

## Autonics AEWS Series

Premium Water-Soluble Cutting Oils (AEWS-20 / AEWS-22 / AEWS-40)

**PRODUCT CODES:**

AEWS-20, AEWS-22, AEWS-40

**FLUID CLASS:**

Soluble Mineral Metalworking Fluid

### 1. PRODUCT DESCRIPTION

**Autonics AEWS Series** represents a premium line of water-soluble cutting oils formulated with high-quality mineral base stocks, specialized coupling agents, and high-performance emulsifiers. Engineered to mix instantly with water, they produce high-stability milk-white emulsions that deliver exceptional cooling and boundary lubrication during various machining operations. The series is available in tailored viscosity configurations—\*\*AEWS-20\*\*, \*\*AEWS-22\*\*, and \*\*AEWS-40\*\*—allowing fine-tuned adaptation to specific machine dynamics, material flow requirements, and structural flushing speeds.

### 2. FEATURES AND BENEFITS

- **Excellent Cooling & Lubrication:** Combines fluid thermal dissipations with robust mineral film integrity to lower tool zone temperatures and prolong tooling life.
- **Superior Emulsion Stability:** Resists oil separation in both soft and moderately hard water supplies for dependable multi-shift recycling.
- **Advanced Rust Inhibition:** Fortified with potent anti-corrosion chemistry to safeguard newly machined iron, steel, and machinery beds.
- **Enhanced Bio-Resistance:** Resists bacterial and fungal growth, eliminating bad odors and maximizing fluid sump longevity.
- **Low Foaming Tendency:** Generates minimal surface foam during high-velocity coolant deliveries, optimizing clear viewing fields.

### 3. APPLICATIONS & DILUTION

- Suitable for a wide spectrum of light-to-medium metal removal jobs including turning, milling, drilling, boring, and sawing.
- Compatible with a vast array of carbon steels, alloy structures, and cast iron segments.
- **Recommended Mix Ratios:**
  - \*General Machining:\* 4% to 6% (1:25 to 1:16)
  - \*Severe Cutting/Grinding:\* 7% to 10% (1:14 to 1:10)
- \*Note:\* Always add cutting oil into water with continuous stirring (never add water into oil).

### 4. TYPICAL CHARACTERISTICS

PROPERTY / GRADE	AEWS-20	AEWS-22	AEWS-40
<b>Product Code</b>	<b>AEWS-20</b>	<b>AEWS-22</b>	<b>AEWS-40</b>
Appearance (Concentrate)	Clear Amber Liquid		
Appearance (5% Emulsion)	Milky White Liquid		
Kinematic Viscosity @ 40°C (cSt)	20.5	22.0	40.5
Density @ 15°C (kg/m³)	876	879	886
pH of 5% Emulsion (ASTM D1287)	9.1	9.1	9.2
Copper Corrosion (ASTM D130)	1a	1a	1a
Cast Iron Corrosion (IP 287)	0/0-0 (Pass at 4%)		
Flash Point (COC), °C	165	170	198

### 5. HEALTH, SAFETY & PACKAGING OPTIONS

**Fluid Maintenance:** Keep sumps clear of tramp oils, metallic chips, and external contaminants to preserve emulsion stability. Store product concentrates indoors away from direct frost or extreme heat. Wash hands thoroughly following contact. Refer to the product Material Safety Data Sheet (MSDS) for detailed ecological disposal parameters.

**Packaging Formats:** Supplied across local and commercial distributions in standard industrial \*\*20-Liter Pails\*\* and bulk \*\*208-Liter Drums\*\*.

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