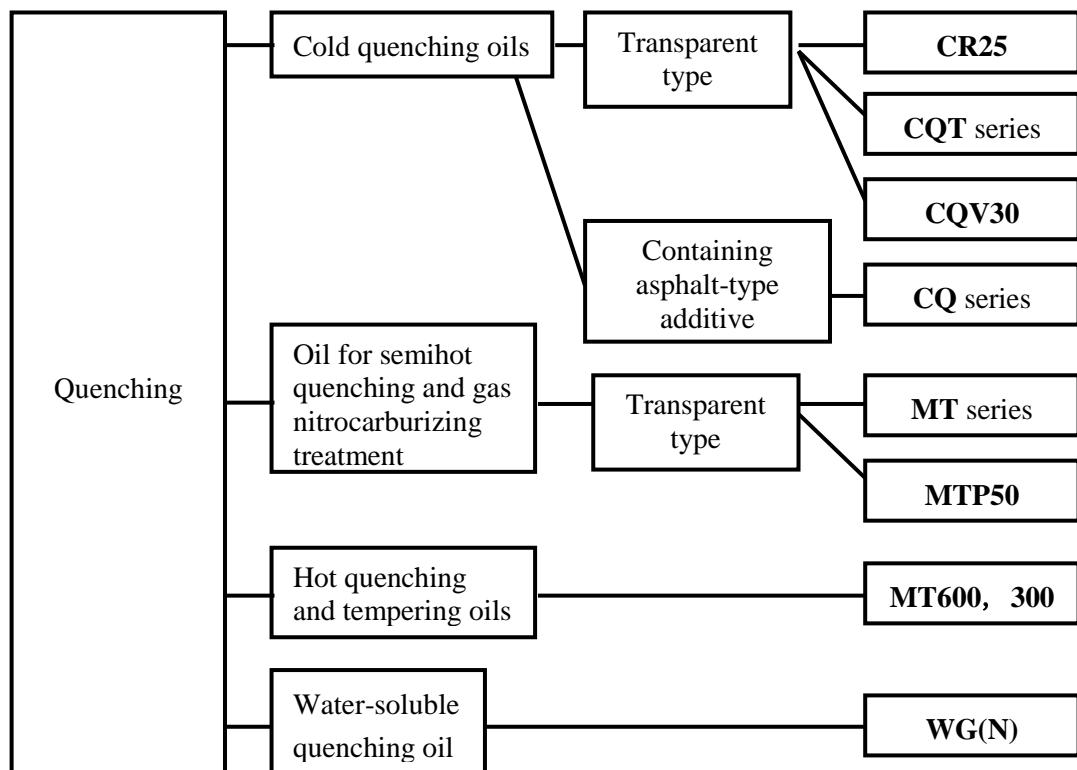


UNIQUENCH

Heat Treating Oils for Steel (Quenching oils)

UNIQUENCH series has arranged various products which have excellent performances as quenching oils in the metalworking industry. For cold quenching oil, semi hot quenching oil, hot quenching and tempering oil, a highly refined paraffinic mineral oil is used to achieve the best treatment of steel in a wide range of quenching operations. Those quenching oils are excellent in oxidation stability. Moreover, they give bright finish on parts being quenched. As water-soluble quenching liquid, UNIQUENCH WG(N) is recommended. This fluid is based on polyalkylene glycol with a preservative agent.

● INTRODUCTION of UNIQUENCH series



● TYPICAL PROPERTIES

● Water-soluble quenching oil

Product Name	WG(N)
Appearance	Light yellow, Liquid
Color(ASTM)	L0.5
Viscosity(40°C)	mm ² /s
Density(15°C)	g/cm ³
pH	8.5

● **Transparent type cold quenching oils**

Product Name		CR25	CQT10	CQT15	CQT20S	CQT20	CQV30
Viscosity(40°C)	mm ² /s	20	13	15	18	22	25
Flash Point(COC)	°C	210	170	182	182	208	230
Color(ASTM)		L0.5	L0.5	L0.5	L0.5	L0.5	L0.5
Thermal Stability(JIS K2242)		Pass	Pass	Pass	Pass	Pass	Pass
<u>Cooling Power</u>							
Oil Temperature	°C	80	80	80	80	80	80
Characteristic Temperature	°C	511	614	600	614	636	662
Cooling Time(800-400°C)	sec	4.7	3.5	3.5	3.5	2.9	2.7
H Value*	cm ⁻¹	0.103	0.150	0.144	0.140	0.130	0.122
JIS K 2242 Category		1-1	1-2	1-2	1-2	1-2	1-2

*H value is calculated based on the cooling time from 800°C to 300°C.

In general, larger H value indicates the better quenching performance.

● **Cold quenching oils containing asphalt-type additive**

Product Name		CQ10W	CQ20S	CQ20	CQ30W
Viscosity(40°C)	mm ² /s	10	17	22	26
Flash Point(COC)	°C	166	190	200	218
Color(ASTM)		D7.0	D8.0	D8.0	D4.0
Thermal Stability(JIS K2242)		Pass	Pass	Pass	Pass
<u>Cooling Power</u>					
Oil Temperature	°C	80	80	80	80
Characteristic Temperature	°C	595	626	631	612
Cooling Time(800-400°C)	sec	3.4	2.8	2.8	3.2
H Value	cm ⁻¹	0.149	0.133	0.127	0.118
JIS K 2242 Category		1-2	1-2	1-2	1-2

● **Oils for semihot quenching and gas nitrocarburizing treatment**

Product Name		MTP50	MT100	MT150	MT300	MT600
Viscosity(40°C)	mm ² /s	42	86	130	227	470
Viscosity(100°C)	mm ² /s	7	10	14	20	31
Flash Point(COC)	°C	232	264	280	300	320
Color(ASTM)		L0.5	L1.0	L2.0	L3.0	L3.5
Thermal Stability(JIS K2242)		Pass	Pass	Pass	Pass	Pass
<u>Cooling Power</u>						
Oil Temperature	°C	120	120	120	160	160
Characteristic Temperature	°C	652	589	620	644	683
Cooling Time(800-400°C)	sec	3.2	5.0	5.5	6.1	7.0
H Value	cm ⁻¹	0.102	0.089	0.083	0.072	0.068
JIS K 2242 Category		2-1	2-1,3-1	2-1,3-1	2-2,3-1	2-2,3-2



Handling Precautions

▼ Follow these precautions when handling this product.

UNIQUENCHI WG(N)

Composition :	Propylene glycol, Water, Triethanolamine
Precautionary pictograms:	
Signal word:	Warning
Hazard Statement:	Causes mild skin irritation Causes serious eye irritation May cause an allergic skin reaction Suspected of causing cancer Suspected of damaging fertility or the unborn child
Precautionary Statements: Prevention	<ul style="list-style-type: none">• Do not handle until all safety precautions have been read and understood.• Wear protective gloves/protective clothing/eye protection/face protection.• Do not allow the eyes to become exposed to the product. Do not swallow the product.• Obtain special instructions before use.• Wash hands thoroughly after handling.• Do not eat, drink or smoke when using this product.
Response	<ul style="list-style-type: none">• IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.• IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.• If the eyes are exposed to the product: Rinse the eyes with plenty of running water and immediately contact a physician.• IF ON SKIN: Wash with plenty of soap and water.• IF exposed or concerned: Get medical advice/attention.• If skin irritation occurs : Get medical advice/attention.• IF IN EYES: Rinse cautiously with water for several minutes.• Remove contact lenses, if present and easy to do. Continue rinsing.
Storage	<ul style="list-style-type: none">• The product must be stored in a cool, well-ventilated location where it will not be exposed to direct sunlight.• Containers that have been opened must be tightly sealed.• Store locked up.
Disposal	<ul style="list-style-type: none">• Dispose of contents/container in accordance with local/regional/national/international regulations.• If there are any doubts about proper methods of handling the product, contact the point of purchase before proceeding with usage.

UNIQUENCHI CR 25

Composition :	Highly refined mineral oil
Precautionary pictograms:	Not applicable
Signal word:	Not applicable
Hazard Statement:	Not applicable
Precautionary Statements:	<ul style="list-style-type: none">• Do not handle until all safety precautions have been read and understood.• Wear protective gloves/protective clothing/eye protection/face protection.• Do not allow the eyes to become exposed to the product. Do not swallow the product.• Wash hands thoroughly after handling.• Do not eat, drink or smoke when using this product.
Response	<ul style="list-style-type: none">• IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.• IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.• If the eyes are exposed to the product: Rinse the eyes with plenty of running water and immediately contact a physician.• IF ON SKIN: Wash with plenty of soap and water.
Storage	<ul style="list-style-type: none">• The product must be stored in a cool, well-ventilated location where it will not be exposed to direct sunlight.• Containers that have been opened must be tightly sealed.
Disposal	<ul style="list-style-type: none">• Dispose of contents/container in accordance with local/regional/national/international regulations.• If there are any doubts about proper methods of handling the product, contact the point of purchase before proceeding with usage.

UNIQUENCHI CQT10, CQT15, CQT20S, CQ10W, CQ20S

Composition :	Base Oil, Additives
Precautionary pictograms:	
Signal word:	Danger
Hazard Statement:	May be fatal if swallowed and enters airways
Precautionary Statements:	<p>Prevention</p> <ul style="list-style-type: none"> • Do not handle until all safety precautions have been read and understood. • Wear protective gloves/protective clothing/eye protection/face protection. • Do not allow the eyes to become exposed to the product. Do not swallow the product. • Wash hands thoroughly after handling. • Do not eat, drink or smoke when using this product. <p>Response</p> <ul style="list-style-type: none"> • IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. • IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. • If the eyes are exposed to the product: Rinse the eyes with plenty of running water and immediately contact a physician. • IF ON SKIN: Wash with plenty of soap and water. • Do NOT induce vomiting. <p>Storage</p> <ul style="list-style-type: none"> • The product must be stored in a cool, well-ventilated location where it will not be exposed to direct sunlight. • Containers that have been opened must be tightly sealed. • Store locked up. <p>Disposal</p> <ul style="list-style-type: none"> • Dispose of contents/container in accordance with local/regional/national/international regulations. • If there are any doubts about proper methods of handling the product, contact the point of purchase before proceeding with usage.

UNIQUENCHI CQ20, CQ30W, CQT20, CQV30

Composition :	Base Oil, Additives
Precautionary pictograms:	Not applicable
Signal word:	Not applicable
Hazard Statement:	Not applicable
Precautionary Statements: Prevention	<ul style="list-style-type: none">• Do not handle until all safety precautions have been read and understood.• Wear protective gloves/protective clothing/eye protection/face protection.• Do not allow the eyes to become exposed to the product. Do not swallow the product.• Wash hands thoroughly after handling.• Do not eat, drink or smoke when using this product.
Response	<ul style="list-style-type: none">• IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.• IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.• If the eyes are exposed to the product: Rinse the eyes with plenty of running water and immediately contact a physician.• IF ON SKIN: Wash with plenty of soap and water.
Storage	<ul style="list-style-type: none">• The product must be stored in a cool, well-ventilated location where it will not be exposed to direct sunlight.• Containers that have been opened must be tightly sealed.
Disposal	<ul style="list-style-type: none">• Dispose of contents/container in accordance with local/regional/national/international regulations.• If there are any doubts about proper methods of handling the product, contact the point of purchase before proceeding with usage.