

## Ultra-Blak™ Rectifier

### Liquid Rectifier Additive for Black Oxide Solutions

**Ultra-Blak Rectifier** is added to the **Ultra-Blak 400** and similar black oxide baths to control excessive build up of iron and copper.

When copper builds up in a bath it will deposit on the black oxide finish as a salmon colored copper. The **Ultra-Blak Rectifier** will tie the copper up so that it will not be deposited, but will be removed from the work by the subsequent water rinse.

Red iron oxide can build up in a black oxide bath to such an extent that it can build up on the work producing a red film on the work which is difficult to rinse off. The use of **Ultra Blak Rectifier** will aid in its removal in the water rinse.

A bath should be skimmed and desludged prior to using **Ultra-Blak Rectifier**.

#### USAGE

**Ultra-Blak Rectifier** is added at a rate of 1/2 to 1 fluid ounce per gallon of oxide solution.

#### CAUTION

The **Ultra-Blak Rectifier** solution must be added slowly and carefully to the hot solution to prevent excessive boiling or the violent eruption of the solution. Protective clothing to include a full face shield, rubber gloves and a rubber apron must be worn when making additions.

Ideally, the **Ultra-Blak Rectifier** solution should be added to the hot bath while it is boiling so that it will be rapidly mixed into the solution. This is safely accomplished by adding the solution so that it runs down a wall of the tank. An impinging spray from a hose or bottle against a rear or side tank wall above the solution level is preferred.

If the **Ultra-Blak Rectifier** solution is added to an oxide solution when it is not boiling, the solution must be thoroughly stirred during the addition to ensure that it is uniformly mixed throughout the solution.

The **Ultra-Blak Rectifier** solution must not be added to a non-boiling solution without stirring because it may lay on top of the viscous oxide solution and then be suddenly drawn below the surface by the introduction of work into the solution or by the solution coming to a boil - - if either of these two occurrences happened, it could lead to the violent eruption of the oxide solution as the **Ultra-Blak Rectifier** solution is drawn rapidly in mass below the surface where it would be converted to steam causing the violent eruption of the solution.

Do not work with **Ultra-Blak Rectifier** without first reading the **MATERIAL SAFETY DATA SHEET** provided by **EPI**.

**Ultra-Blak Rectifier** is incompatible with strong acids and strong oxidizers. Do not mix it with these materials or with any other materials or mixtures.

### **PACKAGING**

5 gallon non-returnable containers.

### **IMPORTANT NOTICE! For Industrial Use Only**

The following is made in lieu of all warranties, expressed or implied, including the implied warranties of merchantability and fitness for purpose: seller's and manufacturer's only obligation shall be to replace such quantity of the product as proved to be defective. Before using, user shall determine the suitability of the product for its intended use, and user assumes all risk and liability whatsoever in connection therewith. **Neither seller nor manufacturer shall be liable either in tort or in contract for any loss or damage, direct, incidental or consequential, arising out of the use or the inability to use the product.**

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