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## Acid Pickle/Deruster, Liquid

LASER AND PLASMA OXIDE REMOVER  
EFFECTIVE AGAINST RUST AND HEAT SCALE  
DOES NOT CONTAIN PHOSPHATE  
INHIBITOR TO PREVENT OVER ATTACK ON BASE METAL

**DESCALE 54** is a concentrated acid liquid that will remove rust, heat scale, and corrosion products from ferrous metal parts without applied heat. **DESCALE 54** can be used in an immersion system or a spray system. **DESCALE 54** can remove oxides formed from laser and plasma cut steel. The **DESCALE 54** treated parts will be prepared for further processing with a surface conversion or a rust preventative application for future processing.

### PHYSICAL PROPERTIES

Liquid, clear  
Amber color  
Density: 11.1 lbs/gal

### OPERATING CONDITIONS

	Immersion	Spray
Concentration:	10 to 50% by volume	3 to 10% by volume
Temperature:	Unheated	Unheated
Time:	5 to 15 minutes	1 to 2 minutes

### EQUIPMENT

None of the usual stainless steel alloys are totally resistant to the **DESCALE 54** processing solution. Type 316 stainless steel alloys will provide satisfactory service. We recommend its use for the construction of tanks, piping, and pumps. **DESCALE 54** was formulated to operate without heat. If heating is required then heat transfer surfaces require special considerations that need to be discussed with your Coral Consultant.



## INITIAL CHARGING PROCEDURE

1. Fill the tank to 2/3 of the final volume with clean, cool water.
2. Add the required amount of **DESCALE 54** slowly, with sufficient agitation to ensure thorough mixing.
3. Add cool water to increase the volume to the operating level. The solution is then ready to be heated to operating temperature.

## SOLUTION CONTROL

### Titration Procedure:

Materials required: 25 ml pipet  
125 ml glass flask  
Automatic burette assembly  
0.04% BromoCresol Green (LIN-003)  
1.0N Sodium Hydroxide (LTS-014)

1. Pipet a 25 ml sample of the bath into a 125 ml glass flask.
2. Add 4-5 drops of 0.04% BromoCresol Green (LIN-003).
3. Titrate with 1.0N Sodium Hydroxide (LTS-014) until the sample turns from yellow to green -blue.

**Concentration:** mls of 1.0N Sodium Hydroxide (LTS-014) required times the product factor, 0.62, equals the concentration in percent by volume of product in solution.

mls of 1.0N Sodium Hydroxide (LTS-014)	% by volume
3.2	2
6.5	4
9.7	6
12.9	8



## REPLENISHING

A bath made up at 5% by volume will have a titration of about 8.1 mls. The titration, bath concentration, should be maintained between 7.7 and 8.5 mls. The addition of 6 gallons of the product per 1,000 gallons of solution will increase the strength approximately 1.0 ml.

### Dissolved Iron Determination

Materials Required:            10 ml pipet  
   125 ml glass flask  
   50% Sulfuric Acid (LRS-013)  
   0.05N Potassium Permanganate (LTS-010)

### Titration Procedure for Dissolved Iron:

1. Pipet a 10 ml sample of the bath into a 125 ml glass flask.
2. Add approximately 1 ml of 50% Sulfuric Acid (LRS-013).
3. Titrate with 0.05N Potassium Permanganate (LTS-010) until the solution turns pink, and the pink color persists for 10-15 seconds.
4. Record the numbers of mls required to maintain the pink color for 10-15 seconds as the dissolved iron

mls 0.05N Potassium Permanganate (LTS-010)	% iron
3.6	0.1
7.2	0.2
10.8	0.3
14.4	0.4
18.0	0.5
21.6	0.6

### Solution Maintenance:

The dissolved iron content needs to be maintained to produce consistent, acceptable results. The iron content in the **DESCALE 54** solution will increase as production ware is processed. Maintain the iron concentration below 0.4% through the use of an auto-drain technique or through chemical or mechanical remediation. Consult your Coral Consultant



for details. If the iron content becomes greater than 0.5% you will need to discard a portion of the bath, increase the amount of overflow, or increase the concentration of **DESCALE 54** to maintain proper oxide removal.

## **PRECAUTIONARY INFORMATION**

Consult the product Safety Data Sheet for all safety and handling information prior to using this product.

## **NEUTRALIZATION GUIDELINES**

To help adjust the pH of the descale solution back towards neutral, the addition of 0.34 gallons of pH Plus (091-002) will neutralize about 1 gallon of **DESCALE 54**. The pH plus should be added slowly with agitation. Monitor the change in pH closely. Depending on the concentration of descale, heat may be generated during neutralization. Neutralization alone does not satisfy waste discharge or disposal rules, standards and requirements pursuant to Federal, State or Local laws. It is the responsibility of the user of Coral products to ensure compliance with the same.

## **WASTE DISPOSAL AFTER USE**

Check your state, local and federal regulations on waste disposal to ensure compliance before disposing of any Coral product. Consult Coral if you are not sure how to treat this product for waste disposal.

## **STORAGE**

Check your local, state and federal regulations on chemical storage to ensure compliance before receiving and storing Coral products. Generally, we recommend that users employ common sense storage precautions to protect their workers, first responders, facilities, sewers, and the environment from accidental spills and leaks of hazardous chemical products. Contact Coral for specific storage precautions not contained herein.

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