



Formulations For Today's  
Technical Manufacturing Needs

An ISO 9001:2000 Certified Company

## ASTRO-DRAW A

### General Description

**ASTRO-DRAW A** is a heavy duty water soluble drawing oil. It has been formulated for use on heavy drawing and blanking operations and has excellent adherence and anti-wipe properties. It can be used on both ferrous and non-ferrous metals without staining or rusting. This product is a complex blend of extreme pressure additives, fatty esters and rust inhibitors.

### Application

**ASTRO-DRAW A** is designed for use in all stamping and drawing applications. **ASTRO-DRAW A** may be applied by brushing, dipping, spraying, rolling or other convenient method.

### Advantages

- Easily Removed With Mild Alkaline Cleaner
- Excellent Corrosion Inhibition
- Stable in Hard or Soft Water
- For Ferrous and Non-Ferrous Metals
- Residual Coating May Be Welded Through
- Mild Pleasant Odor
- Long Lasting
- Operator Friendly
- Superior Lubricity
- Non-Gumming

### Recommended Concentrations

Application	Concentration, %	Ratio	Refractometer
Normal Applications	10% - 20%	1:10 – 1:5	5.2 – 10.5
Extremely Difficult Draws	May Be Used Neat or Cut With Mineral Oil		

### Mixing Instructions

When mixing emulsifiable coolant, it is best to use an automatic proportioner which accurately and thoroughly mixes coolant. To maintain recommended concentration, make-up or top-off should be added at one-half of the desired concentration. Never add concentrate directly to the machine; this could cause inverted emulsions.

Concentration, %	5%	7%	10%
Ratio	1:20	1:14	1:10
Refractometer Reading	5.7	8.0	11.4

### Typical Properties

Appearance-Concentrate	Hazy dark brown liquid
Appearance- Dilution	Opaque White
Residual Film	Soft, fluid
pH @ 20:1	8.9 ± 0.2
Specific Gravity @ 60°F	1.06 ± 0.03
Lbs/Gallon	8.9 ± 0.1
Total Phosphorous, wt %	None
Flash point, COC °F	355

ASTRO-DRAW A is available in 5 gallon pails, 55 gallon drums and 275 gallon IBCs. Material Safety Data Sheets are available for all products. All reasonable care has been taken to ensure that the above information is accurate as of the date of printing.

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