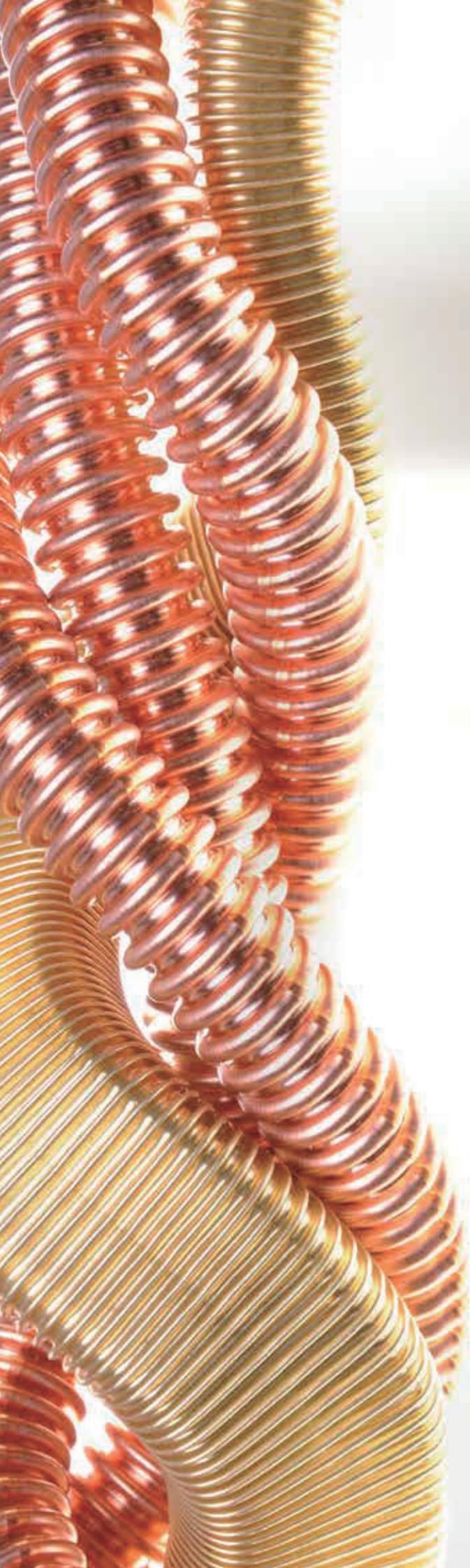
Escaid™ fluids

ExxonMobil

Global portfolio

High-performance diluents for metal extraction

Energy lives here™



Metal extraction is an art

The more you understand the challenges of metal extraction, the clearer the choice becomes. Modern solvent extraction circuits are highly engineered and sophisticated hydrometallurgical processes. They can also operate in very demanding conditions and sometimes remote locations.

With so much value at stake, you need a diluent supplier who:

- understands the challenges faced by the mining industry
- can offer the right product in the right place
- can meet the changing needs of the industry

Extraction diluents for today and tomorrow

The days when kerosene was the primary extraction diluent are well and truly over. Today, the range of metals and solvent extraction processes demands diluents which deliver consistent, reliable performance and which can enhance the extraction process.

As safety and environmental standards continue to change, products with **higher flash point** / lower vapor pressure and much **lower aromatic content** provide the mining industry with what they need to meet these standards.

ExxonMobil Chemical developed Escaid fluids, as diluents, to meet these evolving needs of the mining industry.

They are used extensively in the extraction of copper, nickel, uranium and other valuable metals. In fact, they are relied upon in some of the world's largest mining operations.

With manufacturing facilities in the North and South America, Europe, and Asia Pacific, coupled with worldwide distribution capabilities, ExxonMobil Chemical is the only **truly global supplier** of the full range of solvent extraction diluents.

Escaid™ diluents are proven in mining operations around the world.

Escaid™ fluids

Escaid 110 Escaid 115 Escaid 120

Escaid fluid product portfolio offers a choice of diluents to optimize your solvent extraction process.

Key properties*	Traditional kerosene	Escaid 110 fluid(1)	Escaid 115 fluid(2)	Escaid 120 fluid(3)	Escaid 120 ULA fluid(3)
Distillation range (°C) (4)	203-239	206-238	225-256	236 - 265	236 - 264
Aromatics content (%wt) (5)	24	<0.01	<0.05	<0.50	<0.01
Viscosity at 40°C (cSt) (6)	1.6	1.6	2.0	2.3	2.3
Flash point (°C) (7)	79	81	96	103	103
Density at 15°C (kg/dm³) (8)	0.818	0.794	0.802	0.819	0.821
Occupational exposure limit[4] (mg/m³) (9)	300	1200	1200	1200	1200

* All data provided are typicals: (1) Singapore typicals; (2) Baytown typicals; (3) Antwerp typical;
Test methods:
(4) Distillation Range: Method "ASTM D86 " for all grades; (5) Aromatics content: GC1/ HPLC1 for traditional kerosene - Method " AMS 140.31" for Escaid 110 and for Escaid 115 - Method " EM Test method UV 1" For Escaid 120 and 120 ULA; (6) Viscosity at 40 C : Method " ASTM D445 " for Escaid 110 and Escaid 115 _ Method " ASTM D7042 " for Escaid 120 And Escaid 120 ULA; (7) Flash Point : Method " ASTM D93 " for all grades; (8) Density at 15 C: "ASTM D4052 " for Escaid 110 and Escaid 115 and method "ISO 12185" for Escaid 120 and Escaid 120 ULA; (9) Source for Occupational Exposure Limits: RCP - TWA - ExxonMobil data.



Escaid 110 fluid is the diluent of choice in many of the world's largest copper mines. Containing very low levels of aromatics, it features:

- excellent phase separation
- consistent quality and low evaporation
- significant worker diluent exposure risk reduction, with an occupational exposure limit up to 3 times higher than traditional kerosene type diluents

Escaid 115 and Escaid 120 fluids offer all the benefits of Escaid 110 fluid with even higher flash points / lower vapor pressures for:

- reduced fire risk
- reduced diluent evaporative losses

Features:

- range of volatilities and chemical types
- high to very high flash points
- good extractant compatibility
- narrow distillation ranges
- low viscosities
- low pour points
- high chemical and thermal stability

Benefits:

- reduced diluent evaporation losses
- tailored extraction solutions
- required extractant solvency
- fast phase disengagement
- reduced fire risk (high flash grades)
- improved worker protection and comfort
- consistent performance over time

Comparative statements are made versus kerosene-type aromatic containing diluent.

Our manufacturing sites	
Escaid 110 fluid	All sites
Escaid 115 fluid	Baytown, Singapore
Escaid 120 fluid	Antwerp, Baytown

Escaid™ fluids are available globally, with grades that meet regional needs

An expanding diluent portfolio, global technical expertise, and worldwide production and distribution provide superior support for your metal extraction activities.

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Contact us for more information:
exxonmobilchemical.com
productsafetyguide.com

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