Acid Pickle/Deruster, Liquid

Powerful surfactants provide deep cleaning
Effective on laser and plasma cut scale
Effective on weld oxide and burn
Effective against rust and heat scale
Does not contain phosphates

DESCALE 56 is a concentrated acid liquid that will remove oil, rust, heat scale, and corrosion products from ferrous metal parts. **DESCALE 56** can remove oxides formed from laser and plasma cut steel. **DESCALE 56** was developed to maintain activity as dissolved iron builds in the operating bath. The **DESCALE 56** treated parts will be prepared for further processing with a surface conversion or a rust preventative application for future processing. **DESCALE 56** can be used in an immersion system or a spray system.

PHYSICAL PROPERTIES

Liquid, clear
Brown color
Density: 10.3 lbs/gal

OPERATING CONDITIONS

	Immersion	Spray
Concentration:	10 to 50% by volume	3 to 10% by volume
Temperature:	Unheated to 160°F	100 to 160°F
Time:	2 to 15 minutes	1 to 2 minutes

EQUIPMENT

None of the usual stainless steel alloys are totally resistant to the **DESCALE 56** processing solution. Type 316 stainless steel alloys will provide satisfactory service. We recommend its use for the construction of tanks, piping, pumps, and heat transfer surfaces.

1915 Industrial Avenue Zion, Illinois 60099 PH: 847.246.6666 FX: 847.246.6667 www.coral.com

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 56** 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

Titrating Procedure:

Materials required: 25 ml pipet
125 ml glass flask Automatic burette assembly
1% Phenolphthalein (LIN-001)
1.0N Sodium Hydroxide (LTS-014)

1. Pipet a 25 ml sample of the bath into a 125 ml glass flask.
2. Add 50 mls of deionized/distilled water to flask.
3. Add 8-10 drops of 1% Phenolphthalein Indicator (LIN-001) to flask.
4. Titrate with 1.0N Sodium Hydroxide (LTS-014) until the sample develops a pinkish tinge or hue.

Concentration: mls of 1.0N Sodium Hydroxide (LTS-014) required times the product factor, 0.93, equals the concentration in percent by volume of product in solution.

mls of 1.0N Sodium Hydroxide (LTS-014)	% by volume
2.2	2
4.3	4
6.5	6
8.6	8

1915 Industrial Avenue Zion, Illinois 60099 PH: 847.246.6666 FX: 847.246.6667 www.coral.com

REPLENISHING (Based on Above Titration)

A bath made up at 5% by volume will have a titration of about 5.4 mls. The titration, bath concentration, should be maintained between 5.1 and 5.6 mls. The addition of 9.5 gallons of the product per 1000 gallons of solution will increase the strength approximately 1.0 ml.

Alternative Titration Procedure based on pH

Materials required:

25.0 ml Pipet
pH Meter
25 ml Buret Assembly
Stir plate
100 ml beakers
Small stir bars
1.0N Sodium Hydroxide (LTS-014)

Procedure:

1. Pipet a 25 ml sample of the **DESCALE 56** bath into a 100 ml beaker and add a small stir bar. Place the beaker on the stir plate

2. Calibrate the pH meter if needed using pH 7.0 and 4.0 buffers. Carefully lower the pH electrode into the beaker so that it will not be hit by the stir bar.

3. Stir the sample and titrate the sample to a pH of 4.5 with 1.0 N Sodium Hydroxide (LTS-014). As the pH nears 4.5, slow the rate of the addition of the 1.0 N Sodium Hydroxide. Record the number of mls to reach pH 4.5.

Concentration: mls of 1.0N Sodium Hydroxide (LTS-014) required times the product factor, 1.22, equals the concentration in percent by volume of product in solution.

1915 Industrial Avenue Zion, Illinois 60099 PH: 847.246.6666 FX: 847.246.6667 www.coral.com

mls of 1.0N Sodium Hydroxide (LTS-014)	% by volume
1.6	2
3.3	4
4.9	6
6.6	8
8.2	10

Dissolved Iron Determination

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

Titrating 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 56** 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 56** 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 0.23 gallons of pH Plus (091-002) will neutralize about 1 gallon of **DESCALE 56**. 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 insure compliance before disposing of any Coral product. Consult Coral if you are not sure how to treat this product for waste disposal.

1915 Industrial Avenue Zion, Illinois 60099 PH: 847.246.6666 FX: 847.246.6667 www.coral.com

STORAGE

Check your local, state and federal regulations on chemical storage to insure 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.

Revision Date: 4/28/2020

1915 Industrial Avenue Zion, Illinois 60099 PH: 847.246.6666 FX: 847.246.6667 www.coral.com