



Confederate Chemicals Ltd

Mochdre Industrial Estate Newtown Powys SY16 4LE

Emerg. tel: 01686 627158

w: www.confederatechemicals.com w: www.paintstrip.com



TECHNICAL DATA SHEET

Superfos R311

1. USE OF PRODUCT

Superfos R311 is an acidic liquid of S.G. 1.395, FOSAID is a solution of Sodium Nitrate S.G. 1.2. Superfos R311 together with FOSAID accelerator provide a means whereby fine dense crystalline zinc phosphate coatings may be applied by spray or immersion prior to decorative finishing. Superfos R311 is designed for the treatment of iron, steel, aluminium and zinc and provides a suitable base for all types of paint.

2. TYPICAL PROCESS LINE

Stage No.	Process Description	Process Time (mins)	Strength (concentration)	Temperature °C
1 dip	Superfos R311	2 - 5		35 - 45°C
2 spray	Fosaid			
	Caustic Soda			
3	Water			

For a Safety Data Sheet on this product please contact Confederate Chemicals by telephone, or by e-mail at lab@confederatechemicals.co.uk

3. OPERATING THE CHEMICAL

3.1 Chemicals Required

Superfos R311

For the control of the process, testing equipment will be required





Confederate Chemicals Ltd

Mochdre Industrial Estate Newtown Powys SY16 4LE

Emerg. tel: 01686 627158

w: www.confederatechemicals.com w: www.paintstrip.com



3.2 Make Up Procedure

To make up the solution carry out the following instructions:

Determine the working volume of the tank or refer to the relevant Plant Information & Control Summary Sheet. Fill the tank three-quarters full with clean water and begin heating to operating temperature. For each 1000 litres of working solution add:

Product Name	Quantity
SUPERFOS R311	

3.2 Testing and Control

The bath is controlled by three analyses.

1. The Total Acid that should be kept up to the pointage necessary to produce the required coating weight.
2. The Free Acid. Under conditions where excessive physical losses occur it may be necessary to adjust the Free Acid separately.
3. The Accelerator content.

The titration's are as follows:

Total Acid: Take a 10 ml sample from the Superfos R311 bath. Titrate against 0.1N Sodium Hydroxide solution using Phenolphthalein indicator to the colourless to pink end point. Each ml of Sodium Hydroxide required represents 1 point of Total Acid. For every point below strength add 2.5 kilos per 1000 litres of working solution.

Free Acid: Repeat the titration using Bromophenol Blue indicator to the green to blue end point. Each ml of Sodium Hydroxide used represents 1 point Free Acid.

FOSAID Content: By means of a starch iodide paper, determine the presence of an oxidising agent. If this is absent, add small quantities of FOSAID until the paper turns blue, then titrate as follows:

Take a 50 ml sample of the SUPERFOS R311 bath. Acidify with 15-20 drops of 50% Sulphuric Acid. Titrate with 0.1N Potassium Permanganate to a permanent pink end point. Each ml of Potassium Permanganate required is considered 1 point.

Adjust the pointage to be within the range of 1-3 points by the addition of 200 ml FOSAID per 1000 litres of working solution for each 1 point required.





Confederate Chemicals Ltd

Mochdre Industrial Estate Newtown Powys SY16 4LE

Emerg. tel: 01686 627158

w: www.confederatechemicals.com w: www.paintstrip.com



Replenishment

For each % below the recommended figure add for each 1000 litres of bath solution:

Product Name	Quantity

4. HANDLING OF WORK

5. STORAGE AND HANDLING

6. EQUIPMENT

Heavy gauge mild steel is adequate for tank construction, but stainless steel grade 316 is preferable. Immersion heaters, pipework, standpipes and nozzles should be stainless steel grade 316.

7. MAINTAINANCE

8. HEALTH AND SAFETY

The solution is strongly acidic and may be hot, therefore care must be taken when operating the process to avoid splashing. The use of protective clothing, including eye or face protection is to be recommended. If contact with the eyes occur, irrigate with copious quantities of clean water and seek medical attention. Eyewash facilities should be available near the plant in case of accident.





Confederate Chemicals Ltd

Mochdre Industrial Estate Newtown Powys SY16 4LE

Emerg. tel: 01686 627158

w: www.confederatechemicals.com **w:** www.paintstrip.com



A good standard of industrial hygiene should be observed when handling chemicals or operating the process. Do not smoke, eat or drink when handling chemicals and ensure that PPE is replaced, maintained or regularly laundered as recommended.

Further information, including First Aid details, as required by COSHH Regulations will be found in the relevant Material Safety Data Sheet.

