LIX®84-I

LIX 84-I solvent extraction reagent is water insoluble 2-hydroxy-5-nonylacetophenone oxime in a mixture with a high flash point hydrocarbon diluent. It forms water insoluble complexes with various metallic cations in a manner similar to that for copper which is described in the following equation:

\[ 2RH_{(org)} + Cu^{+2}_{(aq)} \rightleftharpoons R_2Cu_{(org)} + 2H^+_{(aq)} \]

Copper extraction from typical leach solutions is pH dependent. Stripping is accomplished with acid solutions such as a typical barren electrolyte from copper electrowinning.

TYPICAL PROPERTIES

A. Physical Properties:
   Extractant Appearance  Fluid Amber Liquid
   Specific Gravity (25°C/25°C)  0.89-0.91
   Flash Point\(^1\)  Greater than 160°F
   Copper Complex Solubility  >30 g/l Cu at 25°C

B. Performance Specifications\(^2\):
   Maximum Copper Loading  ≥ 4.7 g/l Cu
   Extraction Isotherm Point  ≥ 3.65 g/l Cu
   Extraction Kinetics  ≥ 90% (60 seconds)
   Extraction Cu/Fe Selectivity  ≥ 2000
   Extraction Phase Separation  ≤ 60 seconds
   Strip Isotherm Point  ≤ 0.50 g/l Cu
   Net Copper Transfer  ≥ 3.30 g/l Cu
   Strip Kinetics  ≥ 90% (30 seconds)
   Strip Phase Separation  ≤ 80 seconds

\(^1\) The flash point is determined by Setaflash closed cup.
\(^2\) The performance parameters are determined using the Standard Cognis Quality Control Test dated 6/28/96.

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Cognis Corporation Mining Chemicals

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