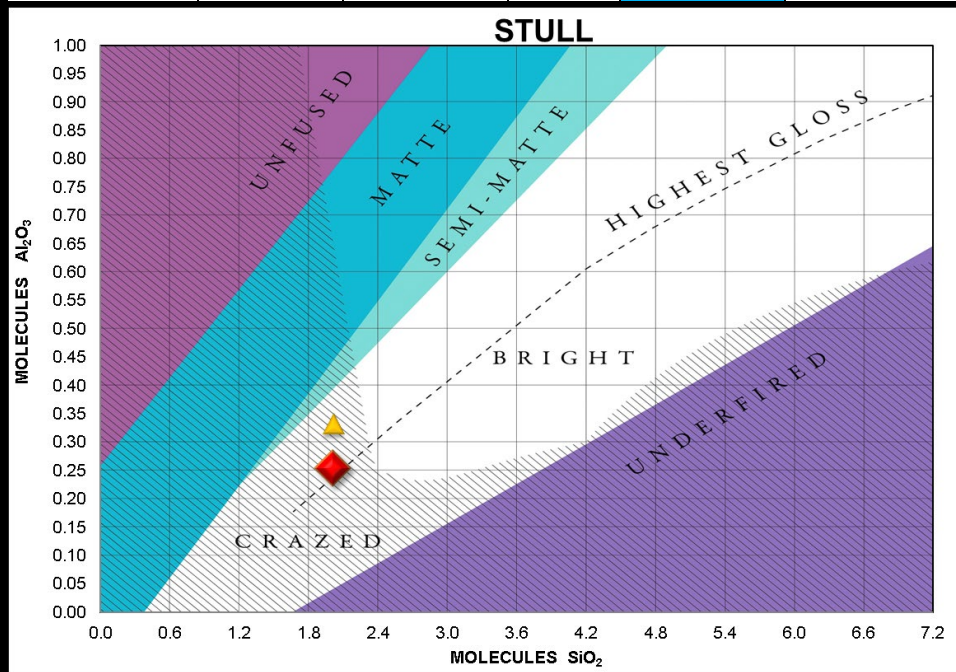
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Dark Rutile

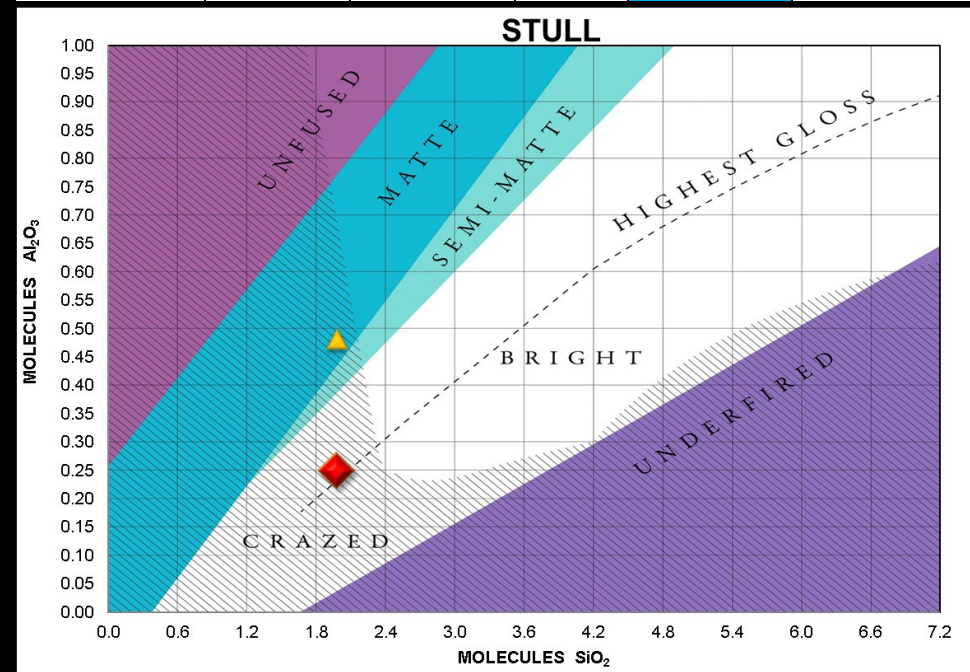
3%

SiO ₂ :Al ₂ O ₃ Ratio 6.05 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.01	Collective "Al ₂ O ₃ " 0.33	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.39
B ₂ O ₃	Al ₂ O ₃ 0.25	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.08	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



9%

SiO ₂ :Al ₂ O ₃ Ratio 4.11 :1		Alkali Metals 0.20		Alkaline Earths 0.80	
SiO ₂ 1.98	Collective "Al ₂ O ₃ " 0.48	Na ₂ O 0.16	K ₂ O 0.04	MgO 0.38	CaO 0.39
B ₂ O ₃	Al ₂ O ₃ 0.25	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.23	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.03
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%



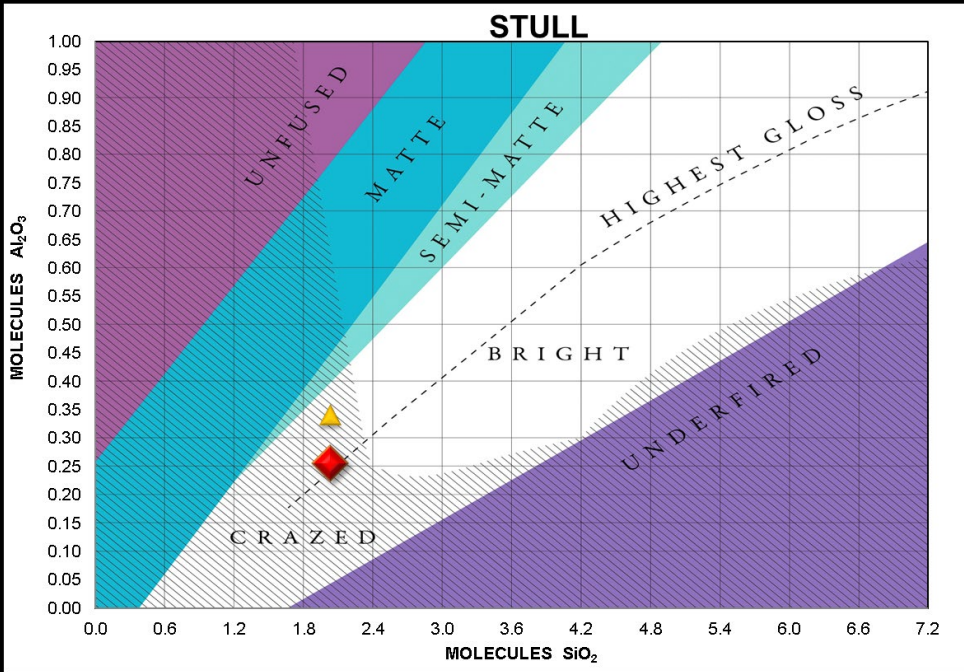
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Light Rutile

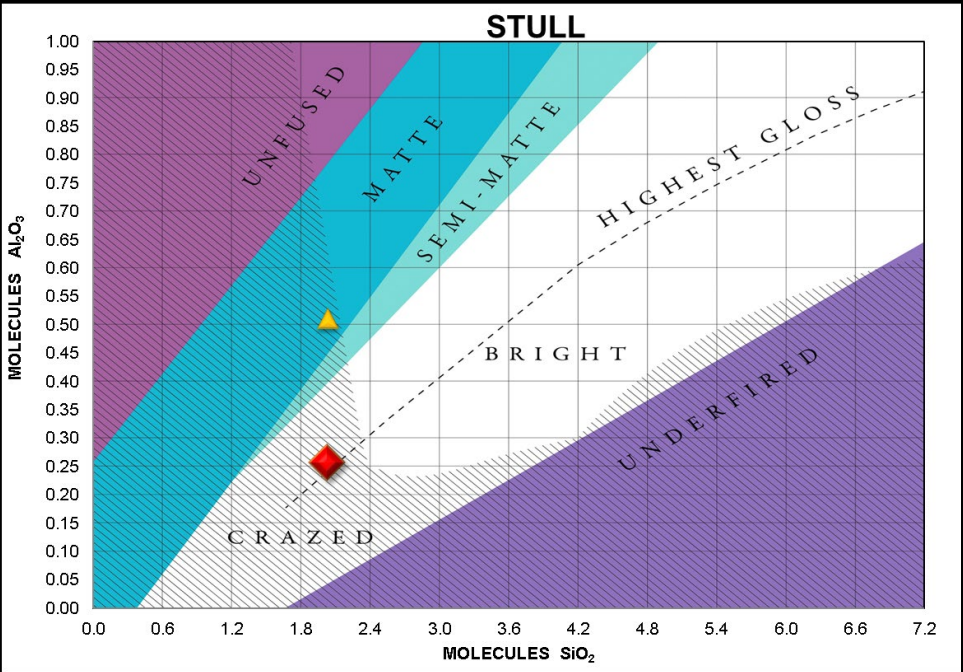
3%

SiO ₂ :Al ₂ O ₃ Ratio 5.95 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.03	Collective "Al ₂ O ₃ " 0.34	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.40
B ₂ O ₃	Al ₂ O ₃ 0.26	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.09	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



9%

SiO ₂ :Al ₂ O ₃ Ratio 3.97 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.03	Collective "Al ₂ O ₃ " 0.51	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.40
B ₂ O ₃	Al ₂ O ₃ 0.26	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.26	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Titanium Dioxide

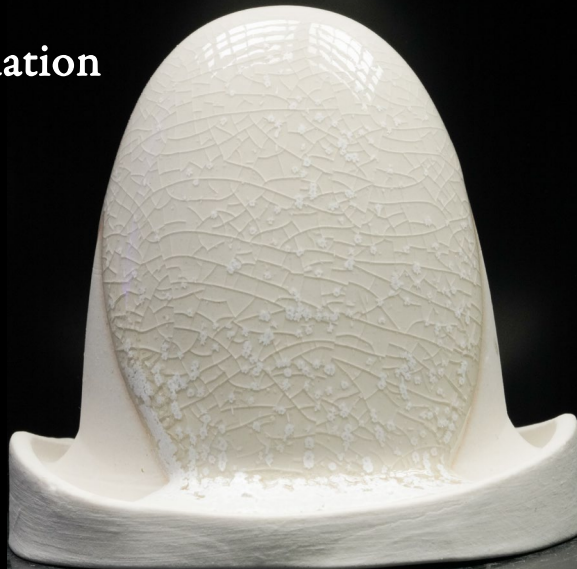
Oxidation

Reduction

3%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

9%



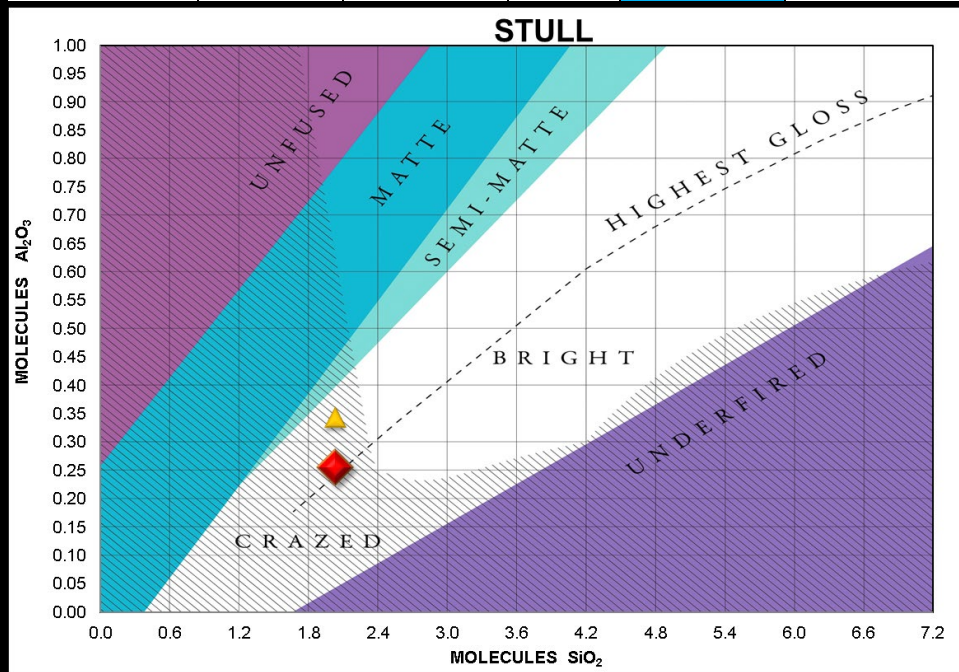
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Titanium Dioxide

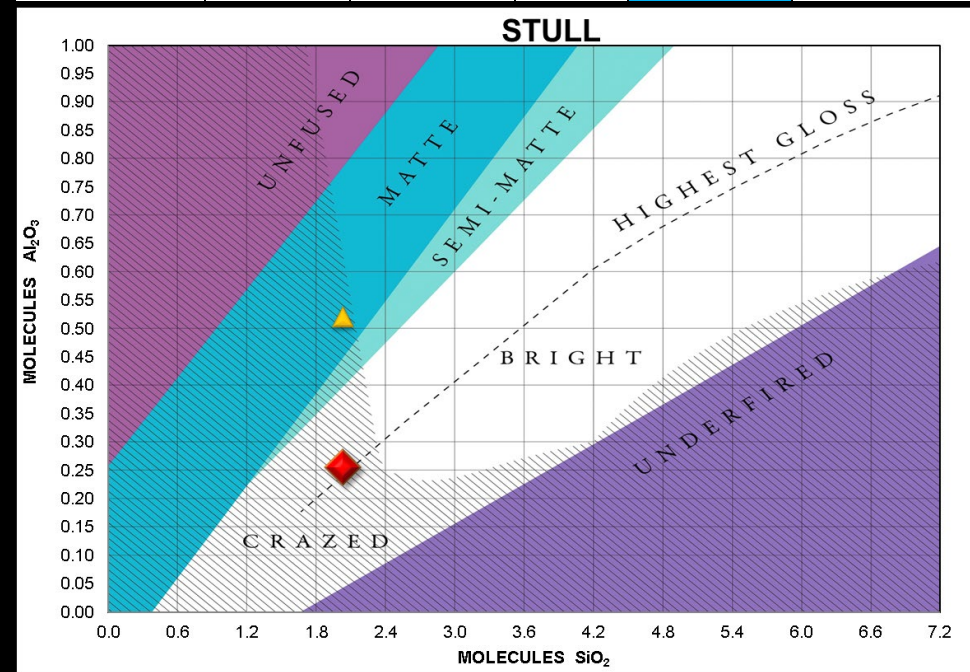
3%

SiO ₂ :Al ₂ O ₃ Ratio 5.89 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.03	Collective "Al ₂ O ₃ " 0.34	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.40
B ₂ O ₃	Al ₂ O ₃ 0.26	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.09	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



9%

SiO ₂ :Al ₂ O ₃ Ratio 3.90 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.03	Collective "Al ₂ O ₃ " 0.52	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.40
B ₂ O ₃	Al ₂ O ₃ 0.26	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.27	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
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%



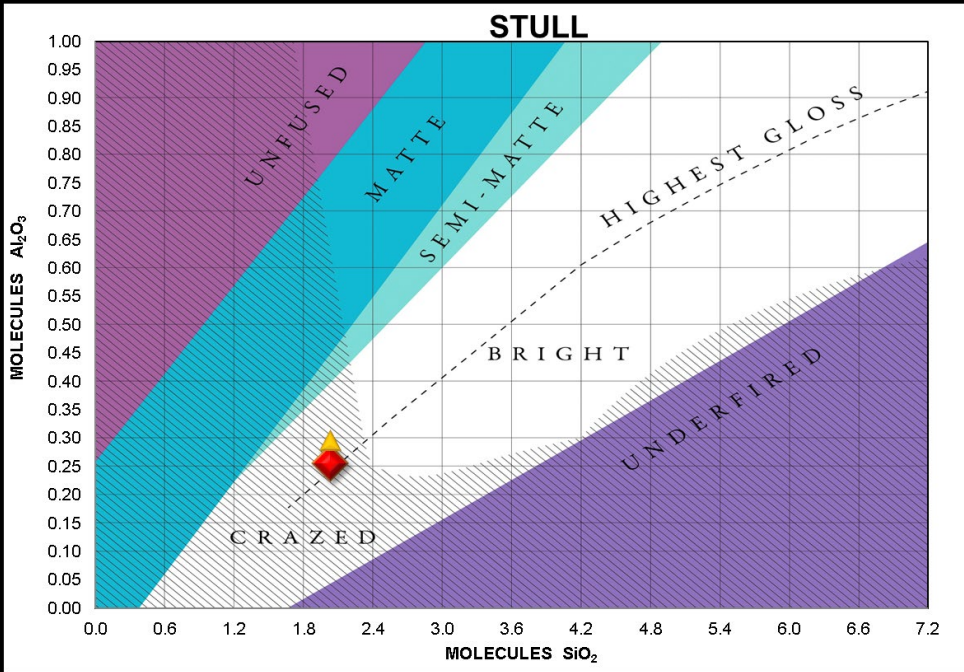
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Nickel Carbonate

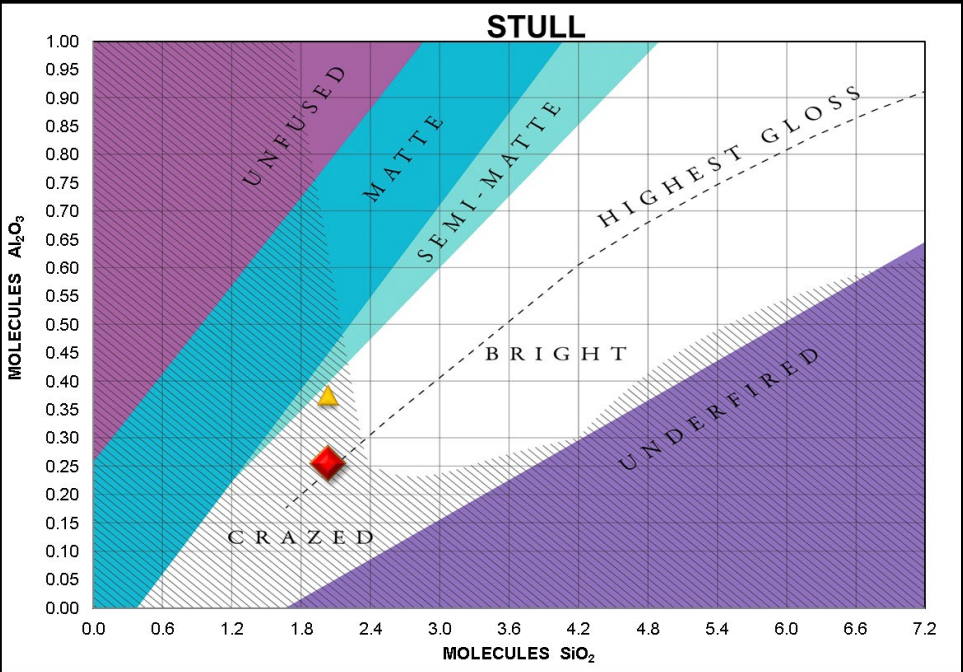
2%

SiO ₂ :Al ₂ O ₃ Ratio 6.85 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.03	Collective "Al ₂ O ₃ " 0.30	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.40
B ₂ O ₃	Al ₂ O ₃ 0.26	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO 0.04	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



6%

SiO ₂ :Al ₂ O ₃ Ratio 5.39 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.03	Collective "Al ₂ O ₃ " 0.38	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.40
B ₂ O ₃	Al ₂ O ₃ 0.26	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO 0.12	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
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%



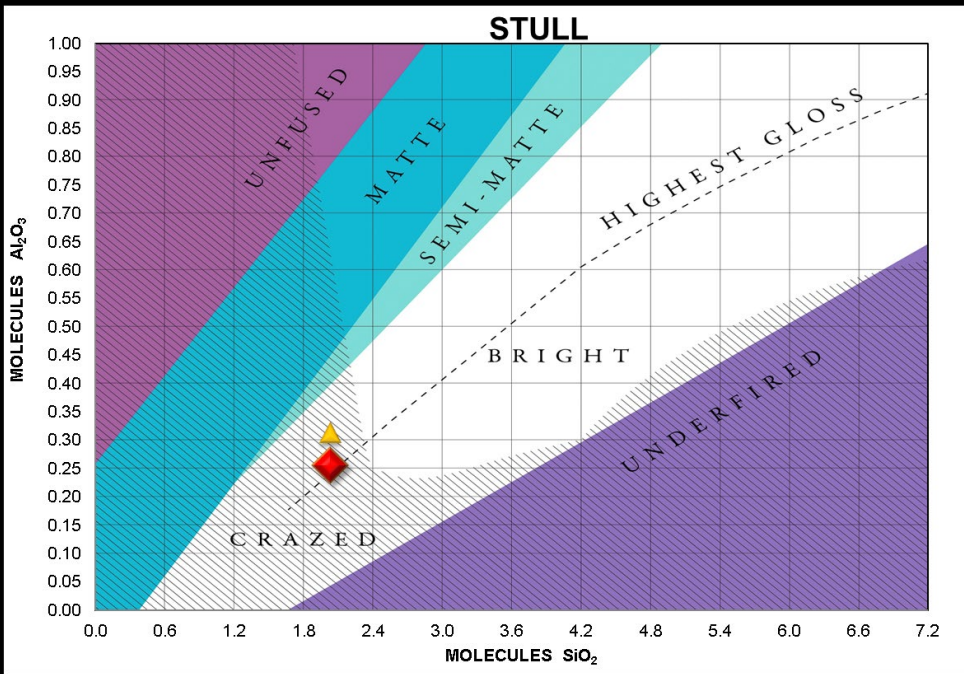
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Nickel Oxide-Black

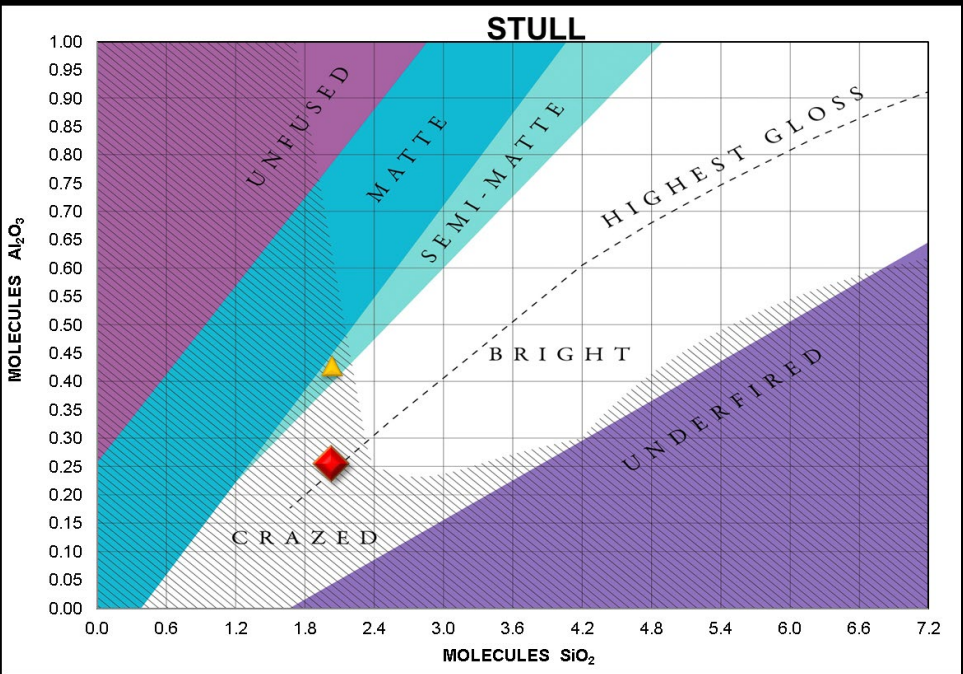
2%

SiO ₂ :Al ₂ O ₃ Ratio 6.48 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.03	Collective "Al ₂ O ₃ " 0.31	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.40
B ₂ O ₃	Al ₂ O ₃ 0.26	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO 0.06	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



6%

SiO ₂ :Al ₂ O ₃ Ratio 4.74 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.03	Collective "Al ₂ O ₃ " 0.43	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.40
B ₂ O ₃	Al ₂ O ₃ 0.26	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO 0.17	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
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%



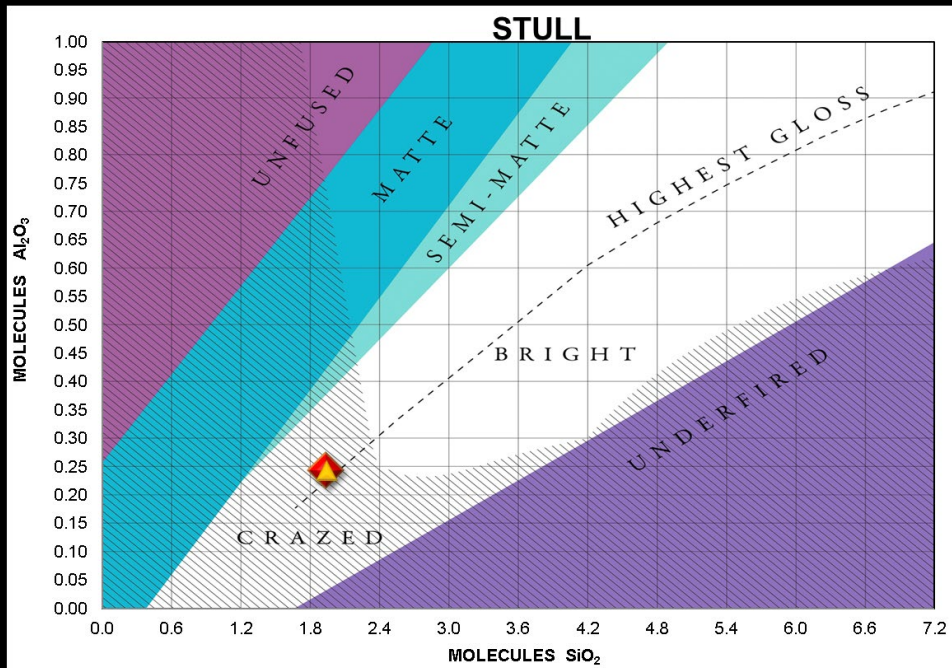
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Tin Oxide

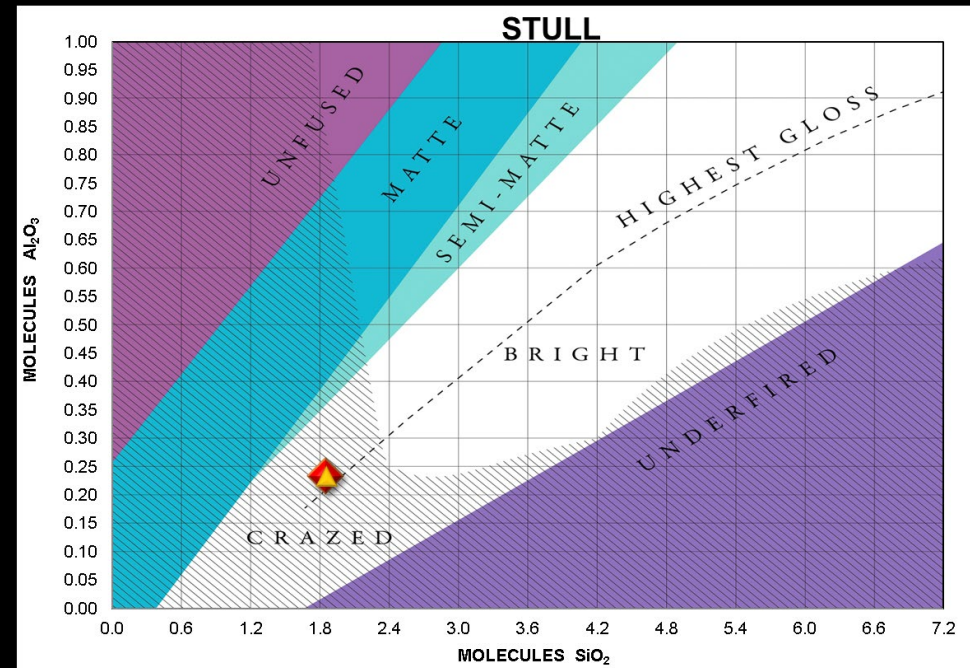
3%

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.24		Alkaline Earths 0.76	
SiO ₂ 1.94	Collective "Al ₂ O ₃ " 0.24	Na ₂ O 0.15	K ₂ O 0.04	MgO 0.37	CaO 0.38
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 0.05	ZnO	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



6%

SiO ₂ :Al ₂ O ₃ Ratio 7.93 :1		Alkali Metals 0.28		Alkaline Earths 0.72	
SiO ₂ 1.85	Collective "Al ₂ O ₃ " 0.23	Na ₂ O 0.15	K ₂ O 0.04	MgO 0.36	CaO 0.36
B ₂ O ₃	Al ₂ O ₃ 0.23	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂ 0.09	ZnO	FeO 0.00
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%



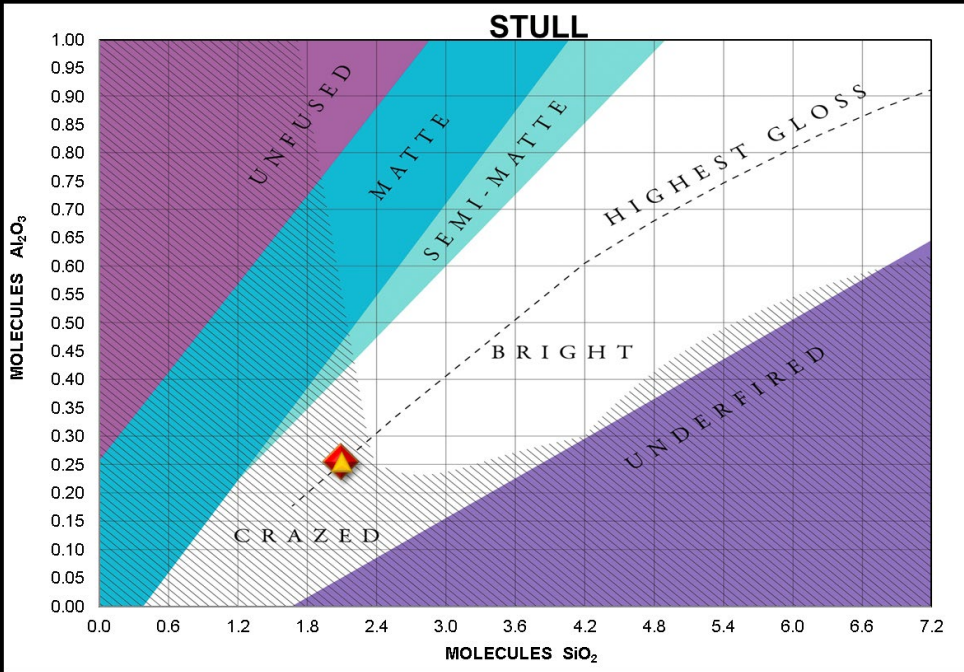
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Zirconium Silicate

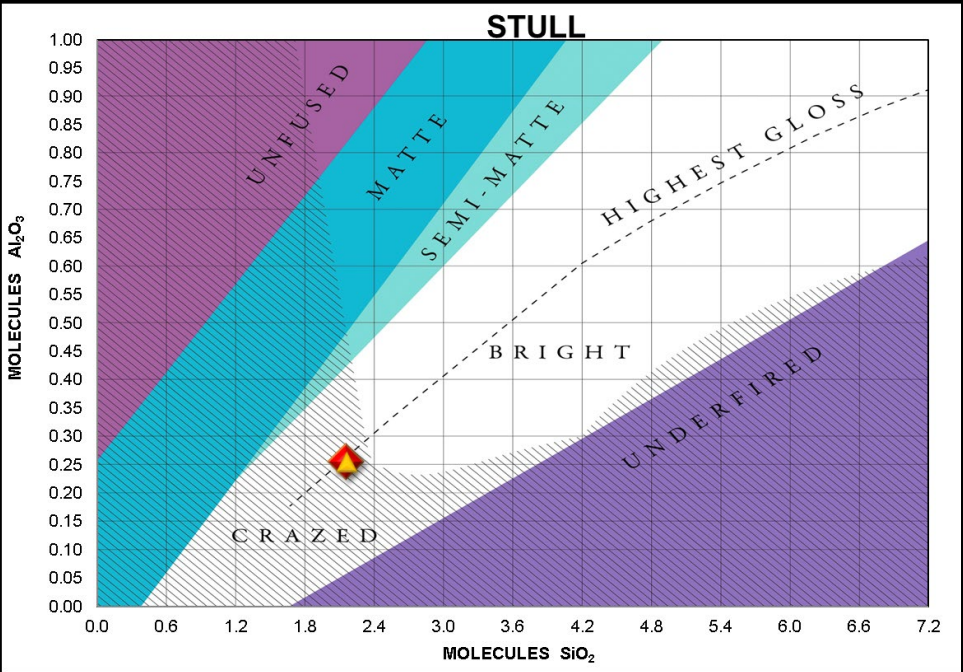
5%

SiO ₂ :Al ₂ O ₃ Ratio 8.18 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.10	Collective "Al ₂ O ₃ " 0.26	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.40
B ₂ O ₃	Al ₂ O ₃ 0.26	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



10%

SiO ₂ :Al ₂ O ₃ Ratio 8.43 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.16	Collective "Al ₂ O ₃ " 0.26	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.40
B ₂ O ₃	Al ₂ O ₃ 0.26	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Stain Dark Red 6021

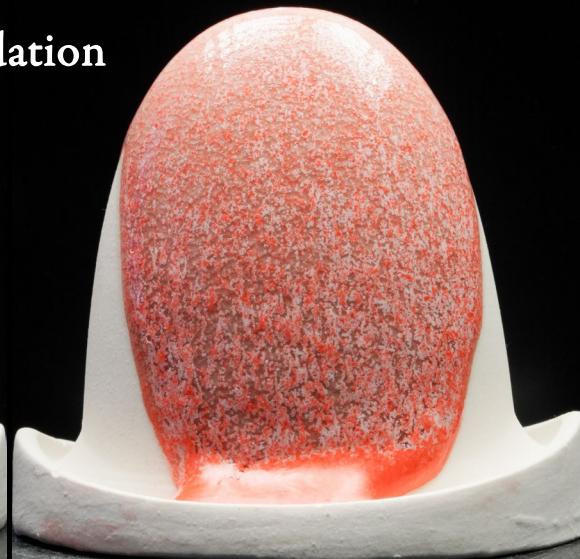
Oxidation

Reduction

5%



1-3 Second Dip



2-3 Second Dips



1-3 Second Dip



2-3 Second Dips

10%



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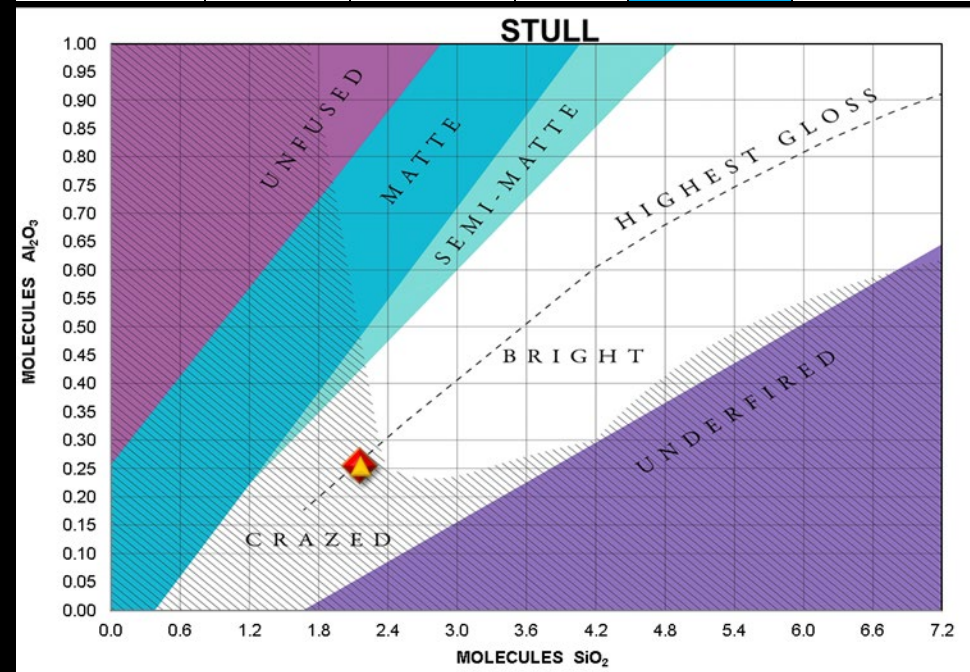
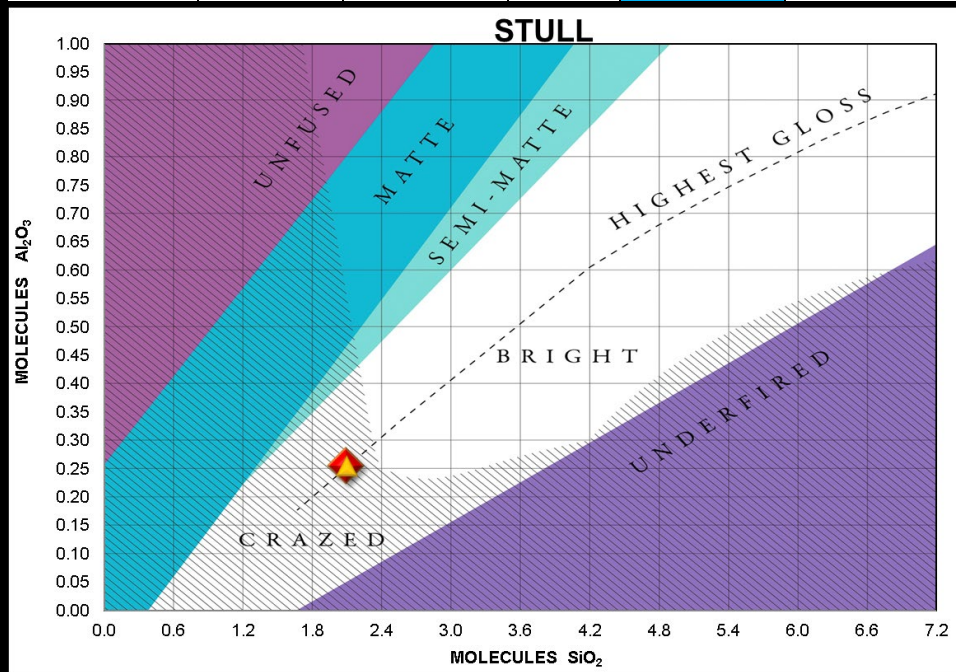
Stain Dark Red 6021

5%

SiO ₂ :Al ₂ O ₃ Ratio 8.18 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.10	Collective "Al ₂ O ₃ " 0.26	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.40
B ₂ O ₃	Al ₂ O ₃ 0.26	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

10%

SiO ₂ :Al ₂ O ₃ Ratio 8.43 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.16	Collective "Al ₂ O ₃ " 0.26	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.40
B ₂ O ₃	Al ₂ O ₃ 0.26	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
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%



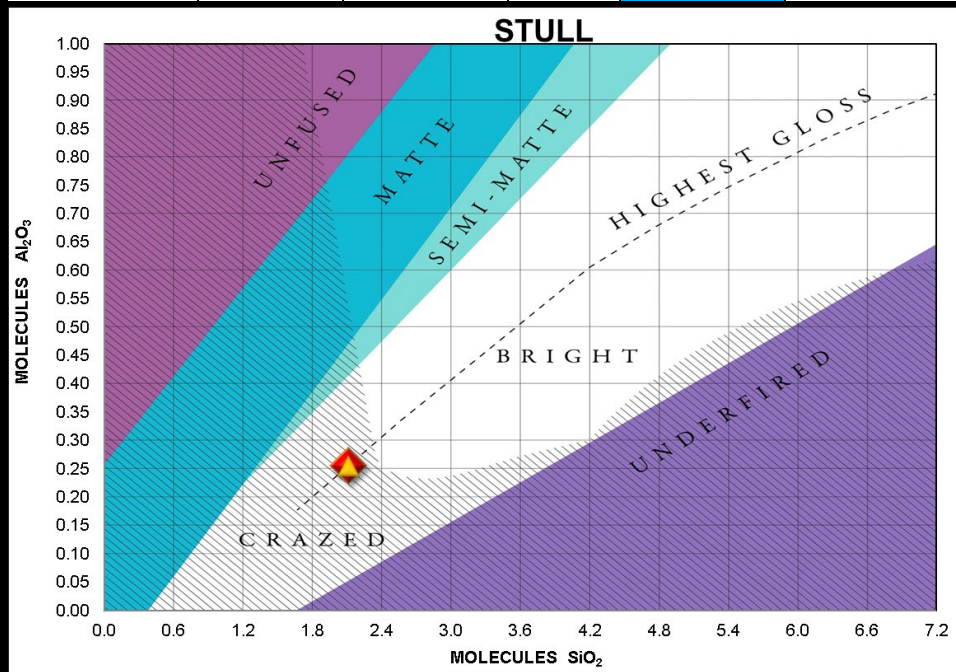
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Silicon Carbide-30 Mesh

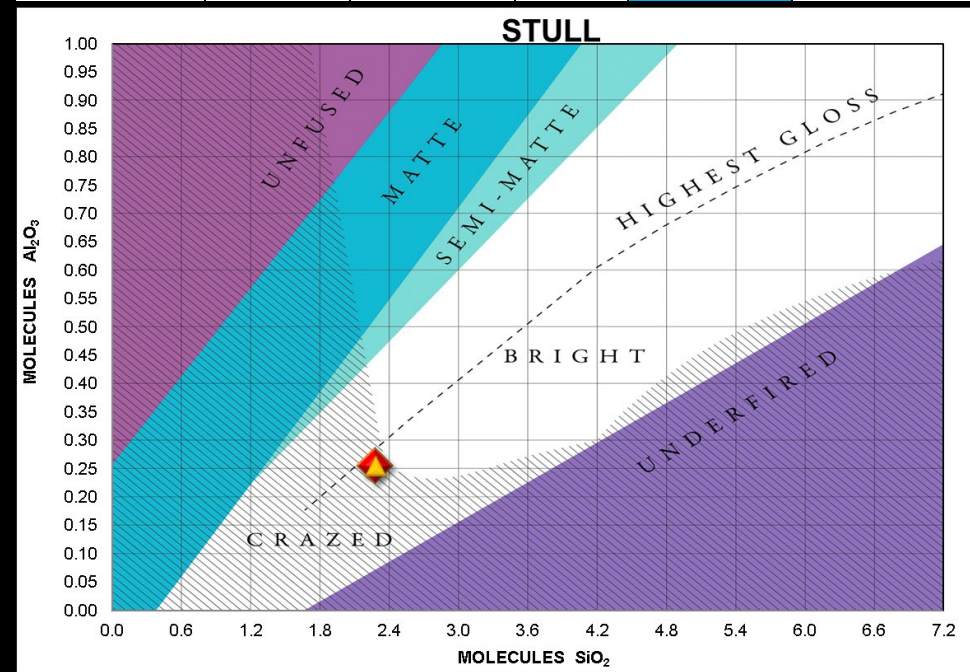
5%

SiO ₂ :Al ₂ O ₃ Ratio 8.25 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.11	Collective "Al ₂ O ₃ " 0.26	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.40
B ₂ O ₃	Al ₂ O ₃ 0.26	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



10%

SiO ₂ :Al ₂ O ₃ Ratio 8.90 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.28	Collective "Al ₂ O ₃ " 0.26	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.40
B ₂ O ₃	Al ₂ O ₃ 0.26	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
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%



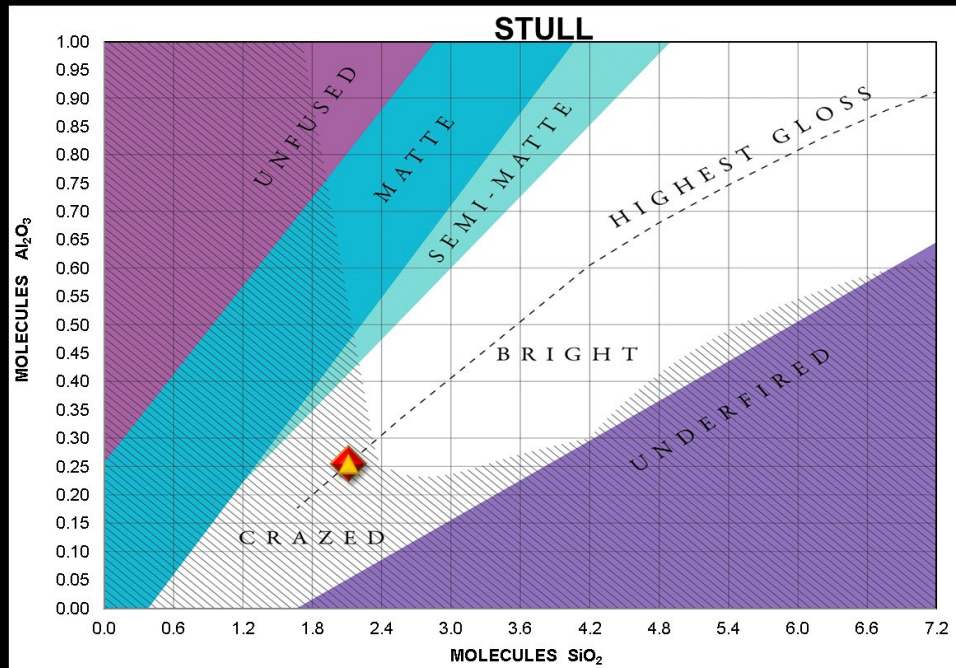
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Silicon Carbide-800 Mesh

5%

SiO ₂ :Al ₂ O ₃ Ratio 8.25 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.11	Collective "Al ₂ O ₃ " 0.26	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.40
B ₂ O ₃	Al ₂ O ₃ 0.26	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



10%

SiO ₂ :Al ₂ O ₃ Ratio 8.90 :1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 2.28	Collective "Al ₂ O ₃ " 0.26	Na ₂ O 0.16	K ₂ O 0.05	MgO 0.39	CaO 0.40
B ₂ O ₃	Al ₂ O ₃ 0.26	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

