

## Choice Solutions for Mineral Processing

Mining Chemicals, a division of Chevron Phillips Chemical Company LP, has been supplying high performance chemicals to the mining industry for more than 60 years. Equipped with the expertise needed to develop new solutions and provide a quality experience, Mining Chemicals is a leader in supplying products to support the mining industry worldwide.

The division's family of internationally recognized products are used for solvent extraction, flotation, mineral collection and depression, and offer solutions for a variety of mining challenges.

**Orfom® SX Solvent Extraction Diluents** are petroleum distillates and synthetically produced hydrocarbons that are manufactured specifically for use in solvent extraction operations of metals. These products are manufactured to close specifications in order to ensure product consistency and to optimize phase disengagement.

### BENEFITS OF THESE PRODUCTS INCLUDE:

- Higher flash point than most petroleum products
- Lower vapor pressure
- Narrow distillation range
- Low viscosity
- Compatible with all common extractants

**Orfom® MC Sulfur-Based and Hydrocarbon-Based Collectors** are highly effective non-selective collectors for sulfide-based ores and have high flash points providing increased safety.

The Orfom® MCO, MCX, MCS and Molyflo® family of hydrocarbon collectors offer better control than diesel and kerosene, and are well-suited for sulfide ores. Additionally they offer maximized recovery of poorly liberated minerals when used with commercial-based collectors.

Orfom® MC sulfur-based collectors are effective non-selective based collectors that maximize the flotation of sulfide ores and can be used in a wide pH range.

**Orfom® D8 Depressant** is a water-soluble product that is an effective depressant for copper (chalcopyrite) and iron (pyrite) in primary molybdenum or copper/molybdenum circuits.

It is less toxic than other traditional depressants and less odorous than sodium hydrosulfide. Orfom® D8 Depressant does not require a nitrogen blanket for effective depression and is stable, with a pH range above neutral. Additionally, Orfom® D8 Depressant has exceptional performance at significantly lower dosage than NaSH.

**Phiflo® Flotation Oils** are a family of non-polar oil blends optimized for potash and phosphate flotation. Formulated to improve recovery, these oils have the ability to enhance the flotation of coarse particles at lower dosages than needed with fuel oil, kerosene or diesel.

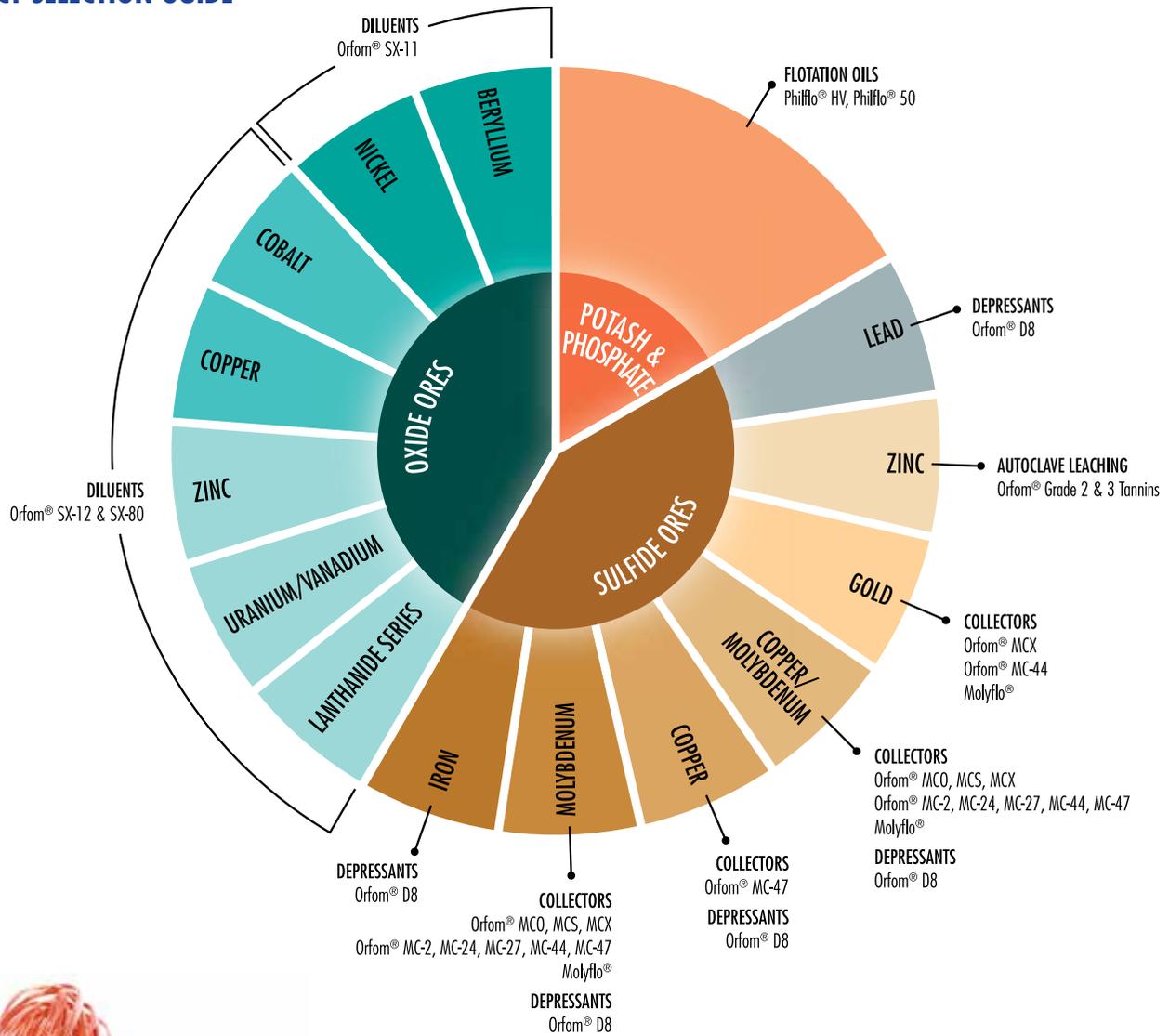
Phiflo® Flotation Oils can be mixed directly with fatty amine or acid collectors, as well as commercial frothers. Additionally, the oils have a high flash point and modified pour point making them safer and more efficient to operate over a wide range of temperatures than other alternatives.

### ORFOM® SX DILUENTS – TYPICAL VALUES

Characteristics	Units	SX-12	SX-80	SX-11	Method
Density Conversion at 25°C	lbs/gal	6.84	6.84	6.63	ASTM D1298
Flash Point (PMCC)	°C	77	78	114	ASTM D93
Color	Saybolt	30+	30+	30+	ASTM D156
Composition	Vol. %				
Alkyl aromatics		4-23	4-23	0.2	
Cycloparaffins		42	42	0.01	
Paraffins		34-53	34-53	97	
Pour Point	°C	-36	-36	-46	ASTM D97
Viscosity at 25°C	cSt	2.1	2.4	6.5	ASTM D7042



# PRODUCT SELECTION GUIDE



*Orfom<sup>®</sup> SX Solvent Extraction Diluents are ideal for the extraction of metal oxides.*



*Orfom<sup>®</sup> D8 Depressant is an effective depressant in chalcocite, molybdenite and other sulfide ore flotation processes.*



*Philflo<sup>®</sup> Flotation Oils are designed to improve the recovery of potash and phosphate by enhancing the flotation of coarser particles.*

