

# Universol®

## Hard Water 211 23-10-10+2MgO+TE



## Product Information

Universol is a high quality compound NPK water soluble fertilizer offering growers real value for money. It is suitable for use with pot and bedding plants as well as container nursery stock.

Universol Hard Water 211 is developed for application in hard irrigation water. This product contains NPK, Mg and a full package of trace elements.

The product is ideal for compact growth (flowering plants) and hardening off plants. Thanks to the N:K ratio of 2:5, this product can be used in combination with water containing high nitrogen levels and with nitrogen fertilizers (e.g. Nitric acid). Universol Hard Water 211 acidifies the irrigation water and neutralizes bicarbonate. This product is not recommended in soft water types, like rain water.

Universol Hard Water 211 cannot be mixed in the same tank with other Universol products, other compound NPK fertilizers or fertilizers containing phosphate (except for phosphoric acid). To ensure that this product dissolves completely, prepare the stock solution 1-2 hours before use and stir well.

### Guaranteed analysis

|            |  |
|------------|--|
| <b>23%</b> | <b>TOTAL NITROGEN (N)</b>                                |
|            | 11.2% nitrate nitrogen (NO <sub>3</sub> -N)              |
|            | 8.2% ammoniacal nitrogen (NH <sub>4</sub> -N)            |
|            | 4.0% ureic nitrogen (Urea-N)                             |
| <b>10%</b> | <b>PHOSPHORUS PENTOXIDE (P<sub>2</sub>O<sub>5</sub>)</b> |
|            | Soluble in neutral ammonium citrate and in water         |
|            | 10.0% water soluble                                      |
| <b>10%</b> | <b>POTASSIUM OXIDE (K<sub>2</sub>O)</b>                  |
|            | 10.0% water soluble                                      |
| 2.0%       | MAGNESIUM OXIDE (MgO)                                    |
| 4.0%       | SULPHUR TRIOXIDE (SO <sub>3</sub> )                      |
| 0.01%      | Boron (B)  |
| 0.010%     | Copper (Cu) chelated by EDTA                             |
| 0.12%      | Iron (Fe) chelated by EDTA                               |
| 0.04%      | Manganese (Mn) chelated by EDTA                          |
| 0.001%     | Molybdenum (Mo)  |
| 0.010%     | Zinc (Zn) chelated by EDTA                               |

### Product characteristics

|                                |   |
|--------------------------------|---|
| EC at 1 g/l (25°C)             | : 1.4 mS/cm (measured in water with 50mg/l HCO <sub>3</sub> )   |
|                                | : 1.3 mS/cm (measured in water with >150mg/l HCO <sub>3</sub> ) |
| Maximum solubility (25°C)      | : 33 kg / 100 liter water                                       |
| Acidity/Basicity               | : -0.381 kg CaCO <sub>3</sub> /kg Universol.                    |
| Effect on growing media pH     | : Acidifying*   |
| Bicarbonate reduction at 1 g/l | : 89 mg/l HCO <sub>3</sub>                                      |
| Packaging details              | : 25 kg, plastic bag  |
| Product code                   | : 2032  |

### Bright Solution System - unique in Universol

Universol fertilizers are the only fertilizers with the unique 'Bright Solution System'.

This addition ensures a crystal clear solution and therefore optimal availability of nutrients for the plant. The Bright Solution System keeps the irrigation system clean and thus makes sure that the system performs smoothly.

## Feature and benefits of Universol Hard Water 2:1:1

- Contains all elements; NPK, magnesium and trace elements
- Always the same composition thanks to stringent quality control
- Quick effect due to strong, fast performance
- Dissolves entirely and quickly because of the special ingredients and the 'Bright Solution System'
- Excellent price / quality ratio
- Always a suitable analysis for your crop
- Improves the quality of your irrigation water, by taking out bicarbonates
- The pH of the soil remains stable as a result of the HCO<sub>3</sub><sup>-</sup> buffering effect

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| recommended Universol rates for pot and bedding plants |                 |                                 |
|--|-----------------|---------------------------------|
|  | 100 % Universol | 50 % Universol<br>50 % Osmocote |
| Crops with high fertilizer requirements                | 1-2 g/l         | 0.5-1 g/l                       |
| Crops with normal fertilizer requirements              | 1-1.5 g/l       | 0.5-0.75 g/l                    |
| Salt sensitive crops                                   | 0.5-1 g/l       | Depends on situation            |

| Recommended Universol rates for container nursery stock crops |                           |                                 |
|---|---------------------------|---------------------------------|
|   | 100 % Universol           | 50 % Universol<br>50 % Osmocote |
| Crops with high fertilizer requirements                       | 20 g/m <sup>2</sup> /week | 10 g/m <sup>2</sup> /week       |
| Crops with normal fertilizer requirements                     | 15 g/m <sup>2</sup> /week | 7.5 g/m <sup>2</sup> /week      |
| Salt sensitive crops  | 10 g/m <sup>2</sup> /week | 5 g/m <sup>2</sup> /week        |

| Possible to mix Universol Hard Water 211 with: | Mixable? |
|--|----------|
| Calcium nitrate                                | no       |
| Potassium nitrate                              | yes      |
| Magnesium nitrate                              | yes      |
| Magnesium sulphate                             | yes      |
| Phosphoric acid                                | yes      |
| Nitric acid                                    | yes      |
| Universol Soft Water                           | no       |
| Universol Hard Water                           | yes      |
| Universol White                                | no       |
| Universol Special P                            | no       |
| Universol Standard range                       | no       |
| Other compound water soluble fertilizers       | no       |

|                  | Universol       | Analysis              | NPK ratio | Purpose of the formula   |
|------------------|-----------------|-----------------------|-----------|--|
| Standard range   | Violet          | 10-10-30+3.3MgO+TE    | 2:2:6     | High potassium to provide compact and strong early growth, good leaf color, strong growth without extension and good flower development. |
|                  | Yellow          | 12-30-12+2.2MgO+TE    | 1:3:1     | Boosts root growth and shoots bud growth.  |
|                  | Blue            | 18-11-18+2.5MgO+TE    | 3:2:3     | Well-balanced growth in mid-season.  |
|                  | Green           | 23-6-10+2.7MgO+TE     | 4:1:2     | Nitrogen for extra growth.   |
|                  | Orange          | 16-5-25+3.4MgO+TE     | 3:1:5     | Formula for slower growth, particularly suitable for flowering plants.   |
|                  | Basis           | 4-19-35+4.1MgO+TE     | 1:5:9     | This fertilizer has been specially developed for combination in A-B tank systems. Also suitable for hardening off plants.                |
|                  | White           | 15-0-19+9CaO+2MgO+TE  | 4:0:5     | No phosphate product with calcium. Designed for application in P-reduced growing systems in soft water.                                  |
|                  | Special 104     | 9-0-39+3.5MgO+Te      | 1:0:4     | Specially developed for application where P-level is used to grow compact plants.  |
|                  | Special P       | 19-6-27+TE            | -         | Product, containing special poly-phosphates, for strong performance.   |
| Hard Water range | Hard Water 211  | 23-10-10+2MgO+TE      | 2:1:1     | Nitrogen aimed product for growth and reduction of bicarbonates in hard water conditions.  |
|                  | Hard Water 225  | 11-10-28+2MgO+TE      | 2:2:5     | Potassium aimed product for compact growth in hard water conditions. Also for use in combination with hard water containing nitrogen.    |
| Soft Water range | Soft Water 312R | 18-7-12+6CaO+2MgO+TE  | 3:1:2     | Nitrogen aimed product with calcium for growth in soft water conditions.   |
|                  | Soft Water 113R | 11-11-31+2CaO+2MgO+TE | 1:1:3     | Potassium aimed product for quick corrections of potassium and for application in the end phase of the crop. For soft water conditions.  |
|                  | Soft Water 213R | 14-7-22+5CaO+2MgO+TE  | 2:1:3     | Potassium aimed product for compact growth in soft water conditions.   |

#### Attention

Store the product in a cool, dry and ventilated place.

As circumstances can differ and as application of products is beyond our control, ICL Specialty Fertilizers cannot be held responsible for any negative results. With this publication, all previously given recommendations expire.

Before a new rate, product or application method is used, a small-scale trial is recommended.

Ask your local ICL Distributor or the ICL Technical Area Sales Manager for more information or recommendations.

Consult [www.icl-sf.co.uk/.ie](http://www.icl-sf.co.uk/.ie) for your contact in the region.

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