

IRMCO FLUIDS® are high performance, clean, non-oil, environmentally sound alternatives to traditional chlorinated oils, pigmented pastes, water soluble oils, and synthetic metal forming/stamping lubricants.

CONTROLLED APPLICATION – CONSUMPTION REDUCED 50% – Because of film's ability to protect tooling in a thin film regime, 50% less fluid is required. The use of IRMCO® APPLICATION HARDWARE assures consistent 100% application of critical forming surfaces. Inconsistent, excess application waste and housekeeping burden is eliminated.

TOOLING COST REDUCED 25% – Unique chemistry provides a high performance, tenacious barrier on critical tooling surfaces under high friction – high heat conditions, increasing tool life an average of 25%.

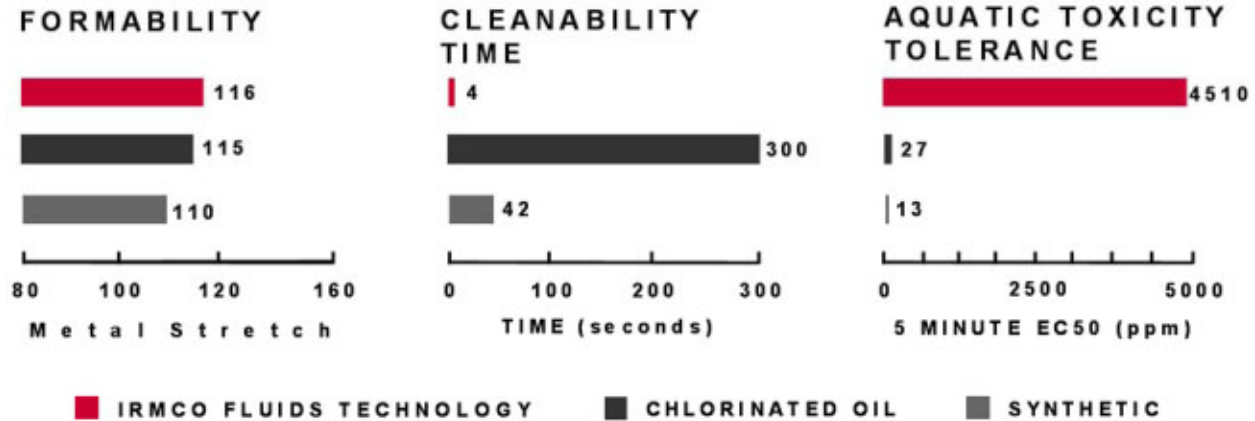
CLEAN ASSEMBLY – WELD WITHOUT WASH – Clean, thin film provides an improved surface condition for welding and assembly. Production studies using MIG, TIG, and resistance welding techniques have proven that in some cases welding can be achieved without prior washing*. Weld repairs and re-work due to lubricant residue are eliminated or reduced significantly.

IMPROVED PARTS CLEANING & PAINT QUALITY– CHEMICAL COST REDUCED 50% – Film removes with a plain water first stage or mild alkaline cleaner. Cleaning and pre-treatment chemicals perform more efficient and last longer between system clean-outs. Washer disposal volume and cost can be reduced up to 50%. Paint quality improves, thus lubricant related paint rejects are eliminated.

400% LESS TOXIC – ISO 14001 COMPLIANCE – IRMCO FLUIDS do not contain oil or other constituents found on the SARA Title III Section 313 Toxic Chemical List, allowing for a significant reduction in cleaning chemical volume, waste treatment costs, and liability.

TECHNOLOGY PERFORMANCE

The performance data below provides a lab comparison of IRMCO FLUIDS® product technology to conventional technology. Metal formability is reported as the maximum uniaxial strain before fracture of a coated sample, relative to an uncoated sample. A higher relative value indicates better forming capabilities of a film using cold rolled steel. Cleanability is measured in the time it takes to completely remove film with 77° F water. A shorter time demonstrates superior ease of cleanability. Acute aquatic toxicity is reported in parts per million (ppm) as the effective concentration 50% of population survive (EC50). A higher number indicates a less toxic material. For details on any of these tests, please contact IRMCO.



APPLICATION AND HANDLING GUIDELINES

- Metal Compatibility See IRMCO PAG (Product Application Guide). Due to variability among metal grades, compatibility should be evaluated on-site.
- Dilution Dilution possible with water. See PDS (Product Data Sheet)
- Mixing Not applicable.
- Application Roll or spray IRMCO® APPLICATION HARDWARE SYSTEM
- Parts Cleaning IRMCO recommends a mild alkaline wash at a pH range of 7.0-10.0. The pH should not exceed 11.0 (alkaline) or be lower than 6.0 (acidic), a temperature between 110°F/43C - 120°F/49C, not to exceed 150°F/65.5C.
- Tool Cleanup IRMCO 819-000, IRMCO 957-000 Cleaner-Degreaser or suitable rust inhibiting, water based cleaner.
- Equipment Paint Equipment should be painted with alkaline resistant epoxy paint such as Tile Clad II (B62W101) from Sherwin-Williams Co. or Devran 250 from Devoe Coatings Co.
- Handling and Storage Container should be stored tightly closed and indoors at or near room temperature, approximately 68°F (20°C).
- Disposal Considerations... Follow applicable regulations.
- OEM Approvals See IRMCO OEM Approvals list.
- Export Limitations See IRMCO MSDS and PAG for compliance information regarding any export limitations set by Canadian DSL, European EINECS, or Australian AICS lists.

PHYSICAL AND CHEMICAL PROPERTIES

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| Appearance..... | Clear, light to dark amber | Flash Point..... | None |
| Boiling Point..... | Approximately 212°F (100°C) | Freezing/Melting Point..... | Approximately 32°F (0°C) |
| Density..... | 8.5 - 9.3 lb/gal (1.02 - 1.12 kg/L) | Solubility..... | Completely soluble in water |
| Evaporation Rate..... | Nil | Specific Gravity..... | 1.02 - 1.12 |

NOTICE TO USER

**IRMCO FLUIDS® products have been used extensively throughout the world in a variety of manufacturing and production applications. It is the responsibility of users of IRMCO products to meet the component surface quality, process compatibility or cleanliness requirements of their customers. Given the complexity and variety of users applications and processes, IRMCO cannot predict all user conditions and results. If surface quality, process compatibility or cleanliness is a user concern, then IRMCO recommends removing/cleaning off the IRMCO product film from the components before final assembly and distribution of such components. User assumes all risk and liabilities associated with the products used.*