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**LIQUID ICE® VP MACHINING COOLANT AND LUBRICANT**

**LIQUID ICE® VP is an alternative to oil-based or semi-synthetic coolants. This fully water soluble coolant has superb cooling properties and very good lubricity. LIQUID ICE® VP has been engineered to be environmentally responsible and safe to operators. It does not create mists, vapors or odors.**

- Excellent Anti-Foaming Characteristics, even under 1000 PSI high pressure applications.
- Increased Cooling Capability resulting in better Tool Life.
- VP is Clean and non-sticky eliminating the need of washing machined parts before painting, welding or heat treating.
- Long sump life thanks to state of the art biocide that, with good housekeeping, helps prevent bacteria and odors.
- Long lasting Corrosion Protection without the need of expensive tank side additives.
- Environmentally Friendly, and does not create mists in the air.
- Extremely Safe for Operators and Machinery, no solvents or dyes.
- Clear in appearance allowing full visibility of the machining process
- Value Priced to fit your budget

**Applications:** All machining applications involving ferrous and non-ferrous metals.

**Application Data:** LIQUID ICE® VP should be flooding the surface of the cutting tool and material to be machined at all times.

**Recommended Dilution Rates:** Applications for Ferrous or Non Ferrous metals (aluminum, brass, steel or stainless) at 5% - 12% concentration or (19:1 – 7:1

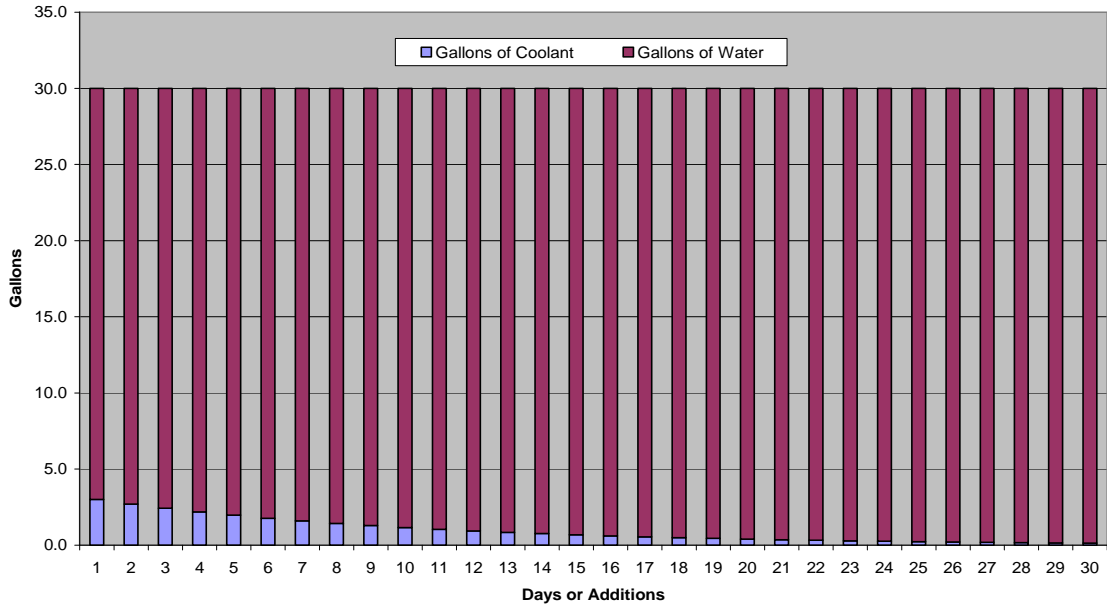
Percentage	Dilution Ratio	Refractometer
5%	19:1	1.2
6%	14:1	1.6
8%	11:1	2.0
10%	9:1	2.4
12%	7:1	3.2

It is recommended to initially charge the system at 8 – 10%, then gradually dilute with make up coolant once a baseline performance has been established. Each situation will vary depending upon the specific water-hardness, type of machining and application

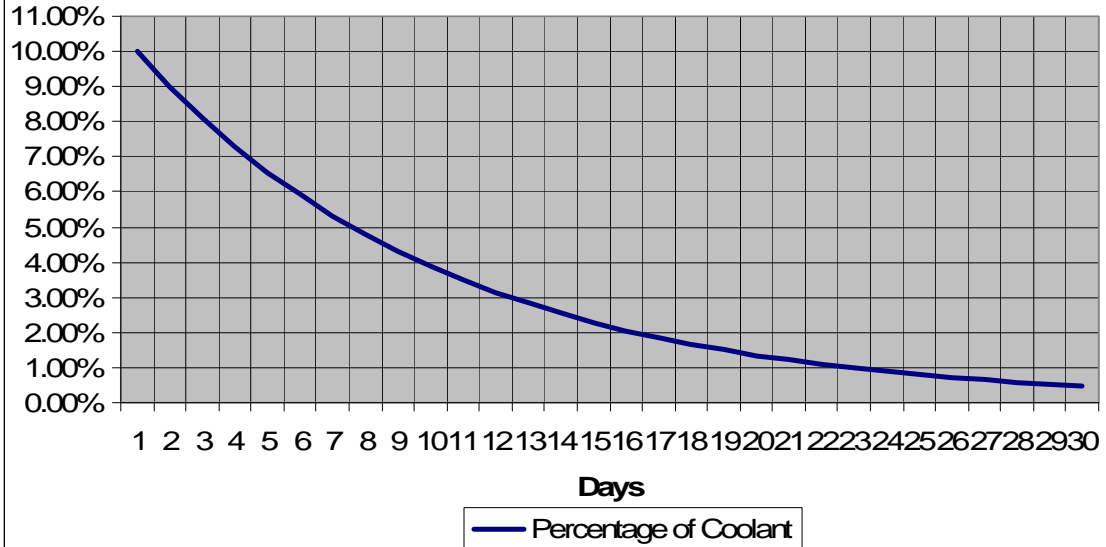


**Environmental Data:** LIQUID-ICE® VP's ingredients are highly biodegradable according to EPA, DIN, ASTM, or standard methods, are harmless to the environment, and contain no hazardous or toxic materials.

**Coolant Loss Model**



**Percentage of Coolant**



**ASSUMPTIONS:**

SYSTEM CAPACITY 30 GALLONS; CHARGED WITH 10% COOLANT (10:1)  
 DAILY LOSS OF SYSTEM VOLUME IS 10% ; OF WHICH 90% IS WATER  
 DAILY COOLANT MAKE UP IS MADE USING WATER ONLY RESULTING  
 IN LOSS OF CONCENTRATION AS SHOWN ABOVE