



Park
Metallurgical
Corporation

TECHNICAL DATA

8074 Military Avenue, Detroit, MI 48204 (313)895-7215

50 QUENCH OIL

CHARACTERISTICS:

50 QUENCH OIL produces high hardnesses in many types of steel ordinarily considered “water quenching”. In the initial stages of the quench, 50 QUENCH OIL cools like water. As the cooling nears the martensite formation range, this remarkable oil cools the steel slowly and uniformly to preclude cracking or distortion.

The recommended operating temperature range is ambient to 120°F.

50 QUENCH OIL is as effective at 50°F as it is at 120°F because of its low viscosity. This is a big advantage to many steel treaters who have oil quenching tanks without heaters. It also means lower consumption because oil dragout is greatly reduced.

Most quenching oils flash at about 350°F; the flash point of 50 QUENCH OIL is 275°F. But, no fire risk is present if ordinary precautions are observed.

No deviation from regular procedures are necessary to obtain the advantages of this superior and unusual oil. 50 QUENCH OIL furnishes water quenched hardnesses with the lack of distortion associated with oil quenching. It is safe to use as long as the temperature of the oil bath is not allowed to become excessive. Even when cold, quenching rates are high and dragout is low.

FORM:

Typical Properties

Appearance:	Light Amber Oil
Viscosity @ 100°F:	≥ 5.8 cSt
Hot Wire @ 100°F:	≥ 33.5 amps
Nickel Ball Time @ 100°F:	7 - 9 seconds
Flash Point:	≥ 275°F

EQUIPMENT:

All equipment for 50 QUENCH OIL baths may be constructed of mild steel.

Electrical immersion heaters used to raise the temperature of the oil should not exceed 10.0 watts per square inch, in a well agitated environment.

OPERATION:**Bath Parameters**

Temperature:	Ambient to 120°F
Velocity:	≥ 100 FPM
Time:	As required for appropriate metallurgical transformation

CONTROL:

The quench speed of 50 QUENCH OIL should be monitored and maintained at ≥ 30 amps at 100°F as measured using a HOT WIRE MACHINE (available from Heatbath/Park Metallurgical). If quench speed becomes lower than 30 amps, a 5% addition of QUENCH OIL ACCELERATOR will restore the speed and reinforce the anti oxidizing compounds in the product. 50 QUENCH OIL may need centrifuging or filtering depending on sediment that is dragged in. Sediment level should be maintained at $\leq 0.5\%$. Absorption of furnace atmosphere can cause the flash point of 50 QUENCH OIL to lower resulting in poor quench characteristics and fire hazard. Should this occur de-gassing the oil at a temperature not to exceed 225°F will remove the contamination. All efforts should be made to avoid water contamination of 50 QUENCH OIL. Water will cause very erratic quench characteristics as well as posing a serious fire hazard.

SAFETY:

Precautions should be taken to prevent eye contact with product, minimize skin contact and inhalation of vapor or mist.

As with any chemical, read the product label's health and protective measure information statements before using. **Consult the MSDS for full information on health effects and protective measures.** Utilize necessary protective equipment appropriate for the task at hand and potential exposure to the product being used. Whenever in doubt, STOP and consult with your supervisor before using/working with any chemical.

DISPOSAL:

Used quench oils should be removed by a qualified waste oil disposal service.

Under the Resource Conservation and Recovery Act (RCRA) regulations, it is the responsibility of the product user to determine, at the time of disposal, whether a material should be classified as a hazardous or non-hazardous waste.

NON-WARRANTY:

The data contained in this bulletin is believed by Heatbath/Park Metallurgical Corporation to be accurate, true and complete. Recommended parameters are based on a typical process and may be altered to accommodate specific requirements. Since, however, the final use of the product is beyond our control, no warranty of results is expressed or should be implied.