

## DU-LITE CORPORATION

171 River Road

Middletown, CT 06457

(860) 347-2505 Fax (860) 347-9404

[www.dulite.com](http://www.dulite.com)

dulite@sbcglobal.net

### **NEUTRALIZATION AND DISPOSAL OF DU-LITE'S BLACK OXIDE PROCESSES STEELKOTE, OXIBLAK, 3-0 PROCESS, XX COMPOUND, ALKALINE SOAK CLEANERS AND HIGH pH WASTE RINSE WATER**

All rinse water used in the Du-Lite black oxide process must be treated before discharge to your septic system or local sanitary sewer system. Before disposing of rinse water, you should contact environmental authorities in your area to be certain that no law will be violated by using these disposal procedures.

Fortunately, there is an easy way to test rinse water to determine whether it is acidic, alkaline or neutral. The method used is to measure the pH level. What is meant by pH? pH uses a scale of 1 to 14, 7 represents the pH of distilled water which is neutral. A pH of 6.5 is slightly acidic. The lower the numbers the stronger the acid content of your waste water sample. A water sample with a pH of 8 is slightly alkaline the higher the numbers go to 14 the stronger the alkalinity becomes. Rinse water from a black oxide line has a pH of 14 and must be lowered with Du-Lite's Waste Water pH Adjustment Compound to a pH of 7. At this pH, all alkalinity has been neutralized and all nitrates and nitrites in the rinse water have been destroyed. The pH level of the waste- water can easily be determined by using multi-colored pH test strip papers. Dip the colored area of a pH test strip into the waste- water for a few seconds, then remove it and observe the color change in the colored area of the test strip. Match this color on the container and read off the pH value. These strips are a fast, simple and accurate way to test the acid/alkaline nature of any waste rinse water.

Du-Lite's Waste Water pH Adjustment Compound is a white granule powder. For best results when treating waste water, mix Du-Lite's Waste Water pH Adjustment Compound, 16 oz. Per gallon, with cold water. (*example: 10 gallons of water mixed with 10 lbs. of Waste Water pH Adjustment Compound*)

It is much easier to add the liquid Waste Water pH Adjustment Compound to the waste- water to be treated then it is to add as a powder. Waste Water pH Adjustment Compound

**NEVER DISCHARGE TO A SEPTIC SYSTEM RINSE WATER OR SPENT SOLUTION FROM A BLACK OXIDE LINE THAT HAS NOT BEEN PH ADJUSTED. IT WILL KILL THE BACTERIAL ACTION IN THE SYSTEM AND SHUT IT DOWN.**

There are two methods used for waste rinse water treatment as outlined below:

1. Batch Treatment - Waste water from the Black Oxide rinse tanks are collected for treatment in either a 5 gallon pail, 55 gallon drum or 1000 gallon container. Your daily water use should determine the size of your treatment container. First determine the pH value of the rinse water by using a pH test strip. If your pH level is above 7, the add small amounts of Du-Lite's Waste Water pH Adjustment Compound and test again until you reach a pH level of 6.5-7.0. Now the rinse water is ready to be discharged, with proper permits, to the sanitary sewer system, or boil off in an electric or gas heated water evaporator available from Du-Lite.

Tanks, pumps, float switches, mixers, pH controllers and other related equipment is available from the Du-Lite Corporation.

2. Automated pH Adjustment System - Du-Lite offers an automated pH adjustment system which consists of a

30" x 30" x 30" Polypropylene tank, electric mixer, acid metering pump, pH controller with a 30 day strip chart, high and low pH alarm and operating manual. This system will automatically pH adjust the rinse water on a continuous flow method. The pH adjusted water can be discharged to a sanitary sewer with the proper permits. This unit is available with flow rates of 5, 10 and 18 gpm. A 30 day strip chart is located inside the equipment and is retained by the customer to show proof that proper treatment has been performed during the month.

Du-Lite also offers a waste- water evaporator which runs on electricity or gas. This evaporator dramatically reduces waste fluids from automatic parts washers, hot tanks, steam cleaners, machining coolants, oily waters, ink wash-ups, water-based paints and rinse water. This enables a manufacturer who generates waste water in the amount of 10-100 gallons per day to evaporate this waste water in a closed loop system, eliminating the necessity for expensive discharge permits to sanitary sewer systems and monthly water sample testing requirements.

## WASTE TREATMENT OF SPENT BLACK OXIDE SOLUTION

Occasionally, after considerable use, it may be necessary to dispose of a your black oxide solution due to contamination or simply because of bath depletion through use. Neutralization of blackening baths should be done in small batches. It is not advisable to attempt to neutralize the entire contents of your blackening tank all at once. It is recommended to work in small batches of one gallon, or less, at a time. The neutralization process should be performed in a steel tank out of doors if possible. To start, mix the solution in your blackening tank well. Pour two gallons of warm water into an empty mixing tank. Slowly, add one gallon of black oxide solution and mix thoroughly.

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With a boiling point of 292°F, we found that it will take about 12 gallons of Du-Lite's liquid Waste Water pH Adjustment Compound for each gallon of raw blackening solution to be neutralized. Make sure to stir the mixture constantly while adding Du-Lite's liquid Waste Water pH Adjustment Compound. At this point, start testing the solution pH after each addition of disposal compound using a fresh pH test strip each time you test. Continue adding small amounts of disposal compound and test the solution pH after each addition, until you have reduced the pH of 6.5 - 7.0. Once the solution has reached a pH of 6.5 - 7.0, it is now safe to dispose of the solution.

**BURNS FROM SOLUTION** - Black oxide solutions are highly alkaline and can cause severe burns to unprotected skin. If the operator's skin comes in contact with black oxide solution, wash affected areas thoroughly with water and neutralize the alkaline chemicals on your skin with white vinegar.

**SAFETY EQUIPMENT REQUIRED** - When waste treating Du-Lite's black oxide solutions, operator must wear long sleeve shirt, gloves, boots, long pants, apron and full face shield for proper protection

### Waste Water pH Adjustment Compound

- 25 Lb. Containers	\$ 5.00 / Lb.	- 250 Lb. Containers	\$ 2.25 / Lb.
- 50 Lb. Containers	\$ 3.50 / Lb.	- 500 Lb. Containers	\$ 1.95 / Lb.
- 100 Lb. Containers	\$ 2.50 / Lb.	-1000 Lb. Containers	\$ 1.85 / Lb.
- Plating Gloves -	\$ 7.95 / Pr.		
- pH Test Strip Papers - 100 pcs.	\$19.95 / Pkg.		09/01/07

